

**The Writings
of
Dr. William F.
Koch,
Ph. D., M.D.**

**Research articles by Doctor Koch going back
to the 1920's up too present.**

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MARCH 2001

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Dr. William F. Koch Articles

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**The Writings of
Dr. William F. Koch,
Ph. D., M.D.
Publications 1912-1939
William F. Koch, Ph. D., M. D.**

Biography

The sole purpose of this report is to accurately present Dr. Koch's theories to the scientific community in order to improve the well being of mankind.

This report chronicles over fifty years of Dr. Koch's scientific research as he investigated and eventually isolated the most fundamental factor common to all disease. Dr. Koch's epoch making discovery of this Least Common Denominator led to the 'birth of a new science.'

Through extensive documentation Dr. Koch outlined the chemical processes by which disease may be reversed. Dr. Koch's research focused on the means to restore the body's oxidation mechanism back to its original vitality, thereby re-equipping the body with its innate ability to restore and maintain health, not only in cancers but also in a host of its 'allied diseases.'

This research led to Dr. Koch's development of several synthetic antitoxins: Glyoxylide, Malonide and PBQ. These catalysts became the stimulant necessary to achieve the oxidative separation of the 'host cell/pathogen integration,' when the pathogen was a virus, a carcinogen, a bacterial toxin or an incompletely burned tissue metabolite. Dr. Koch successfully defined the position of the activated amine group, the free radical, the double bond and the Carbonyl group in pathogenesis and in its correction.

Of historic significance is the knowledge that as early as 1919, Dr. Koch's discoveries were taking him in a direction diametrically opposed to the position held by Organized Medicine, which at that time was investing heavily in the development of radium and surgery as the most promising treatments for cancer.

After failing in its attempt to gain sole control over his research, Organized Medicine launched a fifty-year, unlimited assault aimed at discrediting Dr. Koch's reputation, medical practice and research, along with those of any physician who dared to validate his Theories or use his Reagents. Organized Medicine developed an extensive propaganda campaign, disseminated false information on Reagent chemistry and publicly dismissed the Koch Theories, which emphasized the relationship between environmental toxins, dietary deficiencies and a depleted oxidation mechanism, as primary initiators of the disease process.

Because Dr. Koch endured such extensive persecution in regard to his science, he determined that the medical/pharmacological industry would forever remain unwilling to independently monitor, document or validate any of his ongoing laboratory research or medical case histories; therefore since his death, December 9, 1967, there have been no authentic Koch Reagents reproduced. It was because of the scurrilous intentions held by the medical/pharmacological industry that Dr. Koch intentionally withheld specific knowledge required in the production of viable Koch Reagents. (Therefore, any claims to the contrary should be viewed as suspect.)

Cancer Its Function And Cure

By

Wm. F. Koch Ph. D., M D.

DETROIT, MICHIGAN

Reprint from the *Journal of the American Association for Medico Physical Research* of 4 papers illustrated by 44 cases. May, July, August and September, 1926.

Dr. Koch, as a result of 10 years of laboratory experiments at the University of Michigan and at the Detroit College of Medicine and of 7 years of clinical observation concludes that cancer is a systemic disease of parasitic origin, that the cancer tumor is an inadequate effort on the part of nature against the toxins of the invading organism and that cancer can be cured by chemotherapy.

Editor

Abstract: CANCER Its Function and Cure/The evolution of the Immunity Process: Dr. Koch, as a result of 10 years of laboratory experiments at the University of Michigan and at the Detroit College of Medicine and 7 years of clinical observation, concludes that cancer is a systemic disease of parasitic origin, that the cancer tumor is an inadequate effort on the part of Nature against the toxins of the invading organism, and that cancer can be cured by chemotherapy. Reprinted from the *Journal of the American Association for Medico-Physical Research*, Sept. 1925

PART I

The following paper for which 2000 words are allowed is given in outline to cover the large amount of material concerned, and to answer several of the questions repeatedly asked regarding our treatment.

Philosophy does not retain the notion that nature is selfdestructive, for if it were selfdestructive, it has had in the ages that have passed plenty of chance to cease to exist. Therefore, we cannot hold the view that cancer has accidentally or purposely come into existence to destroy the body that produces it, nor that it is the great blunder of nature, as the pathologist would claim.

Neither has cancer any ordinary physiological function, for the normal body gets along physiologically without it. There can, therefore, be only one contingency to determine the occurrence of the cancer manifestation, namely, that it must be a new response to environment, a mechanism of adaptation in the progress of evolution, an immunity or protective effort. If this be so, we can look to the perfection of the effort in the ages to come as a new acquirement, undoubtedly of a new gland of internal secretion providing better adaptation to environment. Cancer is not a blunder, but one of the wonders in nature.

Physiologic affairs are efficient to a high degree, thus the supply of any activity is regulated by the demand. The various cells of the organism not only serve their own needs but specialize in the service of the body as a whole, taking up and perfecting those activities that they are best adapted to. Thus we observe the activity of the parathyroid glands that protect the body as a whole against the guanidine bases that are distributed through the blood to every tissue of the body in sufficient amount to rapidly prove fatal. (1) Likewise there is proof that the cancer effort is directed to protect the body against a certain toxin distributed by the blood and that this protective function is attempted by tissues not too busily

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engaged in other physiological direction, as the resting mammary gland or the uterus, and especially by tissues where congestive changes bring a greater quantity of the toxin to the tissue.

Practically every cancer patient presents evidence of poisoning over a period of years previous to the incidence of the growth. (2) This poisoning ceases in part or entirely during the growth period. So definite is this fact that it is often possible to tell the patient when the growth was first noticed after getting the data on the intoxication symptoms. In a way, then, the cancer effort demonstrates its protecting function, insomuch as it may, by removing the intoxication symptoms.

But, with the incidence of the growth, a set of symptoms of cachexia arise, and these result from the presence of a substance formed by the cancer tissue acting upon the original toxin that called forth the cancer effort. Thus the cancer cells produce an even more harmful poison out of the toxin of which they try to dispose. And the fact that the cancer cells convert the growth producing toxin into something else throws light not only on their function but also points out what is the nature of the immunity process. If the cancer function was one of oxidation simply it could destroy the toxin and thus dispose of it. But such is not the case. It converts the toxin without oxidizing it into a substance of different isorropesis state.

Thus the cancer effort is not simply intended for purposes of destroying and eliminating the growth producing toxin but it is so directed as to preserve this material, to use it for further elaboration, and the only reasonable purpose of which is that of antitoxin production. We have demonstrated chemically that toxins are the material from which antitoxins are made. Antitoxins are not new substances built up from the tissues to neutralize the toxin as the Ehrlich theory states. Antitoxins are converted toxins of such isorropesis state that they are destructive to their source, the causal infection. The cancer effort falls short of its mark. It does not succeed in producing the antitoxin, so the effort is not adequate, and it persists and tries until it has sapped enough vitality from the patient to kill him. The attempted function of cancer, then, is to convert the toxin of the disease into its antitoxin and to thus establish immunity:

Our work is based upon the isolation and identification of the growth producing toxin, the successful synthesis of the antitoxin and the successful synthesis of the substance that can convert the toxin of the disease into its antitoxin right within the body. Thus accomplishing the work the cancer activity attempts to do.

ADMINISTRATION OF THE TREATMENT

The substance we are using is a synthetic chemical, structurally a late intermediary phase of the antitoxin in its transition from the toxin state of structure. One c. c. of the substance is given subcutaneously, generally to the arm. Time is then allowed for cure to take place. If necessary, after an interval of several months, the dose is repeated.

REACTIONS

The mode of action of the substance is in a way similar to several other chemical reactions, as for example, crystallization of a saturated solution under the influence of "seeding" by a crystal. In this case the crystal placed in the saturated solution induces through the electronic wave consequent to its state of isorropesis similar electronic waves in the molecules of the substance (in tune) in the solution, in response to which these molecules assume a similar structural state. So the "Converter" injected into the patient, by virtue of the electronic waves emitted, induces a change from the toxin state to that of the intermediary injected.

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This phase of the intermediary is, however, not stable and passes on into the antitoxin state automatically. Thus all toxin follows suit and becomes antitoxin. A complete conversion of toxin into antitoxin takes place and the results can be demonstrated in a high percentage of cures. The possibility also remains that the converter can, under certain influences, be reverted into the toxin, but the finished antitoxin can never be changed back to toxin. The treatment, therefore, should never be used after recent radium, Xray, or other catalytic exposures. The treatment is most applicable in cases of real cancer, not in cases that have had radiation less than three months previously.

As soon as the toxin is destroyed by the cancer the cells gradually revert back to normal, assume their original polarity, undergo calcification and digestion, the products being absorbed by angioblastic tissue. This tissue heals the deficiencies that might exist.

The material absorbed in the removal of the cancer tissue again renourishes the body being reverted to the same elements as were taken from the blood in the progress of the growth of this tissue. Moreover, whatever stored toxins are liberated from the involuting cancer tissue are also converted to antitoxin.

Reactions occur at different periods after treatment, and these are due to changes in the concentration of the toxins in the blood. Often a reaction with slight fever and aching and nausea develops for a few hours from the second to the fourth day; again from the fourth to the sixth week; about the middle of the ninth week; and during the twelfth week after the treatment is given. The first is due to the rapid decrease in the circulating toxins; the second during the absorption of the growth; and the last two accompany the withdrawal of the last traces of the poison. Some anaphylactic effects are had because of absorption of bacterial toxins, due to secondary infection. Very often a case clears up with little or no reaction.

CASE REPORTS.

The following cases are given to illustrate: (1) Pre-growth symptoms, (2) Reactions occurring during recovery, (3) Permanency of the cure and (4) Healing of areas destroyed by the growth.

Case 1. Cancer of the Uterus.

Mrs. E .F., age 37. Heredity, negative. Pre-growth symptoms: dizziness and a sensation of falling long distances on closing eyes, for a period of nine years before the growth came. The dizziness let up almost entirely for one year and six months previous to an exploratory operation which revealed a pelvic growth. July 1918, the normal weight was 172 pounds. The first attack of nausea was supposed to be one of appendicitis nauseavomiting and pains that doubled her up. She lost 18 pounds in ten days from this attack. Several attacks followed at intervals with gradual loss of strength and weight. She complained of pains in the back, and there was a change in color to a yellow cachexia. By fall, the patient noticed that the umbilicus was displaced obliquely to the right and was less movable as the left side of the abdomen became raised and hard. She was seen by Drs. Wheeler, Brand, and Park Meyers of Toledo. No treatment helped. She later consulted Drs. George Jones and A. N. Smith, stomach specialists of Toledo, who found a large growth in the abdomen. They called in Dr. Louis Smead, a surgeon, and all decided that an exploratory operation would settle the diagnosis. The operation was performed in June, 1919, at Flower Hospital, Toledo, with the following report: "Found trouble to be cancer of the uterus and in such shape that an attempt to remove it would undoubtedly prove fatal; consequently there was nothing to do but close the wound and keep the patient as comfortable as possible." Prognosis: six months. At this time the body weight had dropped to 97 pounds. Patient kept failing rapidly, vomiting became continuous. pain constant, she became bedfast.

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This patient was brought to Detroit, November 17, 1919, as a test case for the Wayne County Medical Society. The weight was perhaps 80 pounds. Record of examination made by the Committee of the Wayne County Medical Society that was appointed to pass judgment on the treatment made at the Herman Kiefer Hosp. of Detroit, Nov. 26, 1919 is: "Palpable mass in lower abdomen extending from pelvis to two inches below umbilicus, about grapefruit size. Uterus fixed, pelvis infiltrated more on left side, and extending on both sides to crest of ilium, cervix smooth, uterus one mass with adjoining tissues:" Signed. Dr. J. H. Carstens, Chairman of the committee.

On admission to the Herman Kiefer Hospital, the temperature 97, pulse 80, respiration 18. The urine was examined Nov. 18, and found to be acid in reaction, to show a trace of albumen and occasional epithelial and pus cells. Nov. 19, the reaction was alkaline, albumen positive. sugar negative, occasional hyalin casts and red blood cells. Dec. 1, the hemoglobin was 65 percent, red blood count 3.010.000: white count: neutrofile 75 percent, small mono-nuclears 24 percent. During November she received, two treatments of two c. c. each without any rise in temperature above 99° F. although the pulse rose to 104 and the respiration to 20 during the first reaction. However, the patient suffered severe focal pain. She remained in the hospital until Dec. 19, when the investigation was closed. Rapid improvement set into two weeks after the first treatment, the patient. could get up and walk about a little. The vomiting also had ceased and the pain subsided a gain in weight and in color was recognized. The gain in weight continued to 170, the mass entirely disappeared in the course of a year, normal health being, reestablished.

Recently the Wayne County Medical Society committee, reporting in the Wayne County Society Bulletin on their examination of this patient admitted that the patient is "apparently in good health." Nevertheless that society and the American Medical Association make every attempt to discredit this treatment. The woman is still in perfect health, working every day.

Discussion: The pre-growth symptoms in this case were of the most usual type dizziness coming on when the eyes were not focused on some object. With the development of the growth the dizziness was overcome; but cachexia set in, and this is an effect of the toxin changed by the growth activity. All symptoms disappeared with the cure of the case and the return to normal health. Reactions were without fever, but gave rise to sharp temporary increase in focal pain and tenderness.

Case 2. Cancer of the Stomach.

Mrs. P., of Port Huron, Mich., age 61 in 1919, when accepted for treatment. Heredity negative. Pre-growth symptoms: gastric ulcer symptoms for years. These became constant for the four years preceding the diagnosis of cancer. The statement of Dr. Heavenrich, of Port Huron, who performed the exploratory laparotomy is as follows:

"She was taken ill August 1, 1919, with what was diagnosed gallstone colic. Needed opiates for relief of pain. During the following six weeks had repeated attacks, pain, nausea, jaundice. Was seen by several doctors, all of whom agreed in diagnosis and need of operation. I first saw her in September in one of these attacks. I found her emaciated and anemic, suffering severely with gallstone colic, deep jaundice over entire body. Itchy skin, clay stools, and vomiting bile. Unable to retain any food. Temperature 98.4, pulse 118. Abdomen so tender as to make palpation impossible. I also advised operation, and was requested to do so at once. I had her removed to the hospital, where she was operated upon the following morning by Dr. Aldridge and myself. To our surprise we found the liver and gall bladder perfectly normal, no stones, no thickening of the duct walls, etc. But the lesser curvature of the stomach was one large sausage shaped tumor, hard in consistency, with some nodules at various spots. So much of the organ was involved, and the patient was in such a weakened condition, that we were both of the opinion

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that gastro-enterostomy or any modification of such operation would be of no avail. We closed the wound and about November first sent her to you. At this time (August 8, 1920) she appears to be in splendid health, does her own work, and eats everything, and certainly is grateful to you."

On admission to the Woman's Hospital, Detroit, Nov. 1, 1919, the patient was fairly well exhausted. She had lost some 79 pounds in weight. Her weight was 110 pounds. All ingests were vomited and had been for some weeks previously. Blood count showed 3,100,000 red cells, hemoglobin 60 percent. Stools were black and scanty, urine very scanty. Physical examination showed a large tumor mass filling the epigastrium and extending to below the umbilicus and involving the liver. Supra-clavicular glands on left side were involved, also the base of the left lung. Left pelvis revealed a mass as big as a fist and smaller masses were found throughout the abdomen.

Three treatments were given at two week intervals. Two weeks after the second treatment the pylorus opened up and food went through thereafter; with consequent gain in patient's health, increase in urine and stools. At this time fever also developed to 104 and lasted a few days, but strength returned very rapidly and patient was able to return home six weeks after her entrance to the hospital. She gained to 187 pounds which she holds today and is in perfect health, six years after treatment was instituted.

In cases of gastric cancer developing on a gastric ulcer, and in cases that have had rodent ulcers for years, the nervous pre-growth symptoms are too mild to disturb the patient. The reactions in this case, as in a fair proportion of the cases, included fever as well as focal pain.

Case 3. Insanity and Gastric Cancer.

Miss L. T., age 38. Normal weight. 104 pounds. Pre-growth symptom, some form of insanity.

In 1920 was confined in an insane asylum for insanity for nine months, after which all nervous disturbances disappeared with onset of gastric disturbance. In March of 1922 she vomited blood and had progressive indigestion with putrid eructations, loss of weight and strength and much pain in the back and abdomen, particularly in the gastric region. Tarry stools and daily vomiting of blood during March and April, when she consulted Dr. G. Field who sent her to Harper Hospital where five X-ray pictures were taken, and an exploratory operation performed by Drs. Angus McLean and Y. D. Barrett. A large gastric cancer was found and a specimen removed and sent to the hospital pathologist, Dr. P. F. Morse. Three days later the family was informed that the disease was cancer and nothing could be done. A few weeks later Dr. Pinckert again explored the abdomen and reported to the family that the intestines were covered with the growth, that she could live only a few days, and requested that she be left in the hospital to die so an autopsy could be performed: She was taken home and on August 16th, I was called to attend the patient.

Patient extremely emaciated, the skin literally lay on the bones; unable to hold herself up or raise herself in bed; had no appreciation of surroundings; had taken no food for two weeks, but vomited foul material and blood. Abdomen contained one large mass, size of two heads, lumpy and completely filling abdomen. Family insisted upon my treating patient, in spite of advice that it could do no good. The patient was treated. Gradual improvement set in with complete recovery by September of the following year, when her weight reached 106 pounds. All tenderness and the tumor mass had disappeared and a fair nutrition was reestablished. Patient is now at work daily and is well, except for attacks of indigestion that follow dietary indiscretions.

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Discussion: In this case the pre-growth symptoms were a toxemia of sufficient violence to upset the whole brain activity to the extent that insanity was diagnosed. For a period of over a year preceding the recognition of the gastric disease, but while it was in progress, the nervous intoxication had been overcome quite completely. With the cure of the condition both the pre-growth intoxication and the cancer manifestation were completely cured. The patient was so very sick that whatever reactions might have occurred under the treatment, were masked by the cancer symptoms, and only improvement was noticed.

Case 4. Cancer of the Rectum.

Mrs. S., age 48. Normal weight around 100 pounds. There was an entire absence of pre-growth symptoms. The patient was well until the spring of 1921, when she started to bleed from the rectum and a progressive constipation set in. Finally pain in the lower spine developed and by spring of 1923, bowel obstruction threatened. She entered the Henry Ford Hospital March 17, 1923, and an operation removing the lower ten inches of the bowel and a cancer mass was removed. Diagnosis by microscope proved it to be cancer. The patient nearly died of shock, but after two months was able to be moved to her home. Her condition rapidly grew worse, bleeding odorous discharge, pain and bowel obstruction returned with violence. Soon cancer masses appeared around and later practically blocked the anus, and the feces came through the vagina. She grew weaker and pain in the upper abdomen associated with vomiting set in.

I was called to see this patient August 7, 1923. I found patient bedfast and thin. Examination of abdomen showed liver enlargement reaching one-third distance from ribs to umbilicus and a hard three-lobed mass filling the pelvis and reaching from pubes to one finger breadth from umbilicus. Examination of anal region showed the walls of the orifice to be completely covered and closed by cancer tissue so that exploration within the rectum was not attempted. However, through the vagina, a fistula opening into the rectum large enough to admit three fingers could be explored. The recto-vaginal wall remnant non-elastic, thickened and nodular, the whole area was painful, bleeding and emitting a characteristic discharge.

Treatment was given. A febrile reaction occurred the twelfth week. Recovery was complete in fourteen weeks, except that the recto-vaginal fistula was not completely healed until January, 1924. At present she is strong can pass a stool as large as one's thumb, has no pain and stools all come through the rectum. All traces of cancer have disappeared, exploration of the recto-vaginal wall can find no abnormality and the patient is perfectly well, except for the loss of sphincter control which we refer to the results of the operation. She is in perfect health today.

Discussion: This case is cited as one of the few examples where pre-growth symptoms could not be elicited, but perhaps more thorough study of the case would reveal a disturbance that could be so classified. The healing of the recto-vaginal fistula occurred in this case, as in all others of similar type, and the replacement of the wall was not merely a matter of scarring, but a reconstruction on the same lines as normally existed. The febrile reaction occurring as late as the end of the twelfth week after treatment is a fairly usual occurrence and times the completion of the cure.

Other features of the treatment, as outlined above, will be illustrated in a further study of case histories in a future paper.

Physicians are invited to study the treatment, at the several clinics already established.

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PART II

In a previous paper in this Journal (1) I outlined the fundamental pathology of cancer as an old intoxication, explained the function of the growth as a protective effort at immunity and demonstrated the cure of the disease by a process of conversion of the causative toxin into its antitoxin.

Case histories were submitted to illustrate the pre-growth intoxication symptoms, reactions occurring during recovery, the permanency of the cure and the healing of areas destroyed by the growth. These factors as well as the utilization of the cancer material undergoing absorption as food material for replenishing the body will be further illustrated in this paper by additional case histories.

Case 5. Inoperable Cancer of Stomach.

Mrs. J., of Union City, Michigan, referred by Dr. Hancock and Dr. Grice of Union City, Mich., October 30, 1919. The diagnosis was made by clinical history, by X-ray, and exploratory laparotomy.

Past history and status of patient:

Malaria at ten, menses began at twelve, irregular; five children, one abortion at 17. In 1916 the left ovary and five tumors were removed from abdomen. In 1916 Dr. McGregor, of Battle Creek, did a panhyster-ectomy and removed a number of tumors which he said would recur. October 1st. 1919 Dr. McGregor, Dr. Hancock and Dr. Grice did an exploratory laparotomy at Battle Creek, Mich. They reported "recurrent extension of carcinoma throughout lower abdomen and involving stomach and liver; prognosis, three weeks perhaps to live."

Vomiting of blood started in June, 1919 and persisted unto four days after admission into Herman Kiefer Hospital, October 30, 1919 where she was brought nearly dead, as a test case for the Wayne County Medical Society, Wasserman test by University of Michigan Hospital reported negative; Xray and fluoroscopic examination by Dr. Gerstine, of Battle Creek: report, inoperable carcinoma of stomach. Weight loss from 206 to 180 pounds.

Pre-growth symptoms, hysterical all her life, after incidence of the growth assuming uraemic type of symptoms; sudden attacks of weakness, smothering sensations, loss of consciousness and convulsions.

Treatments were given November 4th and 7th, 1919. Hemorrhages stopped after several days and recovery rapidly followed, patient discharged from hospital November 26, 1919. She was observed by her physicians, Dr. Grice and Dr. Hancock, who reported her as completely recovered by June 1920. X-ray examination by Dr. Gertsine, who gave the first Xray diagnosis as inoperable cancer of stomach, was again made and the stomach found perfectly normal. She is in excellent health today and cured of cancer. The Wayne County Medical Society is fully aware of the cure in this test case.

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This case illustrates that the comparatively mild pre-growth symptoms of hysteria due to the causative toxin can be altered by the growth activity on the toxin to become so severe as to cause unconsciousness and convulsions. The case also illustrates what an extensive case of cancer can be completely cured.

Case 6. Cancer of Stomach and Liver.

Mrs. Z, age 53, of Sebewaing, Michigan, referred by Dr. Friedlander, March 1919.

Diagnosis by exploratory laparotomy and clinical history.

Family history. Father died of dropsy at age 71, mother died of rapidly growing tumor of uterus at age 71, one sister died of cancer at age 65, one brother died of cancer of stomach at age 63, four children, one of whom died of convulsions in Infancy.

Past history and status of patient. Scarlet fever at 6 years of age; La Grippe and Bronchitis, at 25; Repair operation on uterus at 34. Hysterectomy for suspected malignancy, at 47. For 14 years before admission had gastric ulcer, pains before and after eating, occasional vomiting of blood, one-half pint at onetime. These symptoms improved somewhat just previous to February 1918; when severe attacks of pain set in, doubling patient up. They recurred every two weeks, were accompanied by vomiting. There was rapid loss of strength and development of cachexia until March 1919, when food was no longer retained. Gastric analysis showed complete achlorhydria, stools were tarry and exploratory laparotomy revealed a large mass of cancer involving the whole stomach and liver and occupying the whole upper abdomen. This laparotomy was performed by Dr. Friedlander at Grace Hospital, Detroit, March 24, 1919. He gave a prognosis of not longer than three months to live. The weight of the patient was 130 pounds.

Treatment was instituted and recovery followed gradually. Cure with return of normal gastric function and complete disappearance of growth was established within one year. It is now 6 1/2 years after treatment was started and the woman is in excellent health. Her weight is 187.

This case, like Case 2 of the previous paper, illustrates that the pre-growth symptoms in cases where cancer develops on an old gastric ulcer are not prominent, that the return of motor and secretory function accompany the disappearance of the disease.

Case 7. Primary Cancer of Liver.

Mrs. V., age 47.

Diagnosis by clinical history and exploratory laparotomy.

From Plainwell, Michigan, referred by Dr. C. M. Stuck and Dr. McNair of Kalamazoo, Michigan, February 3rd, 1920. Family history negative.

Past history and status of patient.

Fairly good health all her life, except for over twelve year of dizziness on retiring, blind spells and teichopsia with fortification spectra. These symptoms let up almost completely by January 1919, but shortly afterwards pains developed in the abdomen and under the right shoulder blade. Vomiting set in. Emaciation and jaundice and the inability to turn in bed, because of the presence of a large sore lump below the ribs on the right side, brought her to the surgeon. Laparotomy was performed January, 1920, by

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Dr. McNair and Dr. C. M. Stuck, with findings as in following report: "This is to certify that Mrs. D. M. V. was operated upon January, 1920. We found the liver enlarged and nodulated and much swollen and, in our opinion, it was cancer. Closed the wound and at different times (after the Koch treatment) I have examined her and on March 12, 1921, could find no swelling, soreness or abnormal condition. This examination was done at Dr. McNair's office and he also found conditions as described on these examinations." Signed C. M. Stuck. M. D.

On admission, the patient was found to have a large mass continuous with liver and extending down into the right pelvis and across the epigastrium, beyond the midline. She was nearly bedfast, weighed perhaps 80 pounds, was jaundiced, vomiting frequently, and was in severe pain.

Treatment was instituted and recovery was gradual, perfect health being regained by the spring of the next year, as indicated in the above report of her surgeons. She is still in perfect health and free from pre-growth and cancer symptoms, present weight varies around 130 pounds.

This case illustrates the more usual type of nervous pre-growth symptoms, as well as the growth period symptoms and that both disappear with the cure of the disease.

Case 8. Cancer of Stomach.

Mr. S. (age 54, of Detroit, referred by Dr. Morey.

Diagnosis, by clinical history and physical examination.

Family history negative to cancer.

Past history and status of patient:

He had been in fine health all his life, with the exception of dizzy spells for a period of five years before his stomach started to trouble him. In the fall of 1921, attacks of pain in the stomach set in that made him stop work and he frequently had to be taken home on this account from the Ford Motor Plant where he worked. By April 1922, he became bedfast and was under morphine treatment by Dr. Caughey until I was called by Dr. Morey to treat him on July 25th, 1922. Patient at that time was practically moribund, had been vomiting blood and debris for several weeks, a mere skeleton with skin hanging over the bones. He had not been able to swallow water or even saliva for some three weeks, because of blocking of the, oesophagus by the extensive mass of cancer. Examination showed pupils to react paradoxically, the mass distended epigastrium and projected 1 1/2 inches further out than the ribs and extended to below umbilicus. The patient was only partly conscious, too weak to turn in bed.

Treatment was given under protest that it was too late. Recovery, however, was rapid. Ten days later, although the patient had taken no food, he was able to get out of his bed and crawl to the pantry and eat a bowl of beans. This gave rise to severe cramps. It was the first food he had taken in over a month. Thereafter recovery was steady and by November he was able to resume his work at the Ford Motor Plant, having gained in weight to 139 pounds from a possible 60 pounds when first treated. Examination at the Ford Hospital in October, 1922, found him perfectly normal. The large mass of cancer had completely disappeared and healed. He is in perfect health today with complete absence of pre-growth or cancer symptom.

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This case illustrates the usual pre-growth symptoms and is particularly valuable in demonstrating the great nutritional value of the cancer tissue as it undergoes digestion, returning to the blood stream those elements in useful form that it took from the blood stream to build up the growth. For without the ten days of nutrition gained from the involuting cancer tissue, the absorption of which returned patency to the oesophagus, this fellow could never have crawled to the pantry to obtain food, or have swallowed it.

Case 9. Carcinoma of Larynx:

Mr. C. F., age 54, weight 197 pounds, normal weight 206, admitted November 26, 1923.

Diagnosis by clinical history, physical examination and microscopic specimen.

Past history and status of patient:

Well all life until three years previously had a nervous breakdown. Pre-growth symptoms of years of dizziness that did not respond to the treatments given and persisted until hoarseness and pain in throat commenced in May 1923. On November 2, 1923, specimen was removed by Dr. Simpson at Harper Hospital, Detroit, and microscopic examination by the hospital pathologist proved it to be cancer. The specimen was reviewed at the University of Michigan and confirmed to be cancer. Gross diagnosis by Dr. Canfield at Ann Arbor was cancer, Recommendations were made by several surgeons that tracheotomy be performed, as the growth was obstructing breathing and dyspnoea was severe. Difficulty in swallowing had set in and speech was reduced to a faint whisper. Examination showed both vocal cords involved by carcinoma and large extensions involved the glands of both sides of neck, largest mass in left cervical glands, size of one's little finger.

Treatment was given and recovery was rapid, speech returning and the dyspnoea subsided and ability to swallow returned. All masses were cleared up in twelve weeks and the body weight improved to 225 pounds in that time, and examinations by a number of surgeons, found the patient cured. He is in perfect health today, speech normal, has been lecturing for a living for the past year.

This case again presents the usual pre-growth symptoms of dizziness subsiding with the advent of the growth, and the sufficient repair by the healing process to permit return of function.

Case 10. Cancer of Breast, with Paget's Disease.

Mrs. C. P., age 47, weight 110 pounds, normal weight 130.

Diagnosis by clinical history and physical examination.

Family history negative as to cancer.

Past history and status of patient:

Patient stated she was well all her life, except for rheumatism several years previously. Had had the usual pre-growth dizziness for ten years before the growth came in the breast, at which time the dizziness disappeared. In March, 1919, pain started in the right breast and shoulder and shortly was severe in region of right shoulder blade. Sleep and work was thereby interfered with, very tired all the time, lost 70 pounds in weight by November, 1919, and because of shortness of breath and severe coughing, had difficulty in climbing stairs.

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She had been treating with Dr. James Davis, a surgeon and pathologist, who gave the diagnosis of Paget's disease and recommended a radical operation that might, he stated, permanently result in the loss of use of the right arm, but could not promise a cure. She refused operation and presented herself for treatment November 5, 1919. At this time my examination revealed that the right nipple had largely eroded away and the areola was largely involved by a typical Paget's disease. Behind the nipple was a hard mass attached to skin and parieties about the size of an egg, another mass at the inner end of the third Interspace and a mass slightly smaller than the first in the anterior axillary border and attached to skin and parieties about the size of an egg, another mass and involving the pectoralis major muscle, smaller masses deep in the axilla and supra clavicular space could be palpated. There was evidence of pulmonary involvement on the right side, as well as of the sub-scapular glands. Treatment was instituted and immediate improvement noted. She was observed during her recovery at intervals by Dr. Davis, until he stated on July 26, 1920, that she was cured. She has gained in weight to 188 pounds, all masses have disappeared, the nipple has healed and perfect health is restored. She works hard every day and remains cured. This case, with affidavits proving the diagnosis, was submitted among others to the local medical society.

Discussion: This patient's recovery demonstrates the complete disappearance of all symptoms of the disease, the pre-growth intoxication, as well as the cachexia symptoms of the growth period.

Case 11. -Sarcoma of Brain.

Mrs. T. R., age 85.

Normal weight 209, weight on admission about 70:

Diagnosis by clinical history, X-ray and physical findings.

Family history negative as to cancer.

Past history and status of patient:

She had a fever in Russia many years before, but was well otherwise until the present illness began in the summer of 1921. There were no pre-growth symptoms. The trouble started as headache, interference with vision and a gradual loss of the use of the right arm. By November, 1921, she consulted a doctor and in December, 1921, she was taken to Harper Hospital at Detroit, where the cranial nerves were all studied and a piece of the skull as big as the palm of a man's hand was removed from the side. A diagnosis of brain tumor was made, and two deep X-ray treatments were given. Her condition became worse: When she left the hospital two weeks later, the relief of pressure obtained by the decompression, had given way to recurrence of the pain and paralysis. At this time the scalp was not raised at the decompression area, but after her return home, a gradual swelling of this area was observed. This increased until in July, 1922, when I was called to see the patient, a hard mass as big as a grape fruit projected from the decompression area, and a new mass as big as a fist had developed in the dorsal spine. The patient at this time was reduced to a skeleton, completely paralyzed, blind, able to speak, and there was persistent projectile vomiting of the most severe type; her headache was terrific. This was seven months after the X-ray treatments had been given, and the patient was about to die. She had lost so much weight, that her husband carried her about like a child.

She was given treatment and rapidly recovered. All traces of growths completely disappeared in five months, all paralysis, vomiting and blindness disappeared and her weight was restored to 180 pounds. In

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another ten months her weight reached 220 pounds, where it stands today. She is in perfect health, working hard every day. The bone removed from the skull has now been nearly completely replaced.

This case well illustrates the tendency after this treatment to re-establish the normal health.

Case 12. Sarcoma Involving the Spine and Whole Abdomen:

Mrs. J. W., age 43, weight 85, referred by a cured patient, August 18, 1922.

Diagnosis by clinical history, exploratory operation and specimen findings.

Past history and status of patient:

Had been ailing for about seven years with dizziness and blind spells, which let up just prior to 1920, when disturbances referable to pressure within the abdomen developed. At this time her legs started to swell and severe attacks of pain that doubled her up, came at intervals. These attacks finally became rather frequent and were diagnosed as attacks of intestinal obstruction. At this time, she could feel the growth that distended her abdomen and was referred to the surgeon for operation.

An exploratory operation was performed by Dr. Angus, McLean and Dr. Francis Dufeld at Harper Hospital on August 7, 1922. A specimen was removed for microscopic diagnosis and the wound closed without any attempt at removing the growth, which was found to extend throughout the abdomen. The surgeon thought she might live ten days and she was taken home to die. Her strength rapidly failed and in ten days she could not longer raise her hands to feed herself. At this time I was called to treat her. Examination showed a large mass distending the abdomen and extending from the ribs to deep in the pelvis. Its size was much larger than a man's head. Both legs were swollen enormously. The patient was in great pain and very weak. The family was advised that it was most likely too late to obtain any results from the treatment, but they wished to take a chance, so treatment was given. Recovery was gradual. She was back to her household duties within five months and is in perfect health today. All traces of the mass have disappeared, the swelling has long since left, and her natural vigor has returned. She is in perfect health and is cured.

Discussion: This was a case of small round cell sarcoma, as proven by the microscope. Its extent was exceptionally great. The patient's physical condition was, decidedly unfavorable, and yet complete recovery, followed the treatment. All pre-growth and growth symptoms have disappeared. It is therefore evident that the material injected into the patient was able to remove the essential pathology, as in carcinoma. Both diseases are therefore fundamentally identical.

Case 13. Sarcoma of Tibia.

Dr. W. E. L., age 65, weight 129, referred by Dr. W. A. Dewy.

Diagnosis: clinical, and by X-ray.

Family history negative as to cancer.

Past history and status of patient:

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Well all his life. In the winter of 1920, after an injury to the left leg, a painful swelling developed, that by March, 1921, involved the whole upper half of the tibia. Radiographs showed the condition to be sarcoma of the bone, one surgical friend suggested curetting the bone and another amputation at the hip, but none of these procedures appealed to the patient, who is a doctor of wide experience. Examination in March, 1921, revealed considerable rough thickening of the upper half of the tibia, with changes in adjacent parts of the fibula of the left leg. These were verified by the X-ray. The whole leg was swollen and painful and walking only possible through help of support. Treatment was given and recovery gradually took place. After four months recovery was complete. He is perfectly well today, there were no pre-growth symptoms elicited in this case.

Discussion: This case is cited to illustrate one of the few sarcomas that developed without pre-growth symptoms, and corresponds to the very small portion of cases of carcinoma that give no history of pre-growth intoxication. However, a careful examination of the history of this case might reveal symptoms that could be so classified.

Case 14. Small Cell Sarcoma.

Mr. B. J., of Plainwell, Mich., age 52, weight 147 pounds.

This involved the left groin, the left thigh and all the organs of the abdomen.

Diagnosis: clinical and by microscope.

Family history negative as to cancer.

Past history and status of patient:

Influenza in 1891, scarlet fever and diphtheria when young. Pre-growth symptoms, dizziness came five years before the growth, during the fourth year was very bad, would fall over and lose control of himself, with blindness, on looking up, on turning off light on retiring, things would go around and go around; if he fixed eyes on an object, it would sway. There were no headaches. These symptoms started to let up four months before the growth was noticed. January 9; 1922; he noticed lump in left groin, size of a lima bean. It grew rapidly and in three weeks was as big as a goose egg. It was removed on or about February 4, 1922 by Dr. McNaire. The disease returned after the second X-ray treatment given at the Battle Creek Sanitarium (Kellogg's) by Dr. Case. The first X-ray treatment was given about March 5, 1922, and the second one about three weeks afterward. The recurrence was noted early in April, with pain and the spreading of the mass through the abdomen, also swelling in the leg. The opening left from the operation grew deeper and urine drained through the side. The third X-ray treatment was very heavy. This was given two weeks after the second, and another three weeks later. The growth grew more rapidly than ever, and in August on his first appearance here, the abdomen was found to be distended with a mass reaching above umbilicus on both sides, farther on left. There were liver masses, leg was swollen all the way down, the penis and the scrotum were enormously edematous, pains were present all the time, worse on motion and extended through both sides of the abdomen, to the small of back, down the left leg and thigh and up the left side and they were also in the right chest and liver and in the right arm and shoulder. Patient reported severe attacks of asthma. A corrupt odorous bloody discharge issued from the open sarcomatous area in left groin. Diagnosis made from tissue removed was Sarcoma.

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During treatment, dizziness recurred and the asthma was worse. The pains gradually disappeared with the disappearance of the growth and the healing of the open lesion. The swelling and oedema in various parts all left, the dizziness and the scotoma all disappeared within twelve months.

On examination in fall of 1923 he was found to be apparently cured. Examination April, 1924, showed all disease removed. An examination in March, 1925, confirms the cure.

Present condition of leg. It swells below the area of the X-ray application, especially after walking around all day (attributed to lymphatic injury, caused by the X-ray). He gained in weight from 147 to 185 pounds.

Discussion: In this case as in the preceding case of sarcoma of the brain, the X-ray treatment made the disease grow more rapidly and spread it even after the surgical removal. It did not even prevent recurrence, but more exactly hastened the spread of the disease. Thus the essential pathology does not seem to lend itself, to X-ray therapy.

The characteristic pre-growth symptoms likewise are those so frequently met with in carcinoma and the immunity effort of the growth is to some extent effective, as in carcinoma, since here as in carcinoma, these symptoms were nearly abolished when the growth came.

As the large mass of sarcoma was absorbed, it unloaded its stored pre-growth toxin in sufficient concentration to cause again the pre-growth symptoms while this toxin was undergoing change into antitoxin.

GENERAL DISCUSSION OF CASES

The persistence of the intoxication of the pre-growth period, as expressed in dizziness, momentary loss of sensory perceptions, is present alike in sarcoma and in carcinoma, and when the growth comes, this intoxication is much lessened or abolished. The exceptions are the few cases where rodent ulcer or gastric ulcer are present to represent the pre-cancer symptoms, that the nervous type of symptoms are not prominent, and where in some few cases even after the growth comes, the pre-growth symptoms are not ameliorated, but may even get worse.

The true pathology of cancer is the same, whether carcinoma or sarcoma be the lesionary expression of the disease. Likewise the attempted function of both is identical.

Both types of cases cure up equally well on the same treatment, and the identity of the fundamental pathology is thus established in both.

The effort at protection of the body against the causative toxin, therefore, does not depend upon the histological structure of the tissue as a selective feature, but depends upon some other influence, as for instance, the exposure of the tissue that undergoes the change, to a higher threshold value of excitation by the toxin. And this would occur where irritation and prolonged congestion of the tissue allowed a greater amount of toxin to flow through the tissue in unit time over a sufficient period to bring about change. The only favoring selective feature about the tissue must rest with its functional inertia; and tissues occupied with steady physiological work and under the restraints of physiological control, would be less likely to alter their direction of activity than tissues at rest, like the uterus or mammary gland.

That the cancer tissue is very satisfactory food material is shown in "Case 8" where the absorption of the growth gave sufficient nutrition to so replenish the exhausted patient as to permit him to crawl some

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twenty feet to the pantry, when ten days previously he could not turn over in bed, for in this period he took no food. Correlarily, the obstruction of the oesophagus which was complete for over a month previous to the treatment, had given way during these ten days of absorption of the growth so that he could swallow the beans after crawling to the pantry. Thus the material from which the growth is built up, is again returned to the blood stream as physiological nutritional units. Therefore the process of involution of the cancer tissue depends upon the reversibility of the reaction of cell synthesis, and is a purely physiological affair, proving, that the treatment administered has no direct destructive action upon the growth, but as our premises state, the treatment removes the requisite for cancer growth, and is therefore fundamental.

More features will be submitted in another paper. Physicians are cordially invited to study the treatment of adoption.

PART III

In the preceding papers published in this Journal (May and July 1926) cancer was demonstrated to be a protective response against an old intoxication by a definite substance. Case histories were detailed to illustrate the effects of this poison in producing pre-growth symptoms which affected the 'central nervous system. The toxin was proven to be the same in both carcinoma and sarcoma and the process of recovery under our treatment was illustrated through case histories.

The present paper deals with the causative intoxication, as expressed by certain syndromes that are generally classified as idiopathic diseases. Thus the symptoms of the pre-growth intoxication may be simple goitre or toxic goitre, a gastric ulcer, a migraine or arteriosclerosis.

CANCER OF UTERUS

Case 15. Cancer of Uterus, Mrs. M., age 48. Family history negative to cancer.

Past History: Well all her life until her children came, thereafter poor health. There was some dizziness. An ovary and the appendix were removed by Dr. Max Ballin of Detroit, in 1918. The left breast was removed by the same operator in 1919. The dizziness increased, neuritis set in, and the thyroid gland enlarged some; nervousness; tremors, exophthalmus, and loss of weight were mild, but noticeable. In 1920 she began to suffer pain in the lower back. There was a bloody discharge from the uterus. In February 1922, she had a severe uterine hemorrhage. Thereafter the thyroid enlargement and thyrotoxic symptoms greatly increased. She consulted Dr. S. C. Rannels and Dr. Rubin Peterson of the surgical staff of the University of Michigan in May 1922. Both made a diagnosis of cancer of the uterus, far advanced. Dr. Peterson told her, she reports, that unless she were immediately operated upon, she would not live ten days. She refused operation and came to me for treatment the following day.

I was impressed at a glance that the case was one of extreme thyrotoxicosis. The patient was bordering on collapse: after resting several hours, pulse irregular, 460, respirations 38 per minute. Exophthalmus marked, Stellwag's and Greefe's signs positive, sweat, tremor and high pulse pressure. Loss of weight 16 pounds last month, weight less than 104 pounds. Left lobe of thyroid moderately enlarged, several bean to peach stone size tumors in left supra-clavicular space, close to the thyroid. Axillary glands on left side slightly enlarged, several small tumors below clavicle on left side over operation area, about sear of breast amputation. Cardiac dullness increased and apex beat shifted toward postaxillary border. Heart action tumultuous, functional murmurs, liver enlarged.

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Uterus, fixed, enlarged to size of grapefruit, reaching halfway to umbilicus. Cervix, nodular, 2 inches wide; hard, purplish; ulcerated, a typical carcinoma appearance, a bloody foul discharge. Complained of pain in legs, back and abdomen; painful micturition and difficulty at stool. Treatment Instituted, and recovery completed in four months, with disappearance of all thyrotoxic symptoms, gain of weight to 142 pounds, disappearance of all thyroid enlargements and masses thereabout, and return of uterus to normal. At present she reports better health than she has enjoyed for many years; holds a gain of 88 pounds.

Discussion: In this case the thyroid effort let up when the toxin causing the cancer was removed by the cancer treatment, and the toxin must therefore, have been causal to the thyroid condition, as well as of the cancer.

Case 16. Simple Goitre and Cancer of Bowel and Uterus.

Mrs. S., age 85, normal weight 152pounds, referred by Rev. R.

Family History, Father had sarcoma of right knee.

Past History: Tonsillitis periodically for years.

Pre-growth symptoms and status of patient: An enlarged thyroid gland for past 6 years, that increased in size with onset of rectal trouble, some dizziness throughout this period, with short blind spells, which let up during the last year. She had suffered with piles for years, was operated for them nine years ago and again three years ago. Later treated by Dr. Mowry for a time, but as the trouble got much worse, he referred her to a surgeon, Dr. Thompson, who made a diagnosis of cancer and refused to accept the case. This was in November 1922. Applied to me for treatment Dec. 15, 1922. She had suffered severely for several months, pain in back and down the legs, bleeding from rectum and vagina, great difficulty of bowel movement, and finally the passage of all fecal matter through the vagina, plus a discharge of blood and pus. Weight on admission 125 pounds, anemic and weak:

I examined her on Dec. 15, 1922: it was impossible to explore through the anus, as this was blocked by a mass of cancer. Vaginal examination revealed a hard nodular posterior wall, with a hard nodular fistula opening into the rectal cavity, large enough to admit two fingers. The cancer mass extended to and involved the uterus which likewise was nodular, greatly enlarged, hard and immovable.

Treatment was given; recovery complete in five months, bowel movements passing through the rectum without pain. Within 9 months the rectovaginal fistula was completely healed all signs and symptoms of cancer, and the thyroid enlargement having, completely disappeared. Her weight returned to normal and perfect health remains reestablished. She was examined by a number of doctors who could not understand the healing of the rectovaginal wall without scar formation, and with perfect return to normal structure. She remains cured.

Discussion: This case is cited to show a very common thyroid enlargement preceding, and persisting with the development of cancer, which disappeared after the cancer treatment was given. The thyroid enlargement can be aptly referred to an effort on the part of the gland to work against the cancer producing toxin, as this enlargement disappears with the removal of the cancer poison.

Case 17. Goitre and Cancer of Uterus.

Mrs. M., referred by Dr. Geo. Hale, February 1922.

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Family History negative.

Past History: Patient reports she was well all her life until enlargement of neck came on several years previously. She had had some dizziness in the past, but this was not noticed recently. One year ago she had severe uterine bleeding. A curettement for diagnostic purposes that proved the condition to be cancer and an operation with attempt at removal were performed by Dr. Wellington Yates. This procedure only aggravated the condition. During the last six weeks there was bleeding and discharge from the uterus; she daily vomited blood and could retain no food. Examination Feb. 6, 1922, revealed patient to be very emaciated. There was an enlargement of the thyroid region, which doubled the size of the neck, the right eye bulged and turned outward, the right arm was in constant tremor, large areas of consolidation were in the chest. The abdomen was one lumpy mass of cancer continuous with the uterine mass, that bled and discharged a putrid fluid. The patient was still vomiting blood daily, often a pint at a time, she reports. She complained of terrific headaches, that had persisted for a number of years.

Treatment was instituted, recovery by June, 1922, with return to normal weight, the eye returned to its normal position, and the arm to proper nerve control, thyroid enlargement disappeared, also the masses in abdomen and pelvis, with healing of the vaginal vault. She was treated again in October, 1922, and has been normal in all respects and at work as a nurse ever since.

This also illustrates the relation of goitre to cancer and demonstrates how severe a case can be cured.

Case 18. Goitre, Senility and Cancer.

Mrs. B., age 85.

Family History, negative to cancer.

Past History: Well all her life except for last few years she had had a very marked bladder disturbance with passage of bloody urine, pre-growth symptoms of dizziness and a tendency to drop with blind spells. The thyroid gland had been moderately enlarged for last thirty years. A cancer of tongue started as a sore spot on the right side in January, 1922. This was examined by Dr. MacCormick and Dr. Murphy of Toledo, Ohio. A specimen removed at St. Vincent's Hospital, Toledo, proved to be cancer tissue. Radium was applied twice, with slight improvement, then rapid aggravation, so that by May 1922; her family physician, Dr. Willett, of Elmore, Ohio, sent her to The University Hospital at Ann Arbor, Mich., that something might be done quickly. Here she was examined by Dr. B. Canfield, she reports, who found her condition hopeless and refused to do anything but give her morphine.

She came to me for treatment on the next day. My examination, May 23, 1922, found the patient emaciated, arteries sclerotic, an arcus senilis, the whole mouth full of cancer so that it could not be closed, a foul bloody discharge, the whole tongue one mass of cancer, impossible to talk, or eat, pain terrific, metastases to glands on both sides of neck, the thyroid enlarged to twice normal size. There was a mass in the pelvis; presumable a bladder tumor, bloody urine, and painful micturition.

Treatment was given, recovery was rapid, all cancer tissue and discharge had disappeared with complete healing by July 7, 1922. In November 1922, her recovery was demonstrated to the doctors at the University, who had refused to take her case, having believed she was a hopeless case. They found her all healed and cured, they admitted. She remains cured and is in perfect health, round and fat, with elastic arteries and the arcus senilis has disappeared.

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Discussion: This case illustrates that a goitre of thirty years standing and senile manifestations disappear after this treatment for cancer, which indicates that the cancer causing toxin was present in her system for a long period before the growth came and was responsible for the senility changes, and the goitre, for these, as well as the cancer, all disappeared with the cure of the cancer.

Case 19. Goitre senility and cancer.

Mrs. R., age 57.

Family History: Father died of erysipelas, age 39, mother died of a stroke, age 72, no history of cancer in family.

Past History: Well all her life until May, 1923, when present illness set in with pain across abdomen.

Pre-growth symptoms of dizziness and transient blind spells for about eight years before growth came. Some dimness of vision for the last few years getting worse. The doctors claimed she had high blood pressure. Moderate goitre.

Status of patient: After some months of pain in abdomen and back she was examined by Dr. Phillips, her family doctor, who made a diagnosis of cancer of the uterus. Went to the Mayo clinic in June 1923, where a diagnosis of cancer of the uterus was made and radium and Xray treatments given. The husband was told by the Mayo surgeons that they could not cure her. Condition grew worse during the next six months. She applied for treatment here on November 6th, 1923.

Examination revealed a large mass of cancer filling the abdomen men below the umbilicus and extending above the umbilicus one and onehalf inches on the left side. The vaginal vault was widely distended by the mass. No cervix could be differentiated from the rest of the mass. Discharge, bloody and mucopurulent, moderate arcus senilis, arteries hardened and somewhat nodular, lenses opaque. She complained of marked bladder disturbance and pain. She had lost in weight to 115 pounds. There were areas of pigment over sides of neck, cheeks, forehead and several over abdomen.

Treatment was given and recovery took place rapidly, gained in weight 3/4 pound per week until 168 pounds was attained The whole cancer mass had disappeared in six months and perfect health was reestablished. All senile changes had likewise disappeared, as well as the goitre and areas of pigmentation. She is in perfect health today.

Discussion: This case is cited to illustrate that with the cure of disease, the removal of the causative agent, all toxic and senile changes are disposed of. This case confirms further the relation of goitre and senility causing toxin to the genesis of cancer.

Case 20. Goitre and Cancer of Prostrate.

Mr. R., age 75.

Family history negative to cancer.

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Pre-growth symptoms; had blind spells for 15 to 20 years became dizzy on looking up or going up. Blind spells and difficult vision off and on for distances that should ordinarily be easy. This all let up during the last two years. Enlargement of thyroid moderate, but noticeable for many years.

Status of patient: Started losing weight three years ago from 166 to 138 at present, with development of nearly complete bowel obstruction, never passed blood from bowel; greatest loss of weight in last few months, cachexia and suffering very severe pain. Examination showed the liver enlarged to halfway to umbilicus, mass extending up from pelvis to two-thirds way to umbilicus. Rectal exploration revealed small rough, patch size of dollar on posterior wall, and an enormously enlarged prostate mass extending beyond reach of examining finger, continuous with the mass extending into abdomen, which also obstructs the sigmoid.

Treatment given, recovery complete with complete return to normal health in 8 months. All masses and also the goitre enlargement have disappeared and prostate returned to normal size and structure.

Case 21. Goitre and Cancer of Rectum.

Mrs. J., age 38.

Family History: Father had cancer of lip. Past History: Well all life until present complaint.

Pre-growth symptoms and status of patient: Goitre for some five years, only moderate enlargement. Dizziness with blind spells for 12 years, let up some months ago. Rectal trouble started as bleeding from bowel, continuous for a week at a time in spells, caused some anemia. Two years ago developed Gain in the back and right hip. This grew rapidly worse, so that it drove the patient out of bed and seriously interfered with sleep. Eight months ago the pain shooting up the spine became intolerable. A bloody purulent foul rectal discharge then developed, and for the five weeks before admission, bleeding was profuse, a cupful a day, patient reports, bowel movements practically obstructed with terrific pain at stool, bladder, very irritable, with sensation of heavy pressure and frequent urination, patient rapidly failing.

Examination November 28, 1922. Marked cachexia, Hemoglobin 16 percent, lips bloodless, slight exophthalmus, marked tremor, fair increase in thyroid, mass in right supraclavicular space size of walnut bound down hard nodular, pulse 148, respiration 30, heart dilated, functional murmur, liver enlarged and nodular extending two inches below costal border. Large growth filling abdomen below umbilicus, with egg and orange size masses extending above umbilicus. Rectal examination revealed foul bloody discharge, a large carcinomatous ring occupying nearly the whole rectal wall, with central nodular depression and continuous with carcinomatous mass occupying the belly.

Treatment given and recovery complete, with disappearance, of all masses, thyroid enlargement, healing and reestablishing of normal rectal contour and structure, return to perfect health, H. 90 per cent, perfectly strong and well, February, 1921. She is still in perfect health and cured.

Discussion: In this case also the thyroid enlargement existed for years before the growth came, but the pre-growth intoxication symptoms did not let up because of the thyroid effort. The whole condition cured up only after the cancer causing toxin was removed by the treatment.

Case 22. Goitre and Cancer of the Bladder.

Mr. R., age 65, referred by Dr. St. John.

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Past History: Well until urine shut off in July 1921.

Pre-growth symptoms and status of patient: Thyroid enlargement for years, no history of toxin symptoms, operated at University of Michigan Hospital, August 16, and 19, 1921, by Dr. Beebe, superpubic drainage established and diagnosis of cancer of bladder confirmed. Relief obtained through the superpubic drainage, but cancer kept growing, until obstruction of bowel threatened in fall of 1923. Came to me for treatment December 21, 1923, complaining of swelling and pain across abdomen and painful passage of bloody urine through the superpubic opening, loss of weight 15 pounds. Examination revealed rectum occluded by a large mass continuous with the mass filling lower abdomen to level of umbilicus. Treatment was given and recovery, with complete disappearance of goitre and all cancer masses and restoration of perfect health by summer of 1924, the urine being passed through penis without difficulty. He is in perfect health today.

Discussion: This case also demonstrates the relation of the goitre to the pre-growth intoxication and in this case the thyroid effort might possibly be credited with suppression of the symptoms usually present, before the growth appears.

GENERAL DISCUSSION OF CASES

The fact that a single chemical substance that converts the toxin, causative to cancer, into its antitoxin, thus removing the cause of cancer and producing immunity to cancer, also causes to disappear certain symptom complexes that have preceded the development of cancer, clearly indicates the identity of the cause of cancer, with that of the other conditions. Thus toxic goitre, some instances of simple goitre, and sclerotic changes affecting blood vessels, the cornea and lens and the prostate have the same etiology as cancer.

The thyroid response is a self-protective one. I do not infer that the toxin at the bottom of cancer is the only one to which we may have a goitre response. We have simply demonstrated here that the toxin causing cancer will bring about a response on the part, of the thyroid gland, which does not materially protect the body against the toxin and does not prevent cancer from developing. The thyroid response may be excessive and all the symptoms of toxic goitre be present. The thyroid response may show exhaustion in that its function is hampered, and the symptoms of myxedema arise, as in the case of Mrs. B., (Case 27). Removal of the toxin reestablishes normality, and the gland returns to its original physiological activity. Therefore, the toxin causing cancer acts injuriously upon the thyroid so long as it is present and the thyroid response is directed toward its own protection.

GASTRIC ULCER AND CANCER

The next four cases will show that gastric ulcer, duodenal ulcer, and rodent ulcer are likewise responses to the toxin that causes cancer, occurring in tissues not able to withstand the destructive effect of the toxin, nor yet able to give a reproductive response as occurs in cancer. Such ulcers may become the site of a future malignancy, or the growth may develop in some other part of the body, as in the case of Mr. M. (Case 23). In these cases there are other symptoms of the presence of the toxin that causes cancer. The ulcer then is but one sign of the presence of this toxin.

Case 23. Gastric Ulcer and Cancer of Colon.

Mr. M., age 54, referred by Dr. Geo. Hale.

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Family History, Negative to cancer.

Past History: Well except for gastric ulcer of ten years' standing. Pre-growth symptoms, gastric ulcer ten years, let up one year ago.

Status of patient: Diagnosis of gastric ulcer at Henry Ford Hospital 8 years ago by Xray and clinical history, no relief therefrom until one year ago he noticed a change in symptoms. There was progressive difficulty in moving the bowels for the last six months, bloody and tarry stools, two tender classes developed, one in the right lower abdomen and the other just below the ribs on the same side. He could feel disturbances there as gas and material seemed to work through the intestine, pain was very severe. Examination by Dr. Hale and Xray examination by Dr. Meinke, July 1924, resulted in a diagnosis of cancer of the ascending colon, widespread and causing nearly complete obstruction. The loss of weight was 17 pounds in last two months, the pain was terrific at night and for last 8 months he was rapidly getting weak.

Treatment given September 5, 1924. Recovery was complete with normal bowel movements and a disappearance of the growth in four months. The patient reports that the stomach functions better than for the last ten years. He no longer has any symptoms of ulcer.

Thus we see that the condition of gastric ulcer may, serve as a pre-growth symptom to cancer of a different organ. Both conditions are cured permanently by removing their common cause.

Case 24. Gastric Ulcer, Senile Changes and Cancer.

Mr. D., age 62, normal weight 150.

Family History negative to cancer.

Past History: Typhoid when 16 years old. Pre-growth symptoms; occasional blind spells, staggers and dizzy spells for 18 years. These symptoms all let up during the last year.

Status of patient: Stomach has bothered him for the last 20 years, periodical attacks of pain, required black pepper and whiskey to stop attacks and carried a supply for that purpose; frequent hyperacidity, weak spells followed by periods of tarry stools. By February 1924, the attacks had become so severe that he had to be carried home from work and with each attack he vomited bright blood. The last attack was on August. 16, 1924, when the patient became bedfast, could no longer take food, and vomited blood and corrupt matter. Examination on August 25, 1924, found the patient bedfast, unable to walk 20 feet, dim vision, arcus senilis, arteriosclerosis, cachectic, emaciated, in terrific pain, pulse weak 150, had been vomiting blood.

A mass in abdomen filled the epigastrium to the umbilicus, the supraclavicular gland on left side, size of large walnut, was hard, nodular and tender. Diagnosis; extensive gastric carcinoma developed on old gastric ulcer. Treatment was given and recovery, with complete disappearance, of all growths, a return of normal strength and gastric function and able to be at work by December 1924. The arcus senilis and arteriosclerosis have practically disappeared. He remains well and has had no attacks of trouble referable to the old gastric ulcer. The stomach functions normally. Thus, he is cured.

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Discussion: This case demonstrates a very far advanced cancer of the stomach developing on an old gastric ulcer, and the presence of senile changes, all of which cleared up when the basic cause of the disease was removed.

Case 25. Gastric Ulcer and Cancer.

Mr. F., age 38.

Family History, negative to cancer.

Past History: Measles and chickenpox in childhood, pneumonia at 20 and again 4 years ago.

Pre-growth symptoms and status of patient: Stomach trouble started as indigestion when 16 years of age always taking soda. Operated on in 1913 by Dr. Wm. Campbell, of Pittsburgh, for appendicitis, the appendix was found normal; operated on in 1914 by the same surgeon for gastric ulcer, who resected two small and one large ulcer and made a gastroenterostomy; no relief. He kept taking soda continually, the stools black, had pain and gas, was unable to straighten up for years, the pain extended through the epigastrium to the back. He was careful about diet to date of admission, was very nervous all the time. In the year 1920, his weight dropped from the normal of 166 to 136. On January 8, 1920, he had two severe gastric hemorrhages that left him nearly bloodless and cold. Tarry stools were passed for several succeeding days. An examination on January 12, 1920, revealed a mass the size of a fist in the epigastrium. Treatment given and recovery was complete in 4 months with disappearance of all stomach trouble and the mass in abdomen. He now weighs 197 pounds and is in the best health he ever experienced; stomach functions perfectly on any diet

Discussion: Thus gastric ulcer is really a pre-growth cancer symptom and replaces the usual nervous symptoms of dizziness, etc. This case is valuable in illustrating how chronic a condition can be completely overcome by specific treatment.

Case 26. Gastric Ulcer and Cancer. Mrs. K., age 39.

Family History, negative to cancer.

Past History: Scarlet fever at 13 years of age and diphtheria at 36 years of age.

Pre-growth symptoms and status of patient: Trouble started ten years previously, with indigestion and vague abdominal pains, prolonged blind spells and dizziness for seven years of this period. Uterus and fibroid tumors were removed and two years later an ovary and the appendix were removed at the Battle Creek Sanitarium. The stomach trouble kept getting worse, so was treated for gastric ulcer. March 1922, the gall bladder was removed at Battle Creek Sanitarium, the surgeon found a growth obstructing the pylorus. The patient reports that a gastro-enterostomy was performed. No relief was obtained but the patient grew rapidly worse, terrific pain in abdomen and back, continual vomiting of undigested food and blood.

Admitted November 13, 1922. Examination revealed a large growth filling epigastrium to the umbilicus and extending below umbilicus on right side. Treatment administered and recovery rapidly followed, all the mass having disappeared by January 1923. Perfect gastric function was not established, however, until several months later. She is in good health today, able to do six washings a week with ease. Has perfect stomach function.

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Discussion: This case also illustrates that, the gastric ulcer represents the pre-growth symptoms but not necessarily to the exclusion of the usual nervous symptoms.

MIGRAINE AND CANCER

Migraine, like neuritis, is a direct result of activity of the cancer causing toxin. Headache may be the chief pre-growth symptom.

Case 27. Headache, Goitre and Cancer.

Mrs. B., age 49, weight 169, referred by Dr. Schultz, September 12, 1924.

Family History, negative to cancer.

Past History: Well all life except for the pre-growth symptoms. Pre-growth symptoms: severe headaches for the last twenty year, every week put her to bed a day or two, but practically no headache since growth reaching the size of a walnut by June 1924, came in left breast. The thyroid was enlarged twice its size, for last few years, the skin was thickened, with pigment patches over the sides of the neck and cheeks myxoedema.

Status of patient: Examination September 12, 1924 nearly whole left breast one mass of cancer 9 cm in diameter, fixed to skin and parieties, had reached that size from that of a walnut in four months, carcinoma simplex type, nipple somewhat retracted. The axillary glands on the right side were slightly enlarged on left side there were several glands the size of a peanut. She had been losing "pep" for the last year; gained weight by 15 pounds in the last year, but lost 4 pounds in the last month. She was treated with complete recovery and disappearance of growth, taking place in 6 months. Likewise all pre-growth symptoms have left. She reports that she feels better than for twenty years.

Discussion: In this case the pre-growth toxic symptoms were a migraine that persisted until the growth came, and there were myxoedema changes referable to thyroid suppression.

Case 28. Headache and Cancer.

Miss G., age 52, referred by Dr. Chandler of Flint, Michigan.

Family History, negative to cancer.

Past History: Had the usual childhood diseases, otherwise well.

Pre-growth symptoms: Severe bimonthly headaches over a period of years before the growth came.

Status of patient: In November 1917, she had a severe hemorrhage from the uterus, thereafter her health failed and she lost in weight from 135 to about 70 pounds by December 1919. In May 1919, her trouble became very serious and examination by Dr. G. F. Johnston of Traverse City revealed an extensive cancer of the uterus. Hemorrhages became regular and the drainage from the uterus became profuse, and she grew thin and weak. She was brought to me by Dr. Chandler of Flint, Mich. In December 1919. At that time examination found her nearly bloodless, cyanotic, with rapid thready pulse; dyspnoea, and with not sufficient strength to raise her head from the pillow. The whole region below the umbilicus was one

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lumpy mass of cancer continuous with the uterus. Vagina nearly full of the uterus growth, which was necrotic and still, bleeding. Treatment was given and a gradual recovery took place over a period of 18 months before cure was established; with body weight returned to normal and the patient returned to work: Headaches let up in the first six months. She is in perfect health.

Discussion: This case illustrates the pre-growth symptoms taking the form of periodic bimonthly headaches against which the cancer effort had no successful protective influences, and which was overcome by the removal of the toxin that caused the cancer to come, even before all traces of the cancer growth had disappeared.

Case 29. General Sclerosis and Cancer.

Mr. A., age 72.

Family History negative to cancer.

Past History: Well all his life. Pre-growth symptoms of dizziness and spells of poor vision (which he attributed to exposure to the sun), for the past years. A condition of general arteriosclerosis, with prostatic enlargement, and arcus senilis, plus moderate opacity of the lenses coming on for the last few years.

Status of patient: The growth started as a pimple on the back of the left hand about November 1, 1921. It rapidly grew worse, acting like a boil. By March 29, 1922, it had reached the size of a silver dollar, and also spread to the outside of the hand and on to the two outer fingers. At this time he entered the University of Michigan Hospital for examination and diagnosis. They removed a specimen, took a radiograph of the bones of the hand to determine if they were severely involved, and sent him home with the statement that they would send a report to Dr. B. G. McGarry, his family doctor, who would make suggestions regarding treatment. This was done, and the University reports were turned over to the patient, with Dr. McGarry's recommendation that an amputation be performed.

On April 10, 1922, patient was admitted and our examination revealed a typical carcinoma as described above, with central depression and raised edges. Axillary glands were slightly enlarged: Senility changes were present as mentioned above. Treatment was given, and recovery was complete, with perfect healing reestablishing the sweat glands and hair, without any noticeable deficiency remaining, in sixteen weeks. Moreover the arteriosclerosis, arcus senilis, and lens opacities and enlarged prostate, have likewise disappeared. He has gained from 170 to 193 pounds and claims to feel twenty years younger. The attention of the Medical School at the University of Michigan was called to this case, but they showed no enthusiasm over the matter. The patient was also demonstrated to the cancer committee of the Wayne County Medical Society in November 1923, among other cases cured by the treatment.

Discussion: This case illustrates, like cases 18, 19 and 30, that the toxin bringing on the senility changes was identical with that causative to the growth, for both the cancer and the senility changes were removed by the same treatment. The reconstruction of the skin as an organ, with recovery of sweat glands and hair is a noteworthy accomplishment and demonstrates that this treatment is fundamentally a constructive one, and different from the destructive methods in vogue at present.

The sclerosis is perhaps a protective response against the toxin in the sense of a barrier to the passage of the toxin through the tissues, but more likely may be viewed as a direct action of the toxin on a certain chemical grouping in the tissues. This point will be discussed in another paper.

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MOST INTERESTING RESULT

Case 30. Goitre, Gastric Ulcer, Headache, Senility and Cancer.

Mrs. G., age 67.

Family History, negative to cancer. Father died of apoplexy at 70 years of age.

Past History: Well all life, except for disease of childhood and sciatic rheumatism since 60 years of age.

Pre-growth symptoms and status of patient: Subject to frequent headaches; goitre for over 10 years, stomach trouble for last 16 years, took soda right along, pain relieved by eating until the summer of 1922, when pain became continuous and was aggravated by eating, vomited frequently, had to take opiate for pain, became cachectic, and confined to bed. On both September 2, and 12, 1922, had severe hemorrhages from the stomach. Dr. Potter examined patient and decided she was too far gone to be taken to a hospital for attempt at relief, believing that she would die on the way, so the family reports:

My examination was made on September 18, 1922, I found the patient to be a very cachectic emaciated old woman, skin dry, wrinkled and bloodless, fingers cyanotic, hemoglobin less than 10 per cent, respirations 38, pulse barely perceptible, bowels had moved only tarry matter during the past week, still vomiting blood with the little food that was taken. Abdomen tender, mass occupying whole abdomen above umbilicus, fixed to liver. To the left and extending below umbilicus, an orange size mass somewhat movable, marked arteriosclerosis, arcus senilis, lenses somewhat opaque well developed goitre.

Treatment was given, recovery complete, with return of function, disappearance of all masses including the goitre, disappearance of arcus senilis and opacities in lenses and return of elasticity of blood vessels. She is still perfectly well, and well nourished and active, feels better than for many years she reports.

Discussion: This case demonstrates the disappearance of four pre-growth conditions: headache, goitre, gastric ulcer, senility, as well as the cancer, the cure of each attending the removal of one toxin at the base of the trouble.

Certain other pre-growth syndromes will be discussed in a following paper.

PART IV

The previous papers published in this Journal (May, July, and August, 1925) demonstrated that the toxin causative to cancer produced certain definite changes in the body, often for years before the growth came, and that the growth came as a protective response, which however was not adequate. The growth symptoms described were a certain type of dizziness, migraine, gastric ulcer, toxic goitre, simple goitre, and sclerotic senility changes. It was also demonstrated by case histories that the removal of the cancer causing toxin resulted not only in the cure of the cancer, but also in the removal of the pre-growth symptoms and changes.

The present paper briefly discusses certain other pre-growth syndromes, identifying their etiology with that of cancer, demonstrating the cure of these conditions by the removal of the cancer causing toxin. These pre-growth symptoms are, rodent ulcer; uterine ulcer (hypertrophic endometritis) pseudo-hypertrophic muscular paralysis, neuritis, and pigmentation.

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The following case histories illustrate:

Case 31:-Pigmentation and Cancer. Mr. M., age 44, referred by Dr. E. Richey.

Family History, negative to cancer.

Past History: Fairly well all his life, had childhood diseases.

Pre-growth symptoms: Pigmentation in patches and areas free from pigment distributed over the body, coming on in last few years.

Status of patient: For several years prior to 1921, bleed at stool and experienced a mass of tissue protruding that could be pushed back into the rectum. Specimen was removed by Dr. R. Andries, and examined by Dr. A. Warthin, pathologist at the University of Michigan. Another specimen was also removed and examined by Dr. James Davis, pathologist for several hospitals and the Detroit College of Medicine.

A diagnosis of rapidly growing adeno-carcinoma was made by both pathologists. Operation, April 1921, at Providence Hospital, Detroit, by Dr. Andries, cautery and radium also applied. In March, 1922, another cautery and radium needles again used. Xray treatments once a week for a period. Continued to grow worse, so much so, that he could not sit down. Dr. Andries had the patient examined by Dr. Angus McLean, who said the condition was hopeless, but to continue with the radium. May 1922, radium again applied for twentyfour hours and three more Xray treatments given, but patient grew worse rapidly, and the physicians advised the family that he was getting worse and hopeless. The bladder started to give trouble after the last radium treatment and continually grew worse, bleeding from rectum became severe in August and September 1922, and a rectovesicular fistula developed, so that stools came through the penis. Greater and greater pain, loss of weight and strength, obstruction of the bowel progressed. In October, 1922, the patient called his old family doctor who found the rectum completely involved, and the disease had spread to the liver and throughout the abdomen generally. Dr. W. Evans, the radiologist at Harper Hospital, was consulted. He also looked upon the condition as hopeless.

Thus the disease had progressed from a small lump that caused but little inconvenience outside of the bleeding to a generalized carcinomatosis with rectovesicular fistula and marked cachexia, and this in spite of all the surgery, cautery, Xray and radium that could be given.

Admitted for examination, and treatment on November 5, 1922. I found the rectum full of the growth. It was impossible to introduce the finger beyond internal sphincter. The abdomen was involved throughout, the liver mass reaching to umbilicus. Weight 114 pounds, some oedema of tissues. Irregular patches of pigment were distributed over the body, and there were unpigmented areas not subject to darkening from sunburn. Feces passing through penis and the urine with stool through rectum.

The report of the patients condition is stated as follows by his surgeon, Dr. E. Richey: "The malignancy at this time had spread to the abdomen, involving practically all the liver, large and small bowel, more extensively on the right side, perforation between bladder and rectum, marked cachexia, loss of weight, anorexia and a continuous passage from the bowels of mucopurulent material."

Treatment was given and recovery was complete by September 1923, with gain in weight to 142 pounds, a complete disappearance of all cancer masses and a return to the best health he ever enjoyed. His first year back to work was sufficiently energetic to win for him the prize for being the most successful real

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estate salesman in his association. The pigment patches have not completely disappeared as yet, although they greatly diminished.

Discussion of case: This case demonstrates the healing of a rectovesicular fistula caused partly by radium and partly by cancer, and the recovery from a generalized carcinomatosis, in spite of previous mistreatment: The most interesting feature is the slow absorption of the pigment going on for over a year without having as yet become absolutely complete after all traces of cancer have disappeared. Thus we may conclude that the pigment deposits are secondary to changes resulting from the cancer producing toxin.

Case 33. Neuritis, Pigmentation and Cancer.

Family History: Mother died of cancer of stomach, age 72.

Past History, Typhoid fever at 10 years of age.

Pre-growth symptoms: Severe headaches two or three times per month for twelve years before growth came in right breast, and becoming much worse after growth came, also a severe sciatic neuritis worse for six months before taking our treatment.

Status of patient: Weight 145 pounds, pigment patches over cheek bones, temples and sides of neck, several areas on the arms. A mass in the right breast size of an egg, attached to skin and parieties; palpable axillary glands (largest the size of a hickorynut) and small supraclavicular glands. She complained of severe pain in shoulder, down right arm, and in breast. Had a slight dry cough. Diagnosis: moderately advanced carcinoma of breast, with widespread metastases. Treatment was given in February 1921, sciatic neuritis and headaches soon ceased, and all traces of cancer have since disappeared. She gained in weight to 165 pounds and remains in perfect health. Patient remained at work, teaching school throughout recovery. The pigmentation has also disappeared, but it did not do so until after all cancer tissue was absorbed, and disposed of.

Discussion: This case exemplifies a fairly common pre-growth symptom-neuritis-which is severe and generally attacks the sciatic nerve. It is a toxic effect like the pre-growth headache, and lets up very soon after treatment. Thus the rapidity of the conversion of toxin to antitoxin is illustrated. I am citing three cases of similar neuritis in patients in whom no cancer could be detected, but where rapid recovery was had from the treatment.

Case 33. Neuritis.

Dr. M., age 62, suffered with gradually increasing neuritis in both legs for two months, finally had to take to his bed and resort to morphine, the condition rapidly becoming worse. Examination could reveal only an enlarged prostate. Area of anesthesia over outer side of right leg and over toes, small area over left ankle. Paralysis of leg muscles. Skin dry like flour. Loss of function of genitalia.

Treatment given November 1922, recovery from neuritis and back to his practice in four days. It has never recurred. The skin became normal within twelve weeks, but the anesthesia, and the paralysis were not overcome until after a year had passed. Prostate normal.

Case 34. Neuritis.

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Mr. E., age 36.

Family History, negative to cancer.

Past History: Well all his life, except for transient blind spells and difficulty in relaxing sphincter iris for the three years past. Pains in left hip and down sciatic nerve for 6 months.

Status of patient well nourished apparently healthy man. No pathology could be demonstrated by physical examination or by Xray study. Complained of severe sciatic pains that did not let up nor respond to former treatments, aggravated after five p.m., unable to stand on left foot. Examination could locate no pelvic growth. Sphincter Ani very spastic.

Treatment given May 12, 1925, recovery complete in 14 days, able to balance on left foot without pain or difficulty.

Case 35:-Neuritis.

Mr. F., age 88.

Family History, doubtful as to cancer.

Past History: Well all life except for last two years a gradually increasing neuritis of the right sciatic nerve and lumbar region. For the past several months not able to work more than a few, hours a day, unable to climb under automobile: All sorts of treatments were applied and failed.

Examination June 12, 1922, revealed no gross pathology and Xray studies also failed to show any abnormality. Treatment was given and relief was complete in four weeks. He has had no recurrence.

The toxin causing the neuritis in this case must have been identical with that causative to cancer, or it would not have been removed by the cancer treatment. The pre-growth diagnosis and relief of the cancer disease is therefore possible.

Case 36 Hypertrophic Pseudomuscular Paralysis.

Mr. W. J., age 22.

Family History, negative to cancer.

Past History: well all his life except for falling spells, which starting at 9 years of age, would go down in a heap, was insured in the back from playing football but recovered rapidly.

"Pre-growth symptoms" of fainting had existed for years until five years ago, had dizzy and blind spells from ages of ten to fifteen. Falling spells since 9 years of age.

Status of patient: At the age of twelve muscles started to hypertrophy very noticeable, the condition increasing and persisting over a period of eight years. Two years ago the muscles started to reduce.

On examination August 6, 1924, the muscles were found generally atrophic, especially the muscles of the thighs, the knees were easily thrown out of joint. There was marked foot drop, knee jerk absent. Peculiar

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wobbling gait, knees flexed backward. Falls came from sudden loss of muscle control. Fell every little while, many times a day in spite of support of cane. Patient also feels himself fall while lying awake in bed, has a sense of a general let go of all the muscles progressively getting worse. No treatments (everything was tried) has really helped.

Treatment given and recovery nearly complete in eleven months, ability to walk nearly good as anyone, nearly complete restoration of the muscles, which are still developing, falls only occasionally but can control the falls now. There is complete absence of the "pre-growth symptoms" of dizziness and blind spells. The knee jerks are diminished but there is no foot drop.

Discussion: This case was treated ii months ago and, has recovered sufficiently during that time to show that the course of recovery resembles that in cancer. The first symptoms to come were last to disappear after treatment and the patient is now in the best of condition symptomatically resembling the onset of the disease. This case could not be mistaken for cancer. Yet it ran a similar course with pre-growth symptoms of falling spells, fainting, dizziness, and blind spells, before the neuromuscular pathology set in. The falling spells which like those observed as pre-growth symptoms to cancer, are a sudden cessation of muscle control, and possibly a cerebellar disturbance due to the presence of the toxin. The nerve paralysis and resulting muscle atrophy are the results of the chronic effects of the toxin. The regeneration of nerve and muscle function followed the detoxication by such time as is necessary for regenerating these structures.

The fact that the toxin at the base of the trouble is converted into antitoxin by the cancer treatment identifies it with the cancer producing toxin, and the whole syndrome can then be classified with the cancer pre-growth symptoms.

Case 37. Rodent Ulcer.

Mr. M., age 46.

Past History: Well all his life until present illness.

Pre-growth symptoms were not elicited.

Status of patientGrowth started on right side of nose 4 years ago. Had it frozen with carbon dioxide snow without help.

Examination January 18, 1924, revealed a typical rodent ulcer about the size of a dime, involving the wing and sulcus on the right side of the nose. Otherwise the patient was well. Treatment was given and recovery, with complete healing in five weeks. He is still in perfect health.

Case 38. Rodent Ulcer and Cancer.

Mr. E., age 77.

Family History: One sister died of cancer of breast.

Past History: Well all his life.

Pre-growth symptoms: Very slight dizziness for years, only on stooping.

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Status of patient: Sore came on lip 8 years ago, operated at Victoria Hospital, London, Ontario, diagnosis given was cancer. Sore returned six years later, had it cauterized but it only got worse. Had it treated with pastes, but it still grew worse. Admitted here for treatment in November 1923.

Examination revealed a well developed rodent ulcer, destroying lower left half of lip and some of the cheek and a typical squamous cell carcinoma of the angle of the mouth involving the upper lip. Treatment was given. The rodent ulcer healed in less than 2 weeks, but the carcinomatous area was not completely cured until 5 weeks later. He is still in perfect health.

Discussion: Other cases might be cited where the rodent ulcer was cured by a paste, years before the cancer developed in an internal organ. These cases all demonstrate, particularly since the rodent ulcer disappears rapidly like gastric ulcer, pre-growth neuritis, and other pre-growth symptoms after this treatment, that they are all manifestations of the action of the cancer causing toxin.

Case 39. Hypertrophic Endometritis and Cancer.

Miss E., age 29.

Family History: Father had cancer of stomach, cured by Koch's treatment. Sister had cancer of uterus developing on an ulcer of the uterus similar to this patient's and was cured by Koch's treatment.

Past History: Pneumonia at age of four, and the childhood diseases.

Pre-growth symptoms: Uterine ulcer for 14 years.

Status of patient: Started to menstruate at 13, was regular for two years, then started to hemorrhage following the regular period, each successive period becoming longer, until she was bleeding continuously, with only short intermissions. Bleeding was rather violent at times, worst period from ages of 16 to 18. When 19 years old, she was operated on by Dr. R. Peterson at Ann Arbor, well for a few months when she again started bleeding that persisted steadily for a year (1916). Operated on by Dr. Lucy Haskins in December 1916, well a few months then settled down to steady flow for rest of 1917. Operated January 1918, and September 1918, better for a while and had natural periods during the entire year of 1919. In August 1920, she started to flow irregularly and in spring of 1921 had a bad hemorrhage; Dr. Curds recommended radium, but she did not take it. Stopped flowing for four months. During college year of 1921-1922, she flowed steadily. Dr. Hoover of Cleveland, said he could do nothing, sent her to Dr. Weir at Lakeside Hospital who curetted and took specimens. Well for two month's, the flowing began again, took osteopathy for a while, got much better except for the constant flowing. Went to Dr. Hiram Ross, of Danville, Illinois, who found a large growth and used radium January 1923. One month later she had the worst hemorrhage ever, and thereafter grew progressively worse.

Examination July 8, 1923, found uterus fixed, enlarged to the size of an orange, with a larger mass extending into the broad ligament on the left side, and up into the abdomen. Cervix hard nodular and ulcerated three times normal size and emitting a bloody drainage. Treatment was given, and bleeding stopped for five months. A small flow started again in December 1923, which gradually diminished until normal menstruations occurred. Examination March 6, 1925, found her normal. All masses have disappeared and the uterus returned to normal.

Miss E., sister of Case 39, age 23.

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Status of patient: Started to menstruate at 13 years of age. Not long after, she started to bleed six weeks at a time, continuously for about one year. Operated with removal of cervix and a papilloma and was curretted, she reports. Well for ten years. Bleeding started again in September 1923, and continued to date, lost weight from 136 to 112 pounds in last three months. Went to Henry Ford Hospital November 8, 1923, where they advised the use of radium, and let the patient understand, she reports, that the condition was cancer. My examination November 13, 1923, revealed a typical carcinoma of the cervix, squamous cell type, 1 3/4 inches wide, cauliflower mass, broad ligaments involved, uterus fixed and extending into the abdomen halfway to the umbilicus, typical bloody odorous discharge.

Treatment was given and recovery, with return to normal of all tissues concerned, was completed in sixteen weeks. She remains well to date, .and menstruates normally.

Discussion: The father of these patients was cured by this treatment of cancer of the stomach and the two daughters became victims of the same infection, early in life, both expressing their reaction to the toxin in the same way.

The first case used radium and a persistent irritant thus was introduced to complicate the pathology. The second case was a clean cut one. Both started out as ulcers of the endometrium and both ended .up as cancer. Both were cured by this cancer treatment. These cases run parallel to gastric ulcer in that the ulcer antedates the cancer and, as is often the case, becomes the site for the development of the cancer. Thus rodent ulcer, gastric ulcer and endometritis, especially if its cause cannot be explained, should be recognized as a sign of the presence of the cancer causing toxin and the forerunner of cancer.

SOME GROWTH MANIFESTATIONS OF CANCER NOT CLEAR CUT OR DEFINITELY CLASSIFIED

Case 40. Cancer of Uterus.

The microscopic recognition of cancer and its differentiation from other protective responses of the same order, is not always possible, indeed very often not possible. The clinical course of the disease with the wide range, of data yielded, has always been the best guide to correct diagnosis. Yet the medical profession has let itself be led through misinformation, plain ignorance, and lack of interest, to submit to the claims of the microscopist, the new Sherlock, who alone with his little lenses would decide as to whether or not a disease is cancer. It may be that the pathologist with his peculiar training does not know his limitations. The important fact is that through the pathological attitude rampant today toward disease we have lost track of the most essential clinical features bearing on malignancy. Moreover we have not learned to make a sure diagnosis of cancer with the microscope. Thus a syphilitic lesion is diagnosed sarcoma and a carcinoma too often called an adenoma. Many surgeons of experience will support this statement.

A more important insufficiency in the pathology service is due, to lack of study of the microscopic findings in the light of the clinical course of the disease. As a result definite malignant conditions are not classified at all, or only incorrectly. To illustrate I shall give two cases that were cured by this treatment.

Case 41 .Sarcoma of finger.

Miss H., age 19.

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Family History, negative to cancer.

Past History: Measles, whooping cough in childhood, diphtheria at 16, operated upon by Dr. Hicks of Bradford, Ontario, for falling of the uterus at 18 years of age.

Pre-growth symptoms: Dizziness started 6 years before the growth came and became worse after growth came.

Status of patient: First finger of right hand became rapidly and painfully swollen one night in the fall of 1920, condition grew worse as finger swelled to twice its size, becoming red and hard. On the outside of the second phalanx of this finger, a hard white "kernel," with central puncture gave the impression that the finger had been pierced by a sliver. Pus formed at this place, the finger was opened by Dr. Nash of St. George, Ontario, but only a little pus was obtained. The condition grew worse, with no relief from the pain. Finger opened again, but drained only a watery fluid. The bone was then scraped 14 different times, and a specimen removed and sent to the University of Toronto pathologist.

The whole finger was then removed about January 20, 1921. One month after the stump healed, the next finger started the same affair. It was lanced, the bone scraped, got worse rapidly, and was amputated. The finger was sent to the University of Toronto pathologist and the following diagnosis returned: Sarcoma, Tuberculosis or Syphilis.

One month later the third finger did the same thing. It was cut, scraped, and the surgeon, Dr. Reed, wanted to remove the hand first and later the arm, patient reports. Operation refused and patient came to Detroit to be treated.

Our examination was made August 10, 1921. The patient was a very nervous, highly toxic girl. The amputation stumps on right hand were swollen hard and red and blue, the whole hand and forearm were much swollen and the large axillary glands palpable. The ribs on same side lumpy, very tender, and painful. The third finger was swollen, barrel shaped, hard and deep red, about four times the natural size. A white spot, with central puncture, through which a watery fluid escaped, was noted in the position as described on the first finger, the little finger appeared normal.

Treatment was given and recovery ensued during the next few months. A few weeks after treatment, the little finger broke out in the same way, but the trouble was very mild and transient, not lasting over a week and causing no inconvenience. Both fingers rapidly became well and the swelling left the hand and arm. Likewise the axillary metastases disappeared, the ribs healed and disappearance of the nervousness and pre-growth symptoms of dizziness was completed before the fingers were healed. She gained weight and the best of health; has since married and has a healthy baby. She is in perfect health still. She returned to the surgeon to show herself, that he might enjoy her good fortune, but reports that she was not well received.

Discussion: This peculiar case might be explained in the following way. Embryonic rests remained in similar positions in the four fingers of the right hand. The infecting agent producing its poison was in her system for some six years, and causing the pre-growth symptoms of dizziness and nervousness. The embryonic rests not being under inertia of physiological activity, were the easiest tissues to respond to the poisoning in the protective direction. As fast as one growth was removed, another came from a remaining rest, and finally, when the treatment was given and the growth underwent absorption unloading its stored toxin, the last rest was over stimulated and responded like the others. In the meantime the toxin was

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undergoing conversion to antitoxin and the resultant withdrawal of all toxin resulted in cure and the establishment of immunity.

It makes little difference what the microscopic report happened to be, the clinical course of the disease was that of malignancy, and the little cells that made up the tumors had a function they could not adequately perform, the function of protection, attempted antitoxin production. The disease was cured by doing the work for the growths.

Case 42. Malignancy of Testes.

Mr. F., age 28.

Family History, doubtful to cancer or tuberculosis:

Past History: Well all his life until present illness.

Pre-growth symptoms: Right-sided headaches very severe and persistent for three years. Right arm shoulder neuritis three years.

Status of patient: Left testicle always twice as large as the right one. Two weeks before removal it grew painful and bigger and fluid collected in the sack. Operated, with removal of left testis August 10, 1921, by Dr. J. D. Mathews of Detroit. Specimen report: "marked evidence of tuberculosis." Two and one-half years later the right testis started to swell, behaving as the left one had. Operation was again suggested, but the patient refused, to come to us for treatment.

Examination February 12, 1924, revealed the sack fairly distended with fluid, and containing an irregular mass the size of a lemon, with hard nodular epididymas, teste grown fast to scrotum and discharging bloody pus. Inguinal glands enlarged and a mass in the abdomen, size of an apple (mesenteric gland metastasis), also a hickory nut sized mass in right epitrochlear glands, and a mass in the left ribs close to the spine, size of a walnut, attached to skin and invading surrounding tissues.

Right nostril bleeding for the last few weeks, discharging pus at times. No cough. Morning headaches, afternoon fatigue. Although the microscopic diagnosis was tuberculosis, the clinical course was that of malignancy, so the treatment was given. Recovery was completed in 5 months, return to normal of teste and scrotum, disappearance of all growths; and patient back to work, in perfect health, and free from pre-growth symptoms.

Discussion: The course of recovery was that which takes place in malignancy, after our treatment; and the diagnosis of malignancy is thereby confirmed. It is evident from the pathological report in question, which was made by a recognized pathologist, that the tissue gave the impression of tuberculosis and as the bacillus is so rarely met in such tissues, it was not included as a diagnostic feature. Therefore, judging from the cytology of the testicle removed, the pathological diagnosis could not be made, and the report was only a guess. The tissue showed only one pathognomonic feature and that is typical cellular hyperplasia. The clinical course of the disease proved, that this cellular hyperplasia was an inadequate one, and therefore malignancy was at the bottom of the whole trouble, for after all, malignancy, whether carcinoma or sarcoma, is a new protective response of cells against the definite toxin in the blood. The response is not adequate and therefore persists by increased growth and metastasis, in the attempt to become adequate. The removal of the toxin, with consequent atrophy and absorption of the neoplastic tissue, is proof complete as to the diagnosis of malignancy. Therefore, though the pathologist cannot

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make the diagnosis, the clinician can do so. Now he can also cure the disease and substantiate the diagnosis of malignancy. Therefore, though the follows a definite program, and its features explain the true nature of malignancy.

THE COURSE OF RECOVERY

The recovery from an infectious disease is a matter of immunity and in cancer it also involves processes of removal of the growth tissue and the healing of destroyed areas in such a way, that function can be resumed.

Most of the principles concerned are exemplified in the case histories presented in this series of papers, but the reaction features have not been detailed in the various cases, in order to save space. These features are fairly constant, and one case history will suffice to illustrate. (Patient just reported for examination and reaction features were clear in his mind.)

Case 43. Gastric Ulcer and Cancer.

Mr. H., age 51, referred by Dr. Norman Wilson, of Jackson, Michigan, and Dr. Stitts, of Stockbridge, Michigan.

Family History, negative to cancer.

Past History: Mumps three years ago, and Flu in 1224.

Pre-growth symptoms: Dizzy spells for last 14 years; on retiring, would feel as if taking somersaults. Also transient blind spells, feeling as if whole musculature was giving way, had to sit down so as to avoid falling. These spells did not let up until the sixth week after the treatment was given. Gastric ulcer (adequately diagnosed) twenty years ago, from which he was practically well until 7 years ago. Three years ago develop a general anasarca. This subsided for the most part, but remained easily noticeable until the sixth week after treatment, when it disappeared.

Status of patient: Had been vomiting regularly, and had slimy dysentery since fall of 1924, had frequent diarrhea for years past. Burning pain across the upper abdomen; constant since fall of 1924. Lost from 178 to 155 since January 1926, vomiting of decomposed blood and had tarry stools since January 1925. Cough, difficulty in swallowing, a sense of pressure in the throat, rapidly getting worse in last month. Unable to retain even water in stomach, last several days pressure in chest suggesting heart impairment to patient. Wasserman negative, Michigan State Board of Health. The examination made April 23, 1925. Color of skin and eyes yellow plus a cyanotic flush, general slight oedema, worse in ankles. Left supraclavicular mass size of large walnut, increased mediastinal dullness, and heart apex beat shifted to left. A mass in abdomen reaching from ribs to two inches below umbilicus on right side, tender and hard, anterior shelf of sigmoid involved by mass, size of small egg. Xray report from Dr. R. M. Cooley of Jackson, Michigan, to Dr. Wilson: "Chest negative, lesser curvature of stomach presents a smooth appearance, but there is ragged shallow filling defect on the greater curvature, that extends from the prepyloric region upward to the cardiac region. This filling defect is constant in all films. The cap is not seen on any of the films. Slight ilial residue at five, hours, and normal colon." Visceral reflexes to muscles of back, causing spasm of erector spinae muscles from 5th to 10th dorsal vertebra, reported by Dr. Wilson and easily found by me.

Treatment was given April 23, 1925, and recovery followed the course given below.

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TemperatureFor nearly twelve weeks after treatment, he ached all over, more or less. Chills and fever set in on the fourth day, lasting a few hours, returning the ninth and twenty-third days, also had a fair fever during the ninth and at the end of the eleventh week. Hoarseness, cough, and difficulty in swallowing disappeared by end of fourth week, color much better, cyanosis and oedema completely absent. Mucous and diarrhea stopped by the end of the sixth week, and masses were barely palpable.

Pre-growth symptoms completely disappeared by end of seventh week. Some bleeding from rectum, with chills and fever of ninth week reaction, after which hyperaesthesia over abdomen left, and stools large and formed were passed the fret time in several years, regular natural bowel movements ever since. All masses completely disappeared, and visceral reflexes produce no longer spasm of spinal muscles. End of eleventh week, all aching and reaction symptoms have disappeared and patient feels better than for the last twenty years, he claims. Examination by Dr. Wilson and Dr. Stitt, can find no trace of the disease. Neither can I. Gain in weight was at the rate of one and one quarter pounds per week throughout. Present weight 170 pounds, and still on the gain, strength nearly returned. No Xray pictures will be taken for some six months, because of the antihealing influence they possess, and we want the patient all healed before he is submitted to any injury. For even though he may be all healed at present, his tissues are still tender.

The prognosis in this case as given by his doctors when referring him was, that he might live only five weeks. To all intents, this patient is now cured, and convalescence nearly complete. He should be in better health each year, as occurred in other cases cited.

Discussion: Immunity is established at the end of the seventh week, and the process of removal of the growth progresses most thereafter, although sometimes it starts earlier. Generally the twelfth week winds up the reaction period.

The process of removal of the growth tissue is a matter of cell autolysis, plus the ingrowth of angioblastic tissue by which the digested material can be carried away. The growth thereby becomes replaced by blood vessels, and these retract as soon as their work is done. They provide for the restoration of destroyed tissues.

The fevers that occur are due to the burning up of products of mal-metabolism, and materials absorbed from the growth that cannot be used for rebuilding the tissues of the body. They include also various samples of the stored (absorbed) converted cancer causing toxin, and products of activity of various bacteria that might be present in the growth. The fevers represent immunity accomplishments.

RETURN OF FUNCTION

The recovery process has completed itself only when full return of function .has been established and I am citing as an example this case of cancer of the uterus, that after recovery became pregnant and at the end of the normal term, delivered a normal baby and remains in the best of health.

Case 44. Normal Pregnancy Follows Cure.

Mrs. T., age 31.

Family History, negative to cancer.

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Past History: Well all her life, except for appendectomy op June 16, 1921, performed by Dr. Royce.

Pre-growth symptoms of dizziness that were slightly better since the growth came. Headaches regularly for years.

Status of patient: Irregular bleeding from uterus for over a year, pains in back and down legs, characteristic discharge. Specimen was removed by Dr. L. N. Tupper of Redford, Michigan, August 1, 1923, and sent to the Owen Clinic Laboratory, which is the reliable and recognized diagnostic laboratory of Detroit. The specimen was found to be squamous cell carcinoma, and the surgeon recommended operation. From the time of removal of the specimen to time of treatment, August 7, 1923, the bleeding was constant and profuse.

Examination August 7, 1923, found uterus enlarged by the growth and extending into the abdomen, one-third the distance to umbilicus. Cervix enlarged to size of an apple by a nodular mass, extending into broad ligaments.

Diagnosis of cancer confirmed by these findings and history of pre-growth symptoms. Treatment given with complete recovery in five months with gain of fifteen pounds in weight, uterus returned to normal structure, and complete disappearance of pre-growth symptoms.

Became pregnant in the late summer of 1924 and gave birth to a normal baby at end of normal term. No difficulty attended delivery. Uterus remains normal and patient in excellent health.

Discussion: Such a return of function as has been exemplified in our cases proves that the growth of cancer cells into adjacent tissues is an interstitial infiltration and that the true destruction of the normal tissues is not as great as would so often seem. But even where deficiencies are observed, there is a great tendency to repair the affected part, with restoration of the physiological elements in normal proportions, so that function can be resumed. Thus the removal of the cause of cancer, the toxin and the organism that produces it out of the tissues of the host, gives nature free sway to restore her normal self. Moreover, one thing has been gained through being cured of cancer, namely that the process of conversion of toxin to antitoxin, once established in the body, is a perpetual acquirement, the true immunity state.

"Dr. Koch's interest in the study of medicine was to find a remedy, other than surgery to which his father afflicted with cancer of the stomach submitted without avail for the cure of a cancer. He has been a teacher both at the University of Michigan and in the Detroit Medical College. His point of approach of the study of the problem was one following his study of the parathyroid glands and their protective functions. After years of study, which at times required days without sleep to watch his chemical experiments he produced synthetically a protective substance, an antitoxin, for the cure of cancer. This was over seven years ago. The Editor has personally seen and examined many of the patients whose case histories have appeared in the Journal, and she found them all in good health, free from any sign of cancer, happy and working every day. Some of these were cured six and seven years ago. This "antitoxin" seems to be very effective in untreated cases, even advanced, and in cases which have had surgical interference only. Its efficiency is law in the treatment of cases that have been subjected to irradiation of X-ray or radium. Only about one in five of the latter recovers, as against four in five of the former." Editorial by, Elnora C. Folkmar, M. D., (J.A.A.M.P.R., Sept., 1925.)

Cancer And The Evolution Of The Immunity Process

W M. F Koch, P H. D., M. D.
Detroit, Michigan

READ AT THE FOURTEENTH ANNUAL CONVENTION OF THE AMERICAN ASSOCIATION
FOR MEDICOPHYSICAL RESEARCH

CHICAGO, 1925

Reprint From *The Journal Of The American Association For Medico-Physical Research*, Oct. 1925

A chemical compound is not simply a mass of material but must be recognized as so much concentrated energy, and its chemical behavior is a function of the energy playing upon it. Light, for instance, can mediate any type of reaction within and between chemical substances, and certain chemical bodies can emit light vibrations. But all chemical bodies emit characteristic vibrations depending upon the dynamic state of or disposition of their electrons or valences. They may thus under proper conditions behave as photochemic ferments. Nitrogen containing cyclic compounds, offer the most important class of such substances with which we have to deal in physiology and pathology. Only a few of these bodies have been chemically identified and the study of their dynamics has been quite neglected.

Under the influence of vibrations received from other chemical bodies and by virtue of the entropy in the molecule three important classes of photochemic reactions can be induced in the molecule varying from a change in the state of isorrhopsis to actual ionization should the valences be in a sufficiently critical condition to permit.

Isorrhopsis can take place between adjacent molecules, (heterorrhopsis). The molecules thus flock forming larger masses of molecules, with increase in entropy. Such a system is not ionized, but is a nonconductor, a colloid, and acts as a photochemic ferment, because the vibration, spheres of the heterorrhopsis constituents are wide and concentrated, and other molecules can circulate in their spheres, under which influence, adsorbed electrons are given a variety of impulses some of which are suited to accelerate the chemical reaction possible. Thus the rate and extent of the reaction are increased. Here a molecular system by virtue of its electronic impulses can induce and propagate a chemical reaction in other molecules without itself taking part in the reaction: It thus serves as a photochemic ferment.

Likewise molecules representing different phases of isorrhopsis in a substance can influence each other by virtue of their, abilities to vibrate sympathetically, so that a more energetic phase of the substance can induce the less energetic member to assume its valency disposition. In this way they behave as photochemic ferments.

The reactions possible for any chemical substance are determined by the characteristics of the medium, the influence of other chemical bodies. Thus the conversion of the cyanamides to urea in the anaerobic medium of the colon does not take place, but the cyanamides in the colon take up ammonia radicals and become the guanidines, or they may polymerize with increase in entropy, becoming the melamines.

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These are toxic substances of anaerobic germ origin and are continually absorbed by the blood and circulated throughout the body. So the situation requires a protective mechanism to permit a normal physiology.

In the presence of parathyroid function, these melamines and guanidines are again reverted to cyanamides and then to ureas and made harmless, and the body is thus protected. When the parathyroids are removed from the body, the guanidine toxins increase with production of tissue degenerations, convulsions and death.

So the parathyroid glands are a physiological immunity mechanism, perfected and established in the animal body. They protect against poisoning by a product of anaerobic germ activity in the colon, as we observed in 1912. This research has been later confirmed at Glasgow and other European universities.

With these chemical and physiological fundamentals as an introduction, I wish to outline the program of the pathogenesis of cancer in a practical way.

The toxin causative to cancer originates primarily in the colon and is the product of anaerobic germ activity. The observations of Colonel H. Hallilay, the British surgeon who spent some twenty years as army surgeon among the native Indians, prove that where frequent loose bowel movements are the daily habit, neither cancer, gastric ulcer, appendicitis or gall bladder trouble is to be found. The dietary prevention of colonic stasis, as accomplished by Hay and Bulkley, also demonstrate that cancer and some other diseases have their primary origin in colon toxemia. Thus it is settled that the anaerobic germ chemistry of the colon, through stasis, can produce a general systemic poisoning productive of cancer. Occluded tonsillar crypts are a certain but less frequent source of the poison.

All living cells have in common certain structural chemical groupings necessary to life. The virus associated with cancer, prepares for itself an essential structural unit, which has a counterpart in the animal cell. This virus toxin is prepared in an anaerobic medium, while the structural counterpart of the human cell is built up and functionates in an aerobic medium. Thus, two phases of the structural unit exist in nature, and as they represent homologous molecules, they are capable of sympathetic electronic vibration. Under proper conditions, the anaerobic, or germ form, which is the one of smaller molecular weight, can influence the aerobic or human form to pulsate in unison with it, and to assume the molecular state represented in the germ form of the substance. An induction of sympathetic electronic vibrations, with resulting influence on chemical structure thus takes place. The toxin thus behaves as a photochemic ferment.

So the toxin of the cancer virus, when colonic stasis is present, is circulated through the blood and attacks every tissue of the body. Various symptoms arise which may precede the development of the growth for many years. These may range in severity from dizziness, temporary blind spells, headaches, neuritis, etc., to mental disturbances grave enough to be diagnosed insanity. We call these the pre-growth symptoms, since they let up in a high percentage of the cases, with the appearance of the growth. Impairment of functions of the glands of internal secretion, may also result in simple and toxic goitre, and adrenal insufficiency with pigmentation changes may follow. Moreover senility changes and tissue degenerations may precede and accompany the growth.

The growth first starts to develop where such circulatory changes take place, that favor an increase in the supply of the circulating toxin, and where a circulatory stasis follows, permitting the region to become more or less anaerobic. Injuries and scars, predispose to this anaerobic condition and here the cancer germ's toxin can carry on its inductive work to the best advantage. Moreover the germ itself can grow in

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an anaerobic medium to the best advantage and the region of circulatory starvation offers opportunity for its culture.

Here the toxin behaving as a photochemic ferment, converts more and more of the cell structural unit to the germ phase of structure, and the cells thus robbed compensate the loss by preparation of more and more normal units. Each new unit prepared is converted to germ phase of structure and the development of the virus further favored. Thus we have a supply of the material favoring germ reproduction, noticed recently by Gye and Barnard, and called a specific factor. The more the cells prepare of normally constructed units, the more germ form of the substance is made from them through toxin activity and the greater the development of the germ. Finally the cells show fatigue and may die off, forming a spreading ulcer, a rodent ulcer, or gastric or duodenal ulcer, or an endometritis. Or the cells may prepare abbreviated forms of the normal substance and reproduce to do this. By this reproduction a growth is formed and it has a function in that the abbreviated forms are more energetic bodies than the normal form and they tend to influence the toxin to assume their state of electron disposition. The growth thus demonstrates a function in that an antitoxin is approached, and by following this plan of attack; we have been able to prepare the true antitoxin synthetically. Unfortunately, this procedure of the tissue is not followed out far enough to offer adequate protection. However by thorough cleaning out of the colon continually, and by proper increase in the circulation in the growth, or its complete removal, if that can be done at this stage of the game, a more or less satisfactory cure is to be had. I have cured such a case, and so have others by proper diet and colon lavage and removal of the circulatory stasis in the growth. That such cures are but temporary, can be inferred from the fact that no antibody production of note has been established in the body. And surgical removal of the growth at this time, tends to prevent the anti-body production entirely, and is therefore the poorest of all methods of attack. The toxin is still in the blood and the anaerobic conditions in the operation wound, due to circulatory stasis, simply favor the development of a new set of cancer growths, even though the original growth, were perhaps completely removed. Proper diet and colonic flushing and increase in blood supply to the growth at this stage of its development offers a greater measure of benefit and permits the growth cells to tend to complete their program of immunity development.

After a time, the ability to form the abbreviated units becomes exhausted and the cells are supplied only with the germ type of the structure of the substance. They can incorporate these into their protoplasm and thus live an anaerobic existence. In so doing they are devoid of physiological function, and grow or reproduce as fast as germ activity supplies them with new anaerobic units. They thus live in symbiosis with the germ, lose their histological polarity and grow and spread as parasites throughout the body, giving the usual clinical picture of cancer.

During the growth period, the body is generally detoxicated by the multiplying cells taking out the units from the blood, that they incorporate into their own structure. Hence the pre-growth symptoms of intoxication generally subside during the time of cancer growth. Should the, cancer growth be removed largely, the pre-growth symptoms recur until the growth of cancer tissue catches up with the toxin production. At this time also by energetic cleansing of the colon, and proper diet, the returning pre-growth symptoms can be to a large extent ameliorated, and recurrence of cancer tissue slowed up.

The preparation we use to cure the disease is a synthetic photochemic ferment of greater energy than the toxin, a very energetic sample of the normal phase of structure of the substance existing in the normal cell. It is energetic enough to induce isorrhopsis change in all of the toxin molecules, whether free or bound up in the protoplasm of the cancer cell or in the germ. It changes by its induction power all the germ phase of structure of the substance to the normal aerobic phase. Thereby the cancer cells are reverted to normal and the germ is killed, as it cannot exist with the substance in an aerobic phase.

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The cancer cells are changed to normal, through the action of the treatment and then exist in excess of the physiological demand. They undergo calcification and digestion for removal, and the products are again used to re-nourish the depleted body. Anemia and cachexia disappear and the pressure effects and other changes consequent to the growth disappear, as it is absorbed.

The removal of the involuting growth is accomplished by the ingrowth of angioblastic tissue which completely replaces the growth. These little vessels retract as fast as their work is done and they provide for the healing of destroyed areas. Thus rectovaginal and rectovesicular fistulae are healed with normal tissue elements and without scar production.

In the reconstruction of the tissues destroyed by the growth, the new cells that are formed, have an excess of preformed structural units of the order of the photochemic ferment, supplied by the treatment material. These units are built up into the cells of the new tissue being formed, and by virtue of their high photochemic value, these units provide a protective value to the new tissue, making it capable of changing any further molecules of the toxin to the state of structure normal to the human cell. Thus the new tissue, besides carrying on its usual function, acts as a new gland of internal secretion, and affords a continued protection against existence of the toxin responsible for cancer. This tissue can then functionate as an immunity organ like the parathyroid glands, and through the treatment we reach the goal, toward which the cancer effort is struggling in its evolution--a perpetual immunity against a toxic product of virus inhabiting the anaerobic recesses of the body as occluded tonsillar crypts and an inert colon.

*Following the reading of his paper, Dr. Koch presented live cured patients. The case histories of four of these have been published in the Journal in previous articles by Dr. Koch.

Case 1. Cancer of the uterus, a test, case for the Wayne County Medical Society, cured in 1919 (See Journal, May, 1925.)

Case 10. Cancer of the breast with Paget's disease, cured in 1919-20. (See Journal, July 1925.)

Case 26. Gastric ulcer and cancer cured in 1922. (See Journal, August, 1925.)

Case 44. Normal pregnancy follows cure of cancer of the uterus, cured in 1923. (See Journal, September 1925.) Both mother and child were exhibited.

By motion of a member each of these patients was permitted to tell her own story. These stories will be published in the November issue of the Journal.

Dr. C. Everett Field, head of the Radium Institute, New York City, and a Fellow of the American Medical Association, who has treated a large number of cases with the Koch "Synthetic antitoxin" with marked success, led in the discussion. He said that he has been using Koch's antitoxin for nearly two years, that he has treated 164 cases and that in 80 percent of these cases the "cancer" advance is checked and in not one of that 80 percent is there a new nodule or a new evidence of growth." He emphasized that these results had been obtained in spite of the fact that 70 percent of the cases he treated with the Synthetic antitoxin had had heavy treatment with X-ray. He reports "31 cases as cured clinically, from a period of 4 to 18 months." Of his experience in the treatment of cancer, of the breast by Koch's method he says:

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“I have had cancer of the breast disappear entirely in eight and ten weeks. I have had them contract into a hard, firm mass, onethird or onequarter of their original size, no evidence of anything new starting up, the growth becoming smaller and smaller taking possibly a year or more to disappear.”

Editor.

“Last month in an editorial the Journal predicted that the Fourteenth Annual Convention of the American Association for MedicoPhysical Research would mark a mile stone in the renaissance of medicine. It did. Several of the sections presented papers or clinics which will be accepted as real constructive contributions to medical practice.

The most important contribution for immediate adoption was that presented by Dr. Koch in his paper on "Cancer and the Evolution of the Immunity Process" and in his talks to the doctors who attended the clinics. His treatment by means of a "Synthetic antitoxin" has stood the test of timeseven years. He does not claim 100 percent efficiency for his treatment. But the fact remains that it is more efficient than any other treatment ever proposed for the cure of cancer. He does claim 60 percent of cures of all cases treated. His method is one that can be used by the general practitioner in his office or in the home of the patient. Hospitalization is unnecessary.

Little wonder that more than a hundred physicians became enthusiastic when several cured cases were presented, one a woman who after being cured of a cancer of the uterus became pregnant and gave birth to a normal baby. The Editor has seen Dr. Koch work in his office, has examined many of his patients under treatment, and a number of those who have been cured for years, and is convinced that Koch is making a real contribution toward the prevention and the eradication of cancer. If the Association had done nothing else this year than bring Dr. Koch's nonsurgical treatment of cancer to the attention of the medical profession, it would be certain of a place in history."Editorial, J. A. A. M. P. R., Oct., 1926.

The Prevention of Cancer

Introduction

Abstract: The Prevention of CANCER: In the Introduction to Dr. Koch's paper, Dr. Orlando Ducker, M.D. (Secretary, Committee on Organization Anti-Cancer Federation of America) concludes, "The history of medicine is full of incidences where a discovery of great import to the public health was not adopted until years and years had been wasted in controversy, false investigations, slander, bickerings, and suppression...Among the men who thus suffered martyrdom but whose names now stand in the limelight as pillars in the real progress of medicine are...Koch, (Wm. F.)." This report was published in 1926.

The fact that both the incidence of cancer and the mortality from this disease is on the increase should awaken every one to the importance of seeking measures for the prevention of this dreaded scourge of the human race. Each year, hundreds of thousands die of cancer and in our country alone there are, perhaps, a million sufferers. In the light of recent researches, which reveal its insidious development, we might conclude that other millions are suffering from cancer in its formative stages without suspecting the identity of their trouble. They are not aware of the misery that may be ahead of them nor of the fact that clinical and laboratory observations of the past ten years point to the conclusion that the prevention of cancer lies in the following of certain simple definite health measures.

Only a decade ago cancer was preeminently a disease of the aged and of those past middle life. Even today statistics show that one out of every 10 who reaches the age of 40 dies of this disease. It is occasionally met with in youth, is quite frequent in the twenties and common in the thirties. The statistical studies of Hoffman and Schereschewsky show that mortality from cancer has increased in the last 20 years about 30 percent. The disease is on the increase in spite of the most drastic and sometimes cruel measures of attack that have been applied to control it in the afflicted. Surgery, Xray, and radium have failed to stem its tide. Many of those who submitted to these measures for early relief have died quicker or have apparently suffered more than they would have done if they had been left alone. The steady increase in the death rate from cancer demonstrates that such measures as are now usually directed against the local manifestation (the growth or ulcer) really have no valid place in the prevention or cure of cancer.

To deal with this problem it is necessary to first remove from the mind any delusion that cancer can be cured by being burned or cut out. On the other hand, it is now a fact, practically demonstrable, that the essential conditions to the development of the disease can be prevented from existing in the blood, that the prevention of this disease is a matter of hygiene (chiefly personal) and its real cure, a matter of constitutional treatment.

MEDICAL AUTHORITY AND FOLLY

In the serious matter of the practice of medicine, the conscientious physician naturally desires to be backed up in all he does by authoritative guidance. In this country he has been led to rely on the propaganda of the American Medical Association and its constituent bodies. He looks to the Journal of the American Medical Association for the published expression of accepted propaganda or the denouncement of what has been judged "unfit." Were the men who have filled and are filling the positions on the editorial staff, especially of editor in chief, of this great journal, men of great scientific vision like Paget or Sambon, men trained as bacteriologists, as epidemiologists or as physiological chemists, the attitude today concerning, the cancer problem in America might be very different. Unfortunately the men

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who have been at the helm are great organizers, not great scientists, nor even clinicians of great attainment through years of conscientious private practice. It would seem their chief energy has been directed to the building of a great organization for more energy and money appears to be spent by "orthodox" medicine in the effort to secure legislation against the inroads made on its domain by the cults, than is spent in the honest search for the truth about cancer's real cause, prevention and cure.

The long adherence of medicine to the theories of the pathologists and to destructive methods in the treatment of cancer will soon be recognized as the greatest medical folly of the century. Had this policy resulted in the cure of the afflicted, or even of a large percentage of them such a procedure might have been justified. But failure is now generally recognized by both the laity and the medical profession and utter ignorance of the cause and cure of cancer was acknowledged at the last convention of the American Medical Association held in Atlantic City in May, 1925. In the heat of argument, X-ray, radium and surgery emerged as inefficient as cures. No practical ideas for the prevention of the disease were stressed.

In spite of this chaotic condition in America the American Association for the Control of Cancer, which has the endorsement of both the American Medical Association and the United States Public Health Service, each year stampedes this country with a campaign of education (the distribution of leaflets, the giving of lectures and radio talks to laymen by physicians, chiefly surgeons, and radiologists), the effect of which is to lead people to resort to inefficient if not often destructive methods. In the light of facts discovered within the last 10 years by private investigators, now checked up by others and proved by clinical experience over a period of years, the possibility of the control of cancer by the destructive methods, which have been, not only approved, but practiced by the leading lights of clinical medicine, can exist only in the imagination of the uninformed.

PREVENTION VERSUS CONTROL

Cancer is a constitutional disease of germ origin and like diphtheria has its local manifestations. Like diphtheria, its prevention and cure are matters of constitutional therapy. When the germ of diphtheria was discovered, we were prepared to successfully fight the disease. Today we are in possession of facts that should enable us to be even better prepared for the fight against cancer for we already know more about it than we do about diphtheria. Not only has a germ been isolated, its life cycle traced, its intermediate host scented and its method of attack studied, but the possibility of its being present in the system long before the development of a tumor or ulcer has been demonstrated. The preconditions essential for the existence of the germ in the body have been recognized by prominent men like Ehrlich, Shaw Mackenzie, Lane, Glover, Gye and Koch (Wm. F.). The latter has isolated the poison this germ creates and has produced a synthetic substance which acts as a converter of this toxin into antitoxin:

In short, the factors that determine why one person contracts cancer and why another does not, are now fairly well enough understood and sufficiently proven to serve us effectively in the prevention of cancer. To be sure, these discoveries are recent, (mostly within the last ten years). But were it not for the extreme conservatism, the necessary caution and overconfidence in the infallibility of doctrines accepted by the medical profession, the world at large might have been benefited by this knowledge ere this. The problem is not one of control but of prevention.

BEACON BEARERS

The history of medicine is full of incidences where a discovery of great import to the public health was not adopted until years and years had been wasted in controversy, false investigation, slander, bickering,

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and suppression. In some instances, not until the old standpatters had died off was the way clear for the new discovery to be recognized. Among the men who thus suffered martyrdom but whose names now stand in the limelight as pillars in the real progress of medicine are Harvey, Jenner, Holmes, S Semmelweis, Pasteur, Lister, Koch (Robert) of the past century. Among those of the 20th century, some of whom are today objects of persecution by, orthodox medicine, but whose names will stand out in the future as great benefactors of mankind, are those of Smith (Irwin F.), Fibiger, Borrel, Blumenthal, Sambon, Glover, Young, Gye, Barnard, and Koch (Wm. F.) for their observations and contributions on the etiology, prevention and cure of cancer.

The accomplishments of these men are such that the medical profession can no longer turn a deaf ear to their testimony with the assertion that they are either charlatans or honesty mistaken. They are the ones who have made the observations, who have done the work in the laboratories, who have time and again checked up on their work and who have reached conclusions based on incontrovertible, observable facts that can be and have been duplicated by others. Already the work of Glover has been duplicated by Loudon, McCormack, and Scott. It is not an accident that the observations of a number of others dovetail into those made by Glover and Young. Nor can we turn lightly aside the observations and the prophecies of Sambon, the greatest of English epidemiologists, in the light of his past achievements and prophecies relative to the intermediate host of such diseases as malaria, typhus fever, Rocky Mountain fever and sleeping sickness.

Ehrlich paved the way for chemotherapy in the treatment of cancer. **William F. Koch has undertaken the study of cancer as a phenomenon of physiology, of biochemistry. He has worked out some of the chemical problems of cancer not undertaken by any one elsethe isolation and synthetic production of the toxin of cancer, the chemical function of the cancer tumor and, lastly, and most important of all, the production of a synthetic chemical which acts as a converter in the changing of the toxins of cancer into antitoxins and thus by reinforcement of the natural processes, when injected into a sufferer of the dread disease, has brought about a cure in a percentage of the cases treated.**

Koch's first contribution to science was one of physiological chemistry, the discovery of the function of the parathyroid glands, four little glands present in the neck of all the higher animals. Koch noted that, when these glands are removed or seriously injured by disease, the animal dies from a definite set of convulsions. He found that certain poisons, the guanidin bases, were responsible for the convulsions and the death of these animals, but that so long as the parathyroid glands were present and active, they kept the animal immune to the guanidin poisons. This work was later completely confirmed by Paton and his staff of the University of Glasgow, and for this work which involved four years of intensive study Paton was awarded the world's Triennial Prize in Medicine from Harvard University. Had it not been for Koch's early researches concerning the function of the parathyroid glands, he might never have been led to isolate the toxin of cancer, to inject it into animals, and to grasp the real significance of his observations and their bearing on the solution of the cancer problem.

At the request of the Committee on Organization of the Anti-Cancer Federation of America, Dr. Koch has prepared the following article on the "**Prevention of Cancer.**"

ORLANDO DUCKER, M. D.

Secretary, Committee on Organization, AntiCancer Federation of America.

The Causes And Prevention Of Cancer

By William F. Koch, M. D., Ph. D.

The germ that causes cancer was first discovered and its life history traced by Glover of Toronto, and by Young, of Edinburgh, working independently, at about the same time. Their first announcement was made in 1920. Years before this Doyan, of Paris, and Clark, of London, had discovered a phase of the life cycle of this germ. More recently, Blumenthal of Germany and Gye and Barnard of London have isolated and proven a phase of this germ to be the cause of cancer. But the studies of Glover and Young are the most complete and their work within the last year has been confirmed by Scott, of Butte, Montana, and by Loudon and McCormack, of Toronto. They have found that the germ exists in every specimen of cancer tissue, that it can be grown in artificial culture media, and that it can be transplanted from one culture to another many times and still be able to cause cancer when inoculated into susceptible animals or humans.

Sambon has noted that cancer is an endemic disease that is becoming pandemic. There are cancer houses, cancer streets, cancer valleys and there are places where cancer is unknown. It was Sambon who connected the transmission of diseases like malaria, typhus fever, Rocky Mountain fever and sleeping sickness through an intermediary host such as a mosquito, a louse, a tick or a fly. And he has made the observation that while cancer infected areas swarm with cockroaches, mice, and rats, these pests are not found in a district of Iceland where cancer is unknown. Fibiger has shown that there must be some relationship between the nematode of cockroaches and the cancer of mice and rats which eat the cockroaches.

Glover finds that the cancer germ exists in several different phases a bacillus, a coccus or spore form and a filterable form. The spore is very resistant to destruction by boiling or by usual antiseptics. For this reason it exists wide spread in nature and we are all more or less exposed to it. The prevention of cancer, therefore, depends not so much on the successful avoidance of the germ as upon maintaining such conditions, as prevent the germ from existing or developing in our bodies. A number of investigators have demonstrated that the germ can not produce cancer in normal tissues.

CONTRIBUTING CAUSES

There are three circumstances that determine the production of cancer. They are:

First. Unbalanced nutrition, whereby the various tissues of the body become overloaded with incompletely assimilated food products. These in turn serve as material for the support of germ growth, and for the production of poisons. They also blunt the body chemistry, cutting down its efficiency, and hampering the immunity process.

Second. Impaired activity of the digestive organs, productive of constipation, whereby the cancer germs can accumulate, multiply rapidly and produce their poison in large quantity in the large intestine from which both the poison and the germ are absorbed and carried by the blood throughout the body

Third. An injury to some part of the body, whereby the circulation is impaired and the oxidation processes in the injured tissues diminished. The area of congestion, or stasis, thus produced is a favorable one for the germ to locate and produce the poison which acting upon the injured cells converts them into cancer cells.

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The cancer cells once formed lead an unrestrained existence and multiplying rapidly produce growths that spread throughout the body causing death in several indirect ways.

THE CANCER TOXIN

Since the poison or toxin produced by the cancer germ is the active substance causing cancer, some of its properties will be considered that we may better understand what cancer is. In my study of the development of the parathyroid glands in the embryo, I observed that this embryonic tissue resembled cancer tissue in its microscopic characteristics, and the thought came to me that perhaps cancer might represent a developmental stage of a new protective gland still undergoing evolution toward perfection. If such was the case, I argued that there must be a poison at the base of the disease and determined if possible to find it and study its effects on the body. Having succeeded in isolating this toxin and in synthetically preparing a quantity for experimental purposes, I injected it into rats. These animals after being injected with the cancer toxin showed disturbances of the more delicate mechanisms of the nervous system. They would go blind and bump into the sides of their cages, or they would lose their sense of equilibrium and turn their heads into peculiar positions or even spin about on their hind legs or move about in a circle. Having observed that the cancer producing poison so markedly affected the optic and equilibrium mechanisms of the brain of the animals, cancer patients were studied to note if they gave any evidence of this type of poisoning. Upon carefully studying the disease in a large number of cancer cases, it was found that not only were minor or very grave interferences with nerve action dominantly present, but that after the cancer growth developed, relief to a variable degree from these symptoms was obtained, and thus the protective action of the growth against the toxin 'was clearly demonstrated. A description of the symptoms that, so often precede the development of the cancer growth was given in a paper on "Cancer" read before the American Association for the Prevention and Cure of Cancer in June 1924, and published in *Cancer*, Oct. 1924.

Clinical history discloses the persistence of toxemia over a period, in some cases as long as twenty years, previous to the advent of the growth. After the growth has come these toxic manifestations disappear completely or nearly so. After a surgical removal of the growth they return; and with recurrence of the growth again disappear. We designate these symptoms as the pre-growth symptoms, for they differ from those consequent to the activity of the growth itself.

The pre-growth symptoms caused by the toxin stimulus are mainly manifestations of interference with normal nerve function, and predominately with certain mechanisms of the central nervous system. Thus in a series of two hundred cases distinct mental aberration, incorrectly diagnosed as paranoia, was observed in two percent of the cases. But the prevailing disturbance is an interference with function of the second and third cranial nerve mechanism. Thus an optic migraine without much or any headache or aural disturbance, or an optic vertigo with scotomata, might express the condition. The main characteristics, as they occur in fully eighty percent of my cases are as follows:

The points of disturbance lay both in the perception centers for optic impulses and those centers where optic impulses are conveyed into paths of motor control, of both the optic apparatus and the general musculature.

Thus visual impulses, in one case, periodically caused muscle tremors and convulsions. Covering the eyes gave relief Another patient persistently saw needles and pins wherever she looked, and she had been diagnosed a paranoiac. Difficulty in accommodation results in a large proportion of cases in a haziness of all objects closer than or beyond a distance usually of some ten feet from the patient. In these cases attempts at accommodation give rise to a sensation of sickness but not particularly nausea. Temporary

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blindness of the whole or part of the visual field is common, so that a patient may run into things without seeing them. Or a sudden general loss of sensation with blindness and a complete loss of muscle control will cause the patient to drop to the ground, without loss of consciousness and give the impression of dying. The muscle control may be only partly lost and the movements consequently uncoordinated. During these spells pinpoint pupils have been reported. Great changes in visual impulses, such as take place on turning out the light or waking up in the morning, may cause a dizziness with topsyturviness of afterimages or true images. In the former case, turning on the light and fixing the eyes on an object relieves. In the latter case, closing the eyes relieves. These occurrences come in spells of only short duration or last several weeks at a stretch and over a period of a few or as many as twenty years prior to the development of the growth.

Occasionally a peripheral neuritis is present. It may be mild or severe and may be associated with areas of anesthesia and paralysis of one or more groups of muscles. But the percentage of such cases is small.

Since these symptoms, which occur in nearly ninety percent of my cases, let up entirely or in large part with development of the growth, the detoxicating function of the latter is evident; and resembles the detoxicating function of the parathyroids.

The relationship between the germ producing the poison and the development of the growth is clearly set forth in paper read before the convention of the American Association for MedicoPhysical Research (Sept.1925) is here reprinted in its entirety for besides some rather technical matter, it gives the facts so clearly that it can be read by all with profit.

CANCER AND THE EVOLUTION OF THE IMMUNITY PROCESS

A chemical compound is not simply a mass of material but must be recognized as so much concentrated energy, and its chemical behavior is a function of the energy play: depending upon it. Light, for instance, can mediate any type of reaction within and between chemical substances, and certain chemical bodies can emit light vibrations. But, all chemical bodies emit characteristic vibrations depending upon the dynamic state of, or disposition of their electrons or valences. They may thus under proper conditions behave as photochemic ferments. Nitrogen containing cyclic compounds, offer the most important class of such substances with which we have to deal in physiology and pathology. Only a few of these bodies have been chemically identified and the study of their dynamics has been quite neglected.

Under the influence of vibrations received from other chemical bodies and by virtue of the entropy in the molecule three important classes of photochemic reactions can be induced in the molecule varying from a change in the state of isorrhopesis to actual ionization should the valences be in a sufficiently critical condition to permit.

Isorrhopesis can take place between adjacent molecules, (heterorrhopesis). The molecules thus flock forming larger masses of molecules, with increase in entropy. Such a system is not ionized, but is a nonconductor, a colloid, and acts as a photochemic ferment; because the vibration spheres of the heterorrhopesis constituents are wide and concentrated, and other molecules can circulate in their spheres, under which influence, adsorbed electrons are given a variety of impulses some of which are suited to accelerate the chemical reaction possible. Thus the rate and extent of the reaction are increased. Here a molecular system by virtue of its electronic impulses can induce and propagate a chemical reaction in other molecules without itself taking part in the reaction. It thus serves as a photochemic ferment.

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Likewise molecules representing different phases of isorrhopesis in a substance can influence each other by virtue of their abilities to vibrate sympathetically, so that a more energetic phase of the substance can induce the less energetic member to assume its valency disposition. In this way they behave as photochemic ferments.

The reactions possible for any chemical substance are determined by the characteristics of the medium, the influence of other chemical bodies. Thus the conversion of the cyanamides to urea in the anaerobic medium of the colon does not take place, but the cyanamides in the colon take up ammonia radicals and become the guanidines, or they may polymerize with increase in entropy, becoming the melamines.

These are toxic substances of anaerobic germ origin and are continually absorbed from the colon by the blood and circulated throughout the body. So the situation requires a protective mechanism to permit a normal physiology.

In the presence of parathyroid function, these melamines and guanidines are again reverted to cyanamides and then to ureas and made harmless, and the body is thus protected. When the parathyroids are removed from the body, the guanidine toxins increase with production of tissue degenerations, convulsions and, death.

So the parathyroid glands are a physiological immunity mechanism, perfected and established in the animal body. They protect against poisoning by a product of anaerobic germ activity in the colon, as we observed in 1912. This research has been later confirmed at Glasgow and other European universities.

With these chemical and physiological fundamentals as an introduction, **I wish to outline the program of the pathogenesis of cancer in a practical way.**

The toxin causative to cancer, originates primarily in the colon and is the product of anaerobic germ activity. The observations of Colonel H. Hallilay, the British surgeon, who spent some twenty years as Army Surgeon among the native Indians, prove that where frequent loose bowel movements are the daily habit, neither cancer, gastric ulcer, appendicitis or gall bladder trouble is to be found. The dietary prevention of colonic stasis, as accomplished by Hay and Bulkley, also demonstrate that cancer and some other diseases have their primary origin in colon toxemia. Thus it is settled that the anaerobic germ chemistry of the colon, through stasis, can produce a general systemic poisoning productive of cancer. Occluded tonsillar crypts are a certain but less frequent source of the poison.

All living cells have in common certain structural chemical groupings necessary to life. The virus associated with cancer, prepares for itself an essential structural unit, which has a counterpart in the animal cell. This virus toxin is prepared in an anaerobic medium, while the structural counterpart of the human cell is built up and functionates in an aerobic medium. Thus, two phases of the structural unit exist in nature, and as they represent homologous molecules, they are capable of sympathetic electronic vibration. Under proper conditions, the anaerobic or germ form, can influence the aerobic or human form to pulsate in unison with it and to assume the molecular state represented in the germ form of the substance. An induction of sympathetic electronic vibrations with resulting influence on chemical structure thus take place. The toxin thus behaves as a photochemic ferment.

So the toxin of the cancer virus, when colonic stasis is present, is circulated through the blood and attacks every tissue of the body. Various symptoms arise which may precede the development of the growth for many years. These may range in severity from dizziness, temporary blind spells, headaches, neuritis, etc.,

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to mental disturbances grave enough to be diagnosed insanity. We call these the pre-growth symptoms, since they let up in a high percentage of the cases, with the appearance of the growth. Impairment of functions of the glands of internal secretion, may also result in simple and toxic goitre, and adrenal insufficiency with pigmentation changes may follow. Moreover senility changes and tissue degenerations may precede and accompany the growth.

The growth first starts to develop where such circulatory changes take place, that favor an increase in the supply of the circulating toxin, and where a circulatory stasis follows, permitting the region to become more or less anaerobic. Injuries and scars, predispose to this anaerobic condition and here the cancer germ's toxin can carry on its inductive work to the best advantage. Moreover the germ itself can grow in an anaerobic medium to the best advantage and the region of circulatory starvation offers opportunity for its culture.

Here the, toxin behaving as a photochemic ferment, converts more and more of the cell structural unit to the germ phase of structure, and the cells thus robbed compensate the loss by preparation of more and more normal units. Each new unit prepared is converted to germ phase of structure and the development of the virus further favored. thus we have a supply of the material favoring germ reproduction, noticed recently by Gye and Barnard, and called a specific factor. The more the cells prepare of normally constructed units, the more germ form of the substance is made from them through toxin activity and the greater the development of the germ. Finally the cells show fatigue and may die off, forming a spreading ulcer, a rodent ulcer, gastric or duodenal ulcer or an endometritis. Or the cells may prepare abbreviated forms of the normal substance and reproduce to do this. By this reproduction a growth is formed and it has a function in that the abbreviated forms are more energetic bodies than the normal form and they tend to influence the toxin to assume their state of electron disposition. The growth thus demonstrates a function in that an antitoxin is approached, and by following this plan of attack, we have been able to prepare the true antitoxin synthetically. Unfortunately, this procedure of the tissue is not followed out far enough to offer adequate protection. However by thorough cleaning out of the colon continually, and by proper increase in the circulation in the growth, or its complete removal, if that can be done at this stage of the game, a more or less satisfactory cure is to be had. I have cured such a case, and so have others by proper diet and colon lavage and removal of the circulatory stasis in the growth. That such cures are but temporary, can be inferred from the fact that no antibody production of note has been established in the body. And surgical removal of the growth at this time, tends to prevent the antibody production entirely and is therefore the poorest of all methods of attack. The toxin is still in the blood and the anaerobic conditions in the operation wound, due to circulatory stasis, simply favor the development of a new set of cancer growths, even though the original growth were perhaps completely removed. Proper diet and colonic flushing, and increase in blood supply to the growth at this stage of its development offers a greater measure of benefit and permits the growth cells to tend to complete their program of immunity development.

After a time, the ability to form the abbreviated units becomes exhausted and the cells are supplied only with the germ type of the structure of the substance. They can incorporate these into their protoplasm and thus live an anaerobic existence. In so doing, they are devoid of physiological function, and grow or reproduce as fast as germ activity supplies them with new anaerobic units. They thus live in symbiosis with the germ, lose their histological polarity and grow and spread as parasites throughout the body, giving the usual clinical picture of cancer.

During the growth period, the body is generally detoxicated by the multiplying cells taking out the units from the blood, that they incorporate into their own structure. Hence the pre-growth symptoms of intoxication generally subside during the time of cancer growth. Should the cancer growth be removed

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largely, the pre-growth symptoms recur until the growth of cancer tissue catches up with the toxin production. At this time also by energetic cleansing of the colon, and proper diet, the returning pre-growth symptoms can be to a large extent ameliorated, and recurrence of cancer tissue slowed up.

The preparation we use to cure the disease is a synthetic photochemic ferment of greater energy than the toxin, a very energetic sample of the normal phase of structure of the substance existing in the normal cell. It is energetic enough to induce isorrhopesis change in all of the toxin molecules, whether free or bound up in the protoplasm of the cancer, cell or in the germ. It changes by its induction power, all the germ phase of structure of the substance to the normal aerobic phase. Thereby the cancer cells are reverted to normal and the germ is killed, as it cannot exist with the substance in an aerobic phase.

The cancer cells are changed to normal, through the action of the treatment and then exist in excess of the physiological demand. They undergo calcification and digestion for removal, and the products are again used to re-nourish the depleted body. Anaemia and cachexia disappear and the pressure effects and other changes consequent to the growth disappear, as it is absorbed.

The removal of the involuting growth is accomplished by the ingrowth of angioblastic tissue which completely replaces the growth. These little vessels retract as fast as their work is done and they provide for the healing of destroyed areas. Thus rectovagina and rectovesicular fistulae are healed with normal tissue elements and without scar production.

In the reconstruction of the tissues destroyed by the growth, the new cells that are formed, have an excess of preformed structural units of the order of the photochemic ferment, supplied by the treatment material. These units are built up into the cells of the new tissue being formed, and by virtue of their high photochemic value, these units provide a protective value to the new tissue, making it capable of changing any further molecules of the toxin to the state of structure normal to the human cell. Thus the new tissue, besides carrying on its usual function, acts as a new gland of internal secretion, and works a continued protection against existence of the toxin responsible for cancer. This tissue can then functionate as an immunity organ like the parathyroid glands, and through the treatment we reach the goal toward which the cancer effort is struggling in its evolutionary perpetual immunity against a toxic product of a virus inhabiting the anaerobic recesses of the body, as occluded tonsillar crypts and an inert colon."

The effect of this is not only the production of the cancer growth: Other tissues during the period of poisoning preceding the growth response show the effects of its activity. Thus goitre, persistent headache, neuritis, dementia, paralysis, gastric ulcer, bleeding from the womb due to persistent ulceration within that organ, and several other conditions warn us in advance that cancer is on the way and that efficient measures are needed to eradicate the disease even before the growth is discoverable. These conditions result from the absorption of the cancer producing poison from the large intestine; and from the action of this poison on the various tissues of the body. Too often the germ has already localized in one or more places in the body, and in due time causes a growth to come into evidence.

THE DIGESTIVE TRACT AND THE PREVENTION OF CANCER

Constipation is a great American evil. When we, eat more food than can be properly digested and absorbed by the small intestine, the excess passes into the large intestine where it can support the growth of disease or putrefactive germs. This situation is aggravated by the American habit of fast eating and the swallowing of chunks of food that do not permit of a thorough penetration by and mixture with the digestive juices, but reach the large intestine undigested and unpurified by the action of these juices; to ferment or putrefy and thus supply material for germ growth. Ochsner, Sambon and others have

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contended that the cancer germ is carried into the system with our food, hence the importance of determining how the germ, gets into our food.

Putrid and fermented material retained in the colon is a constant source of poisons that; on being absorbed into the system, act fundamentally in the causation of many of our present day chronic ailments, including cancer, gastric ulcer, high blood pressure, neuritis, appendicitis and gall bladder troubles. Peoples, like the Hindu, who living on their native diet and have three or four loose bowel movements a day know not of the above mentioned troubles. But as soon as the Hindu adopts the English diet and habits of eating, they areas subject to these ailments as are the English and Americans. Very often putrid material remains plastered against the walls of the colon for years, and the individual is not aware of his constipation, Sticky stools spell incomplete digestion and indicate the likelihood of disease.

OVEREATING AND FASTING

The quantity of food must not be greater than what is required for nutrition. Feeding as a means of entertainment a perversion for which one must surely suffer. If, however, the food is taken in excess of ones needs, it should be of such quality as will produce rapid movement through the bowel, whereby it can sweep out the large intestine, and thus change its contents so frequently that no chance for accumulation of stale matter can take place. The coarse whole cereals, raw vegetables and fruits offer this advantage. The eating of meats and refined emasculated foods in excessive amounts cannot but cause trouble. Putrid odors with the bowel movements also predicate abnormal conditions in the colon and are warning signs that now is the time to use preventive measures.

Another source of digestive disturbance is improper mastication of foods. Starch foods require an alkaline medium for digestion. This is provided by the saliva and therefore all cereal and other starch foods should be carefully masticated and thoroughly mixed with saliva before swallowing. The habit of eating cooked cereals with milk leads to the bolting of these foods without proper mixture with the saliva. Another vicious habit is the combination of acids with starch foods, for example, potato salad. Green salads eaten at the same meal with starch foods should not have an acid dressing.

The flow of the digestive juices of the stomach is stimulated by the presence of protein foods. These are digested in the stomach. The more carefully they are masticated the more completely and promptly will they be digested. Fatty foods are digested in the small intestine.

Think these facts over, and bear them in mind in the preparation of menus and in the method of combined and eating foods found upon the table. A hint to the wise is sufficient.

Nearly all of us eat too much. One result of overeating is that every body cell has pressed upon it more nutritional units than it can take care of properly. These materials are not effectively handled, they are only incompletely metabolized and remain absorbed in the cell where they hamper its normal chemistry, cut down its efficiency and serve as material for the nutrition of germs and the production of germ poisons. What worse condition could be imposed on the tissues of the body? And how on earth can one expect to be healthy or energetic under such circumstances? It is calculated that we eat from twice to three times as much as we need. The excess spells disease. Therefore, a period of starvation with the drinking of plenty of pure water until the body weight is brought to normal will not decrease the strength or energy, but will make you feel better, sleep better, be free of dreams, think keener, will make you better able to compete with your adversary; in short will make you "healthy, wealthy and wise." Try it. Thereafter eat in accordance with your needs one or two meals a day, chew very thoroughly what you

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have to, eat, and you need not worry about disease, for you will have the health God intended for you. God does not punish you with disease, your ignorance and gluttony do that.

OXYGEN NECESSARY

The relation between the oxygen intake and the food intake is also very important. The fatter we are, the less our breathing space and the less the oxygen we take in, even with our deepest breathing. The more air we breathe, the more the oxygen supplied to the body cells and the less the accumulation of un-oxidized poisons in these cells to favor disease. When one carries a normal body weight his breathing space is at its best and the less is disease liable to take hold. It is an interesting observation that a high percentage of cancer patients have rapidly increased in their body weight for a year or so before the disease gave evidence that it was active in them. Under-oxidation is a pre-cancer condition. Please, take warning.

EXERCISE IMPORTANT

Exercise is the means of getting more oxygen into the system, of using up the material we eat and also of keeping the normal cell mechanisms going. Be sure to take daily exercise in the open air while fasting. Exercise is getting less and less convenient in our modern daily programs. Cancer at the same time is on the increase in like proportion. Our forefathers used their muscles, ate natural foods, were not in the nervous hurry that interfered with mastication. They ate the foods that swept the intestinal canal. They worked and walked and thus gave their abdominal muscles occasion to massage the intestines, in fact they lived more like normal animals and they developed cancer less frequently, and then only at the retiring age when they ceased to live normal active lives. So let us take the simple warning, particularly since we have the scientific reasons and explanations confirming the fact, that proper eating, breathing and exercise will keep us free from cancer, in spite of any injury the body may receive. The cancer germs can get no foothold in a healthy cell.

DIET AND FOOD ESSENTIALS

The idea of the following prescribed diet is to nourish the patient sufficiently, to maintain a normal blood alkalinity, and to feed such materials only as are conducive to best digestive activities and good bowel action and to avoid all irritants, stimulants and substances toxic, that may, hamper the progress of normal intracellular reactions.

In order to maintain life and health, foods must contain vitamins, mineral salts, protein, fat, carbohydrates and water.

If our food is lacking in vitamins, deficiency diseases result, such as neuritis, scurvy, rickets, paralysis. Some of these vitamins are destroyed by heat. Therefore, some of the food must be eaten raw. The foods rich in vitamins are the fresh fruits, the green vegetables and the dairy products.

Our bodies contain 16 different mineral salts. If our food does not supply these, disease results. The source of mineral salts is fruits, green vegetables, the skins of fruits and tubers and the germ and hulls of the cereals. Therefore, we must eat whole cereals, eat the skins of fruit and vegetables, and save and drink the pot liquor in which the green vegetables are cooked. Don't throw any of it down the sink.

The protein requirement of adults is very small, therefore, but little if any meat should be used. A pint of milk a day will give all the protein that is needed. So do not pile up proteins by eating meat, eggs, baked

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or stewed dried beans, and drinking milk at the same meal. Too much protein tends to constipation, acidosis and other forms of toxemia.

The carbohydrates (starches and sugars) and fats are energy and heat foods. Starch and sugars should be used as they occur in nature, whole cereals and tubers, sweet dried fruits, unrefined cane and maple sugar and honey. Fruits rich in fat are nuts, alligator pears, peanuts and olives. These are wholesome. The best animal fat is cream and butter.

DIET SUGGESTIONS

The following general diet suggestions are furnished patients who apply at the Koch Cancer Clinic for consultation and treatment.

- (a) The diet should be bland. No condiments, spices, strong acids, alcohol, wines or citrus acid fruits, such as oranges, lemons, grape fruit, tomatoes, food containing lactic acid (sour milk or butter milk).
- (b) The diet should be low in protein, very little or no meat, fish, eggs, dried beans or dried peas.
- (c) No refined sugar, processed or emasculated cereals or foods made therefrom, such as white flour, processed corn meal or breakfast foods should be used.
- (d) Care should be exercised not to serve proteins (foods that require acid digestion) at the same meal with starches (foods that require an alkaline medium for digestion) or to serve at the same meal starchy foods and fruit acids.
- (e) The bowels should have two daily evacuations, use an enema if there are not natural movements. May use mineral oil as a laxative, but no cathartics.
- (f) The diet should consist of fresh and cooked fruits: apples, pears, sweet prunes, pineapples, mild acid berries in season and melons: vegetables (green) such as lettuce, celery, cucumbers, green peas, string beans, green corn, kale (avoid spinach and cooked cabbage); tubers such as potatoes, carrots, turnips; sweet milk and cream; porridge and bread from whole cereals. For sweets use dates, figs, honey, maple syrup and brown sugar.

For persons suffering from the toxic symptoms that suggest the presence of susceptibility to cancer infection, the following detoxication and reconstruction diet is recommended.

FIRST WEEK

The diet should consist entirely of fruit juices, all the patient cares for (from three pints to three quarts daily). Express the juice from ripe fresh apples or pears. (Use a small cider press, or cut the fruit into pieces, run through a meat grinder and express the juice from this pulp mass.) Apples or pears may be stewed (peelings left on) and the juice pressed out. Use no sugar in these juices. The juice of two or three sweet, not sour oranges, may be used each day. The juice from simmered small sweet, not sour prunes, may be used. Water melon may be chewed and the pulp rejected. Pineapple may be stewed and the juice expressed. These juices may be served singly or may be mixed, but on no condition is any sugar to be added. The usual day's ration will be about one quart of fruit juice and one quart of water. An enema is to be taken twice daily, if bowels do not move daily twice normally.

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SECOND WEEK

Drink one to two glasses a day of the fruit juices and one to two pints of vegetable liquor. Vegetable liquors are made by cooking with a fair amount of water, singly or in combination, one or more of the following green vegetables: celery, peas, string beans, green corn, young carrots, small sweet white turnips. Strain off the liquor and flavor with a little butter. A few potato peelings may be cooked with these vegetables. A good plan is to chop all fine, or run through a meat grinder before cooking. A mild onion may be cooked with the vegetables if desired.

The same requirement for daily bowel elimination as for the first week. Under no condition should cathartics be used.

THIRD WEEK

Whole fruit and vegetables, either raw or cooked may be eaten. The more raw food in proportion to cooked food used, the better. Salads, vegetables and fruit puddings prepared as follows may be eaten:

For salads, use lettuce, celery, chopped or grated carrots or turnips (or both) and chopped apples, pears or pineapple. Use no dressings. A large plate of this may be eaten daily.

The vegetable soup is made in the same manner as the vegetable liquor for the second week, with the exception that less water is used in cooking and the vegetables are now eaten and not strained out. A pint or more may be eaten daily.

To make the fruit pudding, chop 1/4 pound of figs or dates and 1/4 pound of raisins fine and simmer over fire for a few minutes; add to this three or four fair sized un-peeled apples cut up fine and a little more water. Cook until the apples fall to pieces. Add no sugar or flavoring material. This gives a delicious nutritious dish of which a whole meal can be made. If desired, a few pecans ground in the meat grinder, or an ounce of peanut butter mixed with a little water to a cream maybe added to this pudding just before removing it from the fire.

FOURTH WEEK

Milk, cream, cereals (whole) and chicken may be added to the diet. The cereals should be eaten raw or cooked as porridge or bread. Vegetable tubers such as turnips, beets, parsnips and potatoes (baked or cooked with the jackets on) may be eaten. Patients must remember that in thus enlarging the variety of foods that can be eaten, the importance of eating raw fruits and vegetables daily must not be overlooked. Remember that acid fruits, or salads with an acid fruit dressing are not to be eaten at the same meal with foods that are largely composed of starch.

FIFTH WEEK AND THEREAFTER

From now on almost any kind of wholesome food may be eaten provided the general principles are observed. Never use fried foods. Never eat burned foods. Always avoid acid forming foods. Always eat generously of raw foods. Do not tolerate in your diet bad mixtures. Be sure to select foods that will stimulate alkaline metabolism.

All acids, spices, condiments, alcohol, cathartics; drugs of any kind, depressants, stimulants, tonics, are absolutely prohibited. Use no suppositories, no alcohol or glycerine, either externally nor internally.

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Coffee and cocoa should be eliminated. Do not drink water containing a large amount of iron. For pain use hot applications.

By this time a daily habit of two to three bowel movements a day should be established. If it has not been, keep up the enema or use the daily washout by mouth. This consists in drinking rapidly in succession six or more glasses of very warm water. Water taken rapidly moves quickly through the stomach and small intestines to the colon, and thus stimulates a normal evacuation.

It is a matter of common opinion due largely to false teaching in our medical schools that a person would weaken and die under a month's fasting. As a matter of fact this is not the case. On the contrary fasting for a reasonable period of time from all food, accompanied with the drinking of water and regular daily exercise, preferably in the open sunshine, increases both the endurance and the resistance.

A fast of seven to thirty days is not uncommonly prescribed by progressive physicians. Fasting is not accompanied with any sense of discomfort after about the third day. A reasonable fast for persons who are overweight may be suggested from a study of the following table of average weight. Persons who are much under weight because of toxemia lose but little weight under full fast, and often gain in weight under the detoxication diet outlined above.

TABLE OF AVERAGE WEIGHT FOR VARYING

HEIGHTS AND AGES*

MALES

Age	15-24	25-24	35-44	45-54	55-64
Height	Weight	Weight	Weight	Weight	Weight
50	120	126	132	134	133
52	124	130	134	138	137
54	131	137	142	145	145
56	138	144	149	152	153
58	146	153	159	162	163
510	154	162	169	172	173
60	165	173	179	182	184
62	176	186	193	195	193

FEMALES

50	114	118	123	129	130
52	116	122	129	137	136
54	124	128	136	143	144
56	130	137	144	152	152
58	138	145	153	160	161

* This table is an abridged table made from the table of averages, compiled by Dr. Frederick L. Hoffman, of the Prudential Life Insurance Company. His figures were based on the measurements of over

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74,000 male and nearly 69,000 female applicants for life insurance. Therefore, they are presumably the normal averages for healthy persons.

SUMMARY

The prevalence of cancer in its early stages, prior to the appearance of the growth, is so great that we must again refer to statistics and repeat some of the symptoms which show when you have unhealthy cells liable to cancer infection if the infection has not already taken place. It is in these early stages that the disease can be prevented and completely eradicated by following the advice given in the preceding pages.

The estimates of prominent statisticians place the annual death rate from cancer in the United States at over 125,000 with an annual increase of two percent. On this death rate, it is estimated there are now in the United States, alone, at least 1,000,000 cancer cases demanding care and treatment, and several times that many whose condition of health makes them potential cancer victims. Baker estimates that 10 percent of the entire population of England are suffering from cancer. This means that there is an ever increasing number of persons whose pre-cancer condition goes on unrecognized or is not diagnosed until a late stage of cancer is manifest by the appearance of the growth.

Among the pre-growth symptoms which may be present for years before a growth appears are attacks of headaches, or "bilious spells;" attacks of dizziness with the sensation that everything is going round and round; transient blind spells; blind spots before the eyes which partially obscure the visual field and other visual disturbances, such as flashes of light or inability to accommodate vision to approaching objects. There may be moments of temporary loss of equilibrium and severe headache with or without ringing in the ears. Neuritis is a frequent pre-growth symptom. The arm and shoulder group of muscles may be affected or the sciatic nerve with resulting impairment in the use of the leg. Other nerves may be the location of the pain which may finally yield to a motor or sensory, paralysis of the affected part. Mental derangement is, in a small percentage of the cases, the most prominent pre-growth symptom. Epilepsy has been noted to disappear when the growth developed.

Usually the detoxication procedure outlined above is sufficient to stop the trouble, and the correct health measures recommended should thereafter, be strictly followed.

Should these measures in any particular case prove insufficient, we can be reasonably certain that the germ has gained entrance to the tissues of the body and is there elaborating its poison. In that case, a routine fast with plenty of pure water to drink, and two colon irrigations daily must be followed until a natural appetite for simple food is attained. By so doing the body will be enabled to dispose of the excess of absorbed malmetabolized food material that favors the development of the germ in the tissues.

PREVENTIVE MEASURES MUST BE USED EARLY

When the condition is already deep seated, these preventive measures will not be sufficient. But in such cases there are usually present other signs of the activity of the germ, such as enlargement of the thyroid with symptoms of toxic goitre, irregular pigmentation or loss of pigmentation, disturbances in the cardiovascular functions, unnatural bleeding, impaired digestive function, localized pain and tenderness, asymmetry of some part of the body, jaundice or anaemia.

If a growth is present, whether small or large, as the disease develops it may break down in its center and ulcerate away, so that as it spreads it increases in size at edge, while the center becomes depressed. Any part of the body may be affected and the growth may invade the neighboring tissues and new growths

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may develop in distant parts of the body. It invades without respect any tissue in its path, eats through blood vessels, lymph channels and nerves. The involvement of nerves and the pressure of the ever increasing growth cause pain. Passages may be obstructed and bleeding and odorous discharges ooze or flow from the eroded surfaces. Therefore, the presence of any of these symptoms should be looked upon with suspicion.

Cancer is a progressive insidious disease. Considering the local growth only, there might be some difficulty in distinguishing cancer from the benign growth; only, however, while cancer is in its early stages of development, before it becomes attached to the surrounding structures, or before new lumps have developed. Yet there is always the possibility of the so-called benign growths becoming cancerous or malignant, and thus they are potentially all malignant and should be considered with suspicion.

When the growth stage is reached, there is little hope of recovering health by the hygienic measures alone. Nor is there any more than the most remote hope of obtaining a cure through the removal of the growth. This fact is now admitted by the leading medical authorities of both Europe and America. In the British Medical Journal of Oct. 1923, we read: "Can there be any doubt that in many respects the knife as a cure for cancer is a ghastly failure," and the, president of the British Medical Association in his book on Cancer and the Public says:

Nobody will pretend that surgery is the ideal method of treating cancer and surgeons all the world over would welcome some better and wholly different means of dealing with it.

Sir James Paget acknowledges that surgery in the treatment of cancer cannot even be given the, credit of prolonging life. He says:

I am not aware of a single case of recovery, and as to the influence of an operation in prolonging life, I believe that the removal of the local lesion makes no material difference in the average duration of life.

The experience of America's best known surgeon, Dr. Mayo, is that, even under the most favorable circumstances for operation, that is the early case, where the lump is small as a bean or hickory nut and accessible as in the breast, the removal of the whole breast does not prevent a recurrence. Dr. Kress quotes Dr. Mayo thus:

After amputation of a cancerous breast under the most favorable circumstances, I believe that in 99 cases out of 100, the disease returns.

Dr. MacFarlan, Professor of Surgery at the University of Glasgow, in giving his own experience in operating on such cases, writes:

The operation never arrests, but uniformly accelerates the progress of the disease.

Thus it is seen that the removal or non-removal of the local manifestation has no influence on the cure of the disease.

In these statements we have emphasized not only the failure of surgery as a means of help, but the harm that may be done since the operation often stimulates the disease and cuts down the resistance of the natural defenses.

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Nor is there any appreciable hope for benefit from the use of radium or X-ray. X-ray was once, flaunted before the world as a cure for cancer. It failed from the start. The earlier machines were judged too weak. Then larger and more powerful machines were invented and employed. At the present time the machines are so very powerful that it has proven expedient to make the number of treatments less and less frequent, less and less in tense, and shorter and shorter, that the patient may have a better chance to escape the terrible effects that sooner or later prove fatal. At first the milder machines and treatments proved ineffectual, and now the powerful machines and the drastic treatments have likewise proven ineffectual, but the injury done by such treatments are not only at times worse than the disease itself, but have sometimes proven directly fatal.

At the last convention of the American Medical Association, the discussion on the status of radium the most recent treatment of cancer by a destructive method was summed up by Dr. Francis Carter Wood, Vice President of the American Association for the Control of Cancer, in the following words:

Radium will not cure cancer. It only destroys cancerous tissue within a certain radius, but does not drive the disease from the blood.

And regarding the serious danger connected with this substance we have the report of Dr. F. S. Hoffman, on the death of five girls who painted numerals on radiolight watch dials. These girls had wet the brushes employed in their work with their lips, carrying enough of the radium containing material to their lips to cause "radium necrosis," "a peculiar and happily short-lived disease, that rotted tissues away, until death ensued." When one considers the very infinitesimal amount of radium in this cheap radio-light material being able to cause death by progress of an unchecked rotting away, or burning away of the tissues, is there any surprise that the large doses of radium used therapeutically may kill quickly or cause much suffering?

Even the Journal of the American Medical Association (Jan. 9, 1926) now admits that radium is a dangerous agent. It says:

The demonstrable cell-destructive potency of radioactive substances and the unsuspected latent effects that they may initiate should serve as a vigorous warning to all who promote radioactivity as a therapeutic measure.

Surely these destructive agencies are as bad or even worse than the disease. Nor are we disappointed that such local measures as X-ray, radium and surgery have proven ineffectual in coping with a constitutional disease. We have no more right to expect a prevention of the extension of the cancer process by such measures than we have to expect them to prevent the infection from taking hold of or entering the body at all.

Fortunately there are means of preventing the cancer germ from continuing to exist in the body even after it has established itself in the tissues of the body, and there are means of curing cancer even after the growth has become well established and widespread. Not only can cancer be prevented by constitutional measures, but it, like other infectious diseases, can be cured by chemotherapy. However, it is not in the province of this treatise to discuss the cure of cancer. The theme assigned me was "The Prevention of Cancer." I have outlined how the conditions essential to cancer infection and the nutrition of the cancer germ diseased cells and a vitiated blood can be prevented by a regime of diet, exercise, and elimination, the prerequisites of normal metabolism, healthy cells and cancer immunity.

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The true nature of cancer has been explained. The method of prevention has been indicated. The means are easy, convenient, and inexpensive, and the reward in vigorous health and long life is certainly worth while:

There is no longer a reasonable doubt that cancer will be a disease of the past as soon as the public attains to a realization of the facts herein presented.

PUBLICATIONS OF THE MEDICAL PRESS, INC.

Scientific Therapy and Practical Research, a monthly journal.

Cancer, its Function and Cure. Wm. F. Koch, Ph. D., M. D. (Case Histories)

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M. D.,

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Address: The Medical Press, Inc. 1730 Eye St., N. W.

Washington, D. C.

Cancer Supplementary Points

Wm. F. Koch, Ph.D., M.D.

Abstract: **Cancer Supplementary Points:** This articles appears in the January 1927 edition of the Bulletin of the Koch Cancer Foundation. Dr. Koch makes use of this forum to explain how Nature provides the answer and method 'to convert the cause into the cure-the toxin into its antitoxin.' Dr. Koch characterizes a cancerous growth as an ineffective protective response directed by the immune system against a definite toxin that has invaded the body. A tumor is the immune system's faulty response that has not fully evolved in this period of our evolution. A brief explanation of the Koch Protocol is included in this text, as is a discussion on the effectiveness of alternative treatments.

The papers in this section of the BULLETIN have covered the general and the more practical characteristics of cancer, and those who have read them carefully must have gained fairly comprehensive conception of the disease. **The constitutional nature of the disease has been adequately established. The significance of the growth has been clearly demonstrated, and the mechanism of the recovery process described in detail.** We have also observed the body's remarkable powers of reconstruction of destroyed tissues that accompanies the absorption of the neo-plastic tissue following the removal of the etiological toxin and the acquirement of immunity. Something has also been taught regarding the management of the case under treatment. It has been our purpose to present a common sense practical working knowledge that will help the physician cure his patient. A good deal of ground has been covered and a brief survey might be advisable before we take up some of the special features of the disease.

Cancer has been regarded by the less progressive division of our profession as a local disease, although there is neither one dot of scientific proof, nor one clinical experience to substantiate the assumption. Even though early surgical removal has in a very few cases apparently postponed death from malignancy, **we must remember that some cases take as long as eighteen or twenty years to prove fatal when no treatment whatever is employed.** It is also perfectly in accord with the etiology of the disease to expect a few months or years to elapse before a new growth effort will be aroused, or recurrence manifested, for the etiologic toxin may have been in the body as long as twenty years before the first growth was found. The rare supposed benefits following local plans of attack, therefore, do not substantiate the theory of a local nature for this disease. The great mass of evidence demonstrating that surgery totals less than three months increase in longevity over the average course of the disease, and that early operation has not reduced the mortality rate one bit, should prove to any observer **that the disease does not lend itself to local extirpation or destruction simply because there is something beyond the locality of the growth that determines its presence, find that this something is too general an affliction of the body to be removed by any local procedure.**

The preeminence of the local lesion in our modern conception of disease is unfortunate. **Little thought is given the initial changes that lead to the production of the lesion. The very first alteration in the normal chemistry that finally progresses to a tissue change is far beyond our present system of observation or disease classification. Yet it is this essential etiological factor that is responsible for the incidence of a cancer growth as well as for its metastasis and the rapidity of recurrence following operation. The stimulus to growth production and the demand for such a phenomenon must have existed prior to the growth, and as we have shown, evidences itself for years in a vast majority of cases by definite toxic symptoms.** Is it asking too much of the clinician to have recorded these toxic manifestations? **Is it too much to have expected him to note an amelioration of the toxic**

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symptoms in so many cases after the growth has gotten well under way, and therefore to have observed the detoxicating function of the growth? Could he not also have observed in such cases as show no amelioration of these toxic symptoms after the growth has come, certain reasons why the rate of toxin production exceeded the detoxicating activities of the growth? We understand that those who like to be looked upon as experts generally refuse, any data that reflects upon their stupidity and obstinacy. **The profession right now through out the extent of this continent is confirming our observations on the constitutional nature of cancer, the manifestations of the etiological toxin, and the immature inadequate attempted function of the growth.**

Nor is it sufficient to make the simple admission that a cancer growth is a protective response directed against a definite toxin and not yet matured in this period of our evolution. It must also be admitted that the employment of local measures as surgery, X-ray, and radium in the established case is neither scientific nor desirable. For the terrible results of such measures are well enough known, yes, even to the extent that the public revolts against their use, and only those who are uninformed and those who are easily deceived permit themselves to submit to them. **The silence of the tomb cries out to overwhelm the propaganda of the American Society for the Control of Cancer.** Such propaganda ridicules our profession as it injures the public we should honestly serve. It is not necessary to recite the case histories of those unfortunates that were promised everything from surgery, X-Ray, radium, gold, and lead and who were brought to us in depleted vitality, fatally toxic, and with the whole disease process very greatly stimulated. **The failure of destructive measures again proves the constitutionality of the disease and demonstrates that the etiological factor is the matter of first importance, and that it is unscientific to attempt to cure the disease by combating one of its total manifestations. We must remove the cause, and so correct the body chemistry that the etiological factor can no longer exist in that patient. Then the growth will be disposed of by normal physiological processes, and a true cure is established.** We have demonstrated how to do this.

The diagnosis of cancer deserves lengthy consideration and we will devote a special paper to this subject. But we must mention here that no disease is masked with so many diagnostic alibis as cancer. Nevertheless, no disease is so clear cut, unmistakable, and so correctly diagnosable as the established cancer case. No disease presents so definite a history, such definite physical findings, and symptoms, nor so characteristic a clinical picture as this disease when well established. The extremely early case, which is rarely seen, may require a histological study of the growth, but do not be deceived into the notion that the pathologist can make the diagnosis for you by the microscope. The most reliable pathologists tell us that they cannot do this. He may guess at it with the aid of the clinical history, and the description of the gross physical findings, but if the early growth has been removed he must await the future turn of events, the advent of recurrence, metastases and the like, to give a true diagnosis. Let me quote from this country's most reliable authority, Dr. MacCallum, Professor of Pathology at Johns Hopkins Medical School. "The malignant character of the tumor is evident in the infiltrating, destructive manner of its growth when it is well established, but in the beginning it may be difficult, to recognize this. Nevertheless, unless the tumor is extirpated it soon reveals its true nature, and even if it is removed at operation, the tendency to recur in the same place from traces of the tissue left behind is associated with other evidence of its malignancy. Above all, the appearance of colonies of the same tissue elsewhere in the body leaves no room for doubt. It appears then that in order to decide upon the nature of a connective tissue tumor which, as for its microscopical morphology is concerned might be a benign fibroma or a malignant sarcoma, it is necessary to know the history of the growth and its gross relations to adjacent tissues. Even then it may be impossible to be completely sure until recurrence or metastases have appeared. It is at this point that the greatest uncertainty may exist, but ordinarily, as will be explained, the morphology of the tumors has become sufficiently well known in connection with the history of their growth to allow one to for tell the progress of the growth and decide upon its nature."

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What MacCallum has said of the connective tissue growths often holds for the epithelial growths. The great difficulty that the microscopist must face is the lack of absolute criteria for differentiating a cancer cell from a normal or adenomatous cell. Sometimes the variation may be great but not always is this so, and the cancer cell and the normal cell are too often non differentiable.

It must be remembered that so far as the physical findings are concerned the criteria as to malignancy are, infiltration, metastasis, and recurrence after attempted removal. Infiltration gives gross evidence of its existence about as early as it does microscopically. Metastasis gives evidence of itself first to the clinician, and only to the pathologist after another piece of tissue is removed. Likewise, recurrence is first observed by the clinician or the patient, and then no pathologist is needed. So whether infiltration is observed grossly or microscopically the diagnosis is established. Any growth that attaches itself to surrounding tissues and becomes a part of the surrounding tissue to any degree is malignant. Any growth that gives rise to new growths, before or after removal, is also malignant. Any growth accompanied or preceded by certain toxic changes and cachexia is malignant, and no pathologist is required to make an adequate true diagnosis. Moreover a good clinician can give the microscopic characteristics of the growth exactly from the gross manifestations. This is a fact that has been amply proven. Let us not divorce common sense from diagnosis, if we would be efficient.

We wish to emphasize one fact here, and that is that it makes little difference what the cellular classification of the malignant growth may be, the fact that it is malignant points to the existence of the etiologic toxin, and therefore simplifies the choice of treatment. There is but one practical thing to do for the patient---get rid of the etiological factor---better still, make use of the etiologic toxin by converting it into its antitoxin. Make the patient immune to the disease by converting the cause into the cure!

Nature is wonderfully efficient, and this is her way of working. We have imitated her successfully and that is why our treatment is successful in the hands of the profession generally. We care not what tactics organized medicine or rather organized surgery under the spokesman ship of Mr. Fishbein may do to prevent the acceptance of our treatment. It is not a matter of stupidity or inability to appreciate one of the greatest beauties of nature, her means of combating disease and accomplishing something of tremendous importance to the future welfare of the race. It is a matter of shortsighted sordidity, a common spirit of selfishness. The treatment of cancer rightfully belongs to the family doctor. He is coming into his own, and the surgical business will be curtailed. The family doctor can make the diagnosis correctly and can be educated to manage the Koch Treatment efficiently.

Success in the use of the Treatment depends upon a correct understanding of, first, the nature of cancer; second, the mode of activity of the antitoxin, third, upon the ability to differentiate reactions from the symptoms of the disease, and fourth, upon an appreciation of nature's mechanism of absorption of the growth, and of the healing process. There is no particular mystery associated with any of these affairs, although they are not customary subjects of concern or appreciation by the surgeon.

THE KOCH PROTOCOL:

Any case that can be cured by any number of doses of the antitoxin can be cured by one single dose, and in the well-managed case one dose should prove sufficient. We are very anxious that those who use the treatment employ one dose and give plenty of time for it to act, instead of trying to rush the case to

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recovery by forcing treatment. Attempting to force treatment may overtax the whole recovery process and defeat it entirely or delay it greatly. Only where the second or third dose is given in correct synchrony can recovery be rushed, and a good deal of experience is needed to be successful in the attempt. By taking all the time that is needed for one dose to accomplish the cure, and by correctly preparing the patient for treatment, and maintaining this state of correct metabolism for recovery, there should be a high percentage of recoveries in even the well advanced cases, on but one dose of the antitoxin.

The correct preparation of the patient is therefore a matter of first importance. I am giving a brief outline. The object of the preparation is to clean out the bowel of old adherent toxic material, and at the same time to correct any metabolic deficiency that might exist. A simple routine has proven itself efficient. We give apple and pear juice or either one in such quantities as the patient wishes to take. Vegetables may be cooked in this juice, and the juice strained off and taken in as large an amount as the patient desires. Thus nothing solid is taken into the digestive tract, and the bowel is able to contract and squeeze material from the periphery of its sacculations and pockets to the center of the lumen. This material is thus made accessible to the action of the enema. Two enemas are given each day, and more may be given to wash the bowel clean. It takes about five days or a week to clean the bowel.

Apple and pear juice are prepared fresh each day, by grinding the raw fruit through a meat grinder, adding a little water and squeezing the juice out through a cloth. This juice contains the needed vitamins, malic and isomalic acid, and other valuable constituents that increase the rate of oxidation in the body. Citrus fruits depress oxidations and should not be used.

After the antitoxin has been given, the diet should consist of the solid raw or cooked foods outlined below. This selection is made after much experience, and is designed to include the non-injurious materials and omit those, that interfere with recovery chemistry.

WHAT TO EAT:

Fruits:

Apples, bananas, Dates, Fresh huckleberries, Fresh raspberries, Fresh blueberries

It would not be amiss to supplement the previous discussion on the reactions of the recovery process with a brief discussion of the reflexes that accompany the healing and replacement of destroyed tissues.

We have several times mentioned and illustrated the febrile reactions and grippiness of the detoxication and immunity mechanisms, and those that accompany the absorption of the growths.

Very little was said regarding the vicero motor and vicero sensory reflexes that should be correctly interpreted in order to judge the patient's status from the recovery viewpoint.

In cases where extensive abdominal growths are being absorbed considerable re-adjustments are taking place, pressure on certain nerves is being relieved, and new sets of impulses are again reaching the cord. Moreover, with the in-growth of vascular tissue that serves the absorption of the digested cancer cells, nerve filaments are developed that increase the reflexes associated with the part. Thus the somatic, sensory and motor nerves are reflexly stimulated until healing has become completed, and accordingly, hyper-asthesias, hyperalgesias, and muscle spasms are maintained during this period. Thus where healing is going on below the umbilicus, a muscle spasm may hold sway in the abdominal wall below the ribs on

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the right or left side, and the lower ribs may be very painful and hypersensitive for a period—in fact until healing is completed. The spastic muscle may be located right over the part affected.

Visceral reflexes intended to splint the part to promote healing are very usual, and the sphincters go into spasm while the musculature of the viscus relaxes. Thus meteorism is common in abdominal cases during the healing period. This condition is successfully combated by use of the enema or colon tube, but violent measures are to be avoided. In the healing of the uterus, anal, and bladder reflexes of the same order may come about. First there may be sphincter spasm and later a relaxation of the sphincter, before normal function returns. These altered reflexes may not be convenient but they are non harmful, and last only over a short period.

Bleeding is liable to occur with the recovery. It may happen during the digestion of the cancer cells, when plugs of these cells that have destroyed and scaled a part of a vessel wall, undergo digestion and leave a hole in the vessel. Pressure and ice are the remedies. Drugs and hemostatic agents should never be used, with the possible exception of Methylene Blue solution locally, which will cause rapid blood coagulation. Bleeding may also occur in mild form during the period of absorption and vascularization of the growth that is about the fourth to sixth week period. It may also occur during the period of retraction of the vascular tissue, generally the ninth and twelfth weeks. It is never serious in my experience, and the ice bag, and quiet is all that I have ever recommended.

Examination of patients should be so conducted that undue pressure and manipulation is avoided. There is no necessity to destroy the delicate blood vessels that grow into the growth to accomplish the removal of the digestion products of the cancer cells. Destruction of these vessels delays the recovery and may result in unhandy complications. One can learn as much about the changes going on in the growth by very slight and circumspect palpation. Nothing is more disgusting than to observe a clumsy untrained finger study of a growth. One must decide what characteristics are to be sought in the growth regarding movability, elasticity, extent, and lobulation or nodulation, and then use the least possible force in making the palpation. It is surprising what easy handling will give the characteristics to an intelligent observer. The patient will appreciate your care, for most likely she has been through the hands of a number of ruffians or “*butcher*” examiners who she knows did her definite harm. Recovery takes place better if it is not disturbed by traumatism. What we want are the best results.

While the growth is undergoing absorption, there usually is loss of appetite. The patient may take practically no food and still gain rapidly in strength, and blood quantity and quality. This is because cancer tissue has a very high nutritive value for the species concerned. Human cancer tissue has perhaps seven to ten times the nutritive value of any other form of animal food for the human, and this is simply because of the amino acid selection represented in the growth. There may be nausea or even vomiting for a short period during the absorption of the growth, particularly if the absorption goes on rapidly. The circumstance can be compared with the sickness following the ingestion of too much meat. In cases where the growth has been rendered toxic to a high degree through X-Ray or radium exposure its absorption may result in a fatal poisoning of the patient. That is why we do not recommend our Treatment in radiated cases.

If it should nevertheless be decided that a radiated case must be treated, it is best to wait as long as possible, over three months and if possible longer than six months following the exposure, before giving the antitoxin. In the meantime the rate of increase in the cancer activity can be controlled to a large extent by proper diet. The detoxication regime outlined above should be followed for a few days, and then the patient is required to follow the recommended list printed above until the time for Treatment has arrived.

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Cancer grows and spreads more rapidly after radiation. The final suffering is terrible and we all know it. There is no excuse or warrant for its use, yet our large institutions lose no opportunity to expose the patient to this bitter fate.

Another unscientific measure imported from abroad, which is killing many cancer victims, and which promises to survive only a brief period is the lead treatment. Only eight days ago a young man was brought to us from New York on a stretcher, thoroughly poisoned with colloidal lead, kept groggy on morphine to suppress the terrible pains of lead poisoning. So low was his vitality that he was not expected to reach Detroit alive, and I doubted that he could survive for many hours after his arrival. His systolic blood pressure ranged about seventy. This victim of “science” had a testis removed about two months previously, and was informed that he was cured of a teratoma, which the microscope proved the trouble to be. Within two months his lungs were found to be involved by secondary growths. He was then snaked with X-Ray four times under lengthy exposures reaching as long as one hour and forty minutes. This brilliant procedure was performed by the great Dr. Francis Carter Wood, who talks so much for X-Ray and the American Society for the Control of Cancer. Other renowned “Experts” aided in directing treatment but the liver started to enlarge and the masses in the abdomen kept on enlarging just as though they never heard of X-Ray. Then lead was tried and when the patient was nearly poisoned to death and the growths still showed no intention to behave, and in fact kept rapidly growing, the family was told the truth, for indeed the funeral was not far away. The wife was honestly told by Dr. Lambert, she reports, that they were not only unsuccessful in their attempts, but that they had started a fatal process in the patient that they could not stop or control.

So he was brought to us to see what we could do, and with a little more knowledge of chemistry than the New York “experts” possessed; we have already eliminated a large part of the lead that promised soon to prove fatal. The patient has also received his single dose of the antitoxin, and now sits up to read his paper. The large cancer masses that distended the upper half of the abdomen have already receded about one-fourth, which is the normal recovery rate.

One difficulty yet looms up ominously — the X-Rayed masses must prove toxic when undergoing absorption, perhaps in a way that cannot be successfully combated and the adrenal glands have also been injured by the X-Ray. Whatever the outcome proves to be, we will report on his case in detail in the future.

This case is cited only to emphasize one principle of destructive therapy has proven itself a failure.

We must follow Nature’s efficient example ----convert the cause into the cure—the toxin into its antitoxin.

The Koch Cancer Treatment And Its Investigations

By W. F. Koch Ph. D., M. D.

THE A.M.A. AND WAYNE COUNTY MEDICAL SOCIETY'S DECEPTION

Abstract: The Koch Cancer Treatment And Its Investigation: This book contains three sections. The first section contains a collection of papers written by cancer survivors responding to slanderous articles printed in several publications about the Koch Treatments The second section contains papers presented by doctors outlining their experiences with the Koch Treatments on cancer, leukemia, high blood pressure, tuberculosis, and polio. The third section contains a paper prepared by Dr. Koch explaining the Oxidation Catalyst Treatment followed by a synopsis on the Government of British Columbia's Cattle Experiments.

One of the many flagrant methods used by the F.T.C. and the F.D.A. Bureaucrats to discredit Dr. Koch's scientific contributions are exemplified in several issues of the Bulletin published by the Wayne County Medical Society (W.C.M.S.), a branch of the A.M.A., who jointly sought to discredit Dr. Koch's research. This text will show how their purposed clinical trials were fraught with deceit.

"It must be noted that it was not Dr. Koch, but these two organizations, which in 1919 asked for a "group investigation" of the Koch Treatment. Dr. Koch welcomed this challenge. It never entered his mind that this group of strangely gathered cancer patients, diagnosed as terminal cases, and selected by the W.C.M.S., was not to be a bonafide investigation of the merits of Glyoxylyde in overcoming the worst types of cancer. This pretended investigation, the truth of it completely perverted, resurfaced 31 years later in the Federal Trade Commission's Investigation of Dr. Koch.

The A.M.A. and F.D.A. were not deterred by their two failed attempts in the Federal Courts in 1924 and 1926 but turned to the F.T.C. to carry their banner in a third Federal Investigation in 1950. Thirty years had passed, ample time for the W.C.M.S.'s records to have been corrected, if accuracy had been an issue. In 1950, the FTC Brief states in reference to the 1919 and 1923 W.C.M.S.'s evaluations: "Five cases of undoubted cancer were placed in a Detroit hospital for Treatment and observation, but nothing came of it, Dr. Koch and the "committee" each claiming the other was at fault."

The Facts Surrounding the 1919 and 1923 Investigations:

A foundation needs to be laid so the full extent of the medical society's orchestration of the "1919 Clinical Trials" may be appreciated. First of all, "the patients were chosen from considerable distances from Detroit even from out of the state, although Detroit's county hospital had more than enough suitable patients in dire need of this Treatment. There were several reasons for this strange maneuver. One should recall that these were all far advanced cases of widespread hopeless cancer, — fit subjects for an official test. Anyone can see, including the commission who had all the data in their hands, that the test was a most handicapped affair, with all the odds maneuvered against Dr. Koch at the very outset." The A.M.A. and its Wayne County Medical Society were antagonistic after being refused "business connections" by Koch, because he feared their desire was to exploit the Treatment. (Dr. Koch had justification for his

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concerns because of the following letter he received from Dr. A. R. Mitchell, one time President of the Board of Trustees of the A.M.A., as well as, information gained through his patients.)

“Dr. William F. Koch
“Detroit College of Medicine
“Detroit, Michigan

“Dear Dr. Koch:

“I had the pleasure of reading your article in the October issue of Cancer, and it is certainly the most intelligent discussion of this subject I have ever read. For years, I have been convinced of the utter uselessness of surgery in true cancer cases, and have made myself disliked somewhat by my opposition of surgeons by going about the country lecturing upon the subject about which they themselves know nothing. I hope that a little more time will prove that your work is really epoch-making and that you will ultimately secure the full credit and profit to which your services entitle you.

“Most Sincerely,

“A.R. Mitchell”

(Dr. Koch also received a referral (Mr. X) from Dr. Schmid and relates the following as an example of the treatment received by doctors who supported his work.) “During the Wayne County Medical Society’s Investigation, the A.M.A. began an investigation of Prof. Louis Schmid, a renowned Urological surgeon of Chicago, who had sent me a case of cancer of the urinary bladder which he had explored and biopsied. His patient was one of the world’s important merchants. He came with his wife and received the same Treatment, as did the five patients in the “1919 group investigation.” Being a professor of physiology at the medical school with classes during the day, I worked at night until one and two in the morning seeing my cancer cases. While attending to her husband, Mrs. X. gave me many tips on the professional situation, as her son-in-law was prominent in the A.M.A. Her reports of my successes were most alarming to the A.M.A. In March 1920, she warned me, as she knew from intimate knowledge from her relatives, not to deal with this group trying to take over the Treatment, but to shun all association with the group bosses and their cohorts. Eventually, Mr. X returned home cured and remained so. The A.M.A. then started to persecute this eminent surgeon and professor, Dr. Schmid for referring me patients. They did not accuse him of supporting me, but instead accused him of ‘unethical action’, which consisted of the fact that he had instituted a most urgent and necessary free service for those in Chicago with venereal infections who could not afford to pay for medical care. This scourge was as rampant then as it is today. The A.M.A. tried to relieve Dr. Louis Schmid of his professorship and failing in that sought revenge by throwing him out of the A.M.A. and smearing him in the press.)

The “committee” was out for the destruction of the Koch Treatment! Yet Koch had sufficient confidence in his work to accept the challenge. In fact, he welcomed it! However his nature was incapable of imagining the extent to which the A.M.A.’s leadership would go to discredit him, at the expense of the cancer victims. His disillusionment regarding the profession he honored so highly and for which he had made so many sacrifices in the past was equaled only by his disappointment in his Government, when it tried to destroy him.

It must be pointed out that before the “1919 Clinical Trials” could begin, the WCMS “committee” was required to examine each patient and to sign their names to the records of their examinations. However, “this was put off while the patients rapidly got worse, and death could have ensued before the Treatment

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was given.” These delay tactics could serve only one purpose! “Dr. Koch appealed to the president of the Wayne County Medical Society, Dr. George MacKean, who angrily stated he would allow no crooked work while he was president. He ordered these doctors to appear the next day and do the job assigned them. Unfortunately, only two showed up and recorded their signatures to the examination of Mrs. Fritts, the only patient examined, ‘as the time was too short to examine the others,’ while a third doctor peeked in, then quietly closed the door and sneaked away.”

Fearing that the stall tactics would undoubtedly kill the patients, Dr. Koch in good conscience could wait no longer and so “with everything against him, Dr. Koch then treated the five patients.” He had confidence in his work. It was a challenge, and his duty to the sick was paramount to all else. “Three of the five cases were cured and possibly a fourth. The official “investigation” closed three weeks after the patients were treated and showed real improvement.”

The OFFICIAL 1919 and 1924 REPORTS concluded “NO RESULTS”; the Treatment was denounced as a failure, and later as a fraud. If the A.M.A. and its Wayne County Medical Society branch could have denied even one fact of the cases under “investigation”, they would not have had to resort to the false evaluations and misdiagnoses which were eventually required in order to discredit the results from the Koch Treatment.

At the request of Dr. Koch, a second investigation by the “committee” was held on June 30, 1924. The purpose was to present conclusive, follow-up data on the original patients, which would validate the cures obtained by the Koch Treatment, and introduce additional cases for their review. The significance of the additional cases was that they were all diagnosed through microscopic evaluations as having cancer, but received no other treatment than the Koch Treatment.

In the book, “**The Koch Cancer Treatment And Its Investigations**,” Dr. Koch explains his reasons for self-publishing a response to the Wayne County Medical Society’s fraud. “The flood of inquiries from members of the profession and others interested in the cancer problem, who are not satisfied with the A.M.A. and Wayne County Medical Societies action and propaganda, has made it necessary to compile the facts.

“The material presented is for the main part of three classes, first the report of the Cancer Committees of the Wayne County Medical Society, second the evidence presented in affidavit form by the patients and relatives, third the check-up of the work of the “investigating committees” of the Wayne County Medical Society, fourth a letter from Dr. W. A. Dewey, a scientist of international fame, who was present and recorded the data, and fifth the ‘Unpublished Report’ by Cash Asher, a reporter for The Detroit Free Press.

In “**The Koch Cancer Treatment And Its Investigation**,” the Introduction states:

“In 1919, at the request of the W.C.M.S. seven correctly diagnosed cases of cancer, approved by the “special committee” of the W.C.M.S., and all of extremely advanced type were treated for purposes of a report leading toward the dedication of the Treatment. These cases were under investigation some three weeks and as fast as they showed improvement after a Treatment or two, they were sent away by the committee to their distant homes in various parts of the state and other states. A report was issued that no results were obtained. The Treatment was condemned as a result of this report, and the family doctor consequently has not come into the rightful possession of the Treatment. This in spite of the fact that the W.C.M.S. and the A.M.A. have been sufficiently informed that several of even the worst of these very

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bad cases were cured by the Treatment under that investigation. The following affidavits of cases cured in the “investigations” are submitted:

MRS. CHARLES JAMES:

The Testimony of Mrs. Charles James:

July 2-3, 1924.

“I, Mrs. Charles James, of Union City, Michigan, of my own free will and volition, make the following statement concerning the Treatment given me by Dr. William F. Koch of Detroit, Michigan, for cancer.

“Previous to the fall of 1919, I suffered severely with cancer and had had more than one operation. I was steadily getting worse and in the fall of 1919, was brought to the Herman Kiefer Hospital and received a Treatment from Dr. Koch. Previous to my trip there I was vomiting blood. I came back to Union City and was examine by my doctors from time to time. About that time I also became interested in Christian Science, and gradually got well. I am in perfect health today.”

Signed—MRS. CHARLES JAMES.

“Personally appeared before me, Mrs. Chas. James known to me to be the person she represents herself to be, and swears this statement is true to the best of her knowledge and ability and is made of her own free act and will.

Signed—R. M. NEALE, Notary Public.

State of Michigan,

Co. of Branch,

My commission expires July 16th, 1927.

Mr. Charles Marsh, Mrs. James and Mrs. Fritts provided affidavits on behalf of the Koch Treatment in the 1926 Case of Dr. Dugdale vs. the State of Massachusetts. The facts submitted could not be contradicted, and the report thus stands as a “moral crime of the very worst kind.” This pronouncement came from the bench of the Supreme Court of Massachusetts after hearing the following evidence introduced into the court record:

DR. DUGDALE’S ATTORNEY PROVIDES A SUMMATION OF MRS. JAMES AFFIDAVIT:

“Another case of cancer throughout the abdomen giving rise to gastric hemorrhages was that of Mrs. James whose affidavit is also submitted. She was from Union City, Michigan, about 150 miles from Detroit. Her physician, Dr. Hancock, informed Dr. Koch that she had a growth removed from the inside of her thigh which metastasized to the abdomen so as to make it a hopeless case, and one that was fit for the “investigation.” She had had an abdominal exploration too, which established the spread of the disease to the abdomen and its hopeless status. Her affidavit is given here to show, like in the Case of Mrs. Fritts, that she was in the cured status five years after Treatment.

The Case of Mrs. Fritts:

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Committee Report on Mrs. Fritts:

“Presented as cured of cancer of the uterus by Koch’s Serum. Gross-diagnosis at laparotomy “Thought to be cancer, though not sure.” (Statement by Dr. Smead of Toledo.)” If this case was not a true cancer case, then why was it referred by Dr. Smead and then selected by the W.C.M.S.’s “committee” as terminal and therefore an appropriate test case for the 1919 Clinical Trials?

Again in the 1923 Review: “This 1923 “committee” dismissed the case as ‘apparently in good health diagnosis by laparotomy, “thought to be cancer, but not sure.””

“It was the Fritts’ Case, where the signatures were obtained from 2 members of the “official committee”, after Dr. Koch requested Dr. MacKean to force the “committee” to do the pre-treatment evaluations required before he was to initiate any treatment. This was the only case on which any members of the “committee” could be cornered for signatures. The rest kept discretely away. On the other obligations, the “committee” defaulted completely. The following data is taken from one of the exhibits in the hands of the Commission, Toledo, Ohio:

The Testimony of Mr. F. Fritts:

July 16, 1924.

Dear Dr. Koch:

“I have had so many inquiries regarding your Treatment for cancer from people that have heard of the wonderful cure of Mrs. Fritts that I feel it my duty not only to you but to the thousands of sufferers from this disease to publicly state just what the results of your Treatment were in the case of my wife.

“In July 1918, Mrs. Fritts was first taken ill; from then until June, 1919, she was examined and treated by several physicians. She was brought to the Detroit hospital on a stretcher. She had an abdomen full of cancer, was cachectic, emaciated and the neoplasm growth had invaded the stomach and caused the hemorrhages. Her case was diagnosed appendicitis, colitis and other maladies, but she did not respond to any treatment. At the beginning of her illness she weighed 172 lbs. By June 1919, she had lost weight constantly, weighing only 97 lbs. At that time I took her to Dr. George Jones, a very prominent specialist. He and his associate, Dr. A. N. Smith, after three days examination decided to call in Dr. Louis Smead, one of our recognized surgeons. At the conclusion of their examination, Dr. Jones informed me that they were agreed that there was a growth in the abdomen, but could not say whether it was malignant or not; that the only way to determine was by operation. This operation was performed the next morning by Dr. Smead, Dr. Jones, and Smith, both being present. After possibly one-half hour, Dr. Jones came from the operating room to where I was waiting and informed me that they had found the trouble to be cancer, and in such a shape that an attempt to remove it would undoubtedly prove fatal, consequently there was nothing to do but close the wound and keep the patient as comfortable as possible. She had a laparotomy by the best-reputed surgeons of Toledo who made a diagnosis of Adeno-carcinoma of the uterus, widely metastasized and infiltrated throughout the whole abdomen and pelvis. Her case was recorded as hopeless. Both Dr. Jones and Dr. Smith told me that nothing further could be done; that it was simply a case of but a few months to live. In about two weeks the wound was healed and we were able to take her home.

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“From then until October, 1919, Dr. Smith called frequently but admitted he could do nothing for her. Early in October, I heard of Dr. Koch’s Treatment and that he was conducting an experimental clinic in Herman Kiefer Hospital at Detroit. Accompanied by Dr. Smith, I went to Detroit and saw Dr. Andries, one of the “committee” appointed to watch this experimental work. We arranged to have Mrs. Fritts admitted to Herman Kiefer Hospital. A few days latter we took her to Detroit, Dr. Smith and the nurse going along. Patient was in the hospital three weeks during which time she received Treatment from Dr. Koch. At this time, after some disagreement, it was decided to close the hospital to Dr. Koch’s patients, but as Mrs. Fritts was apparently being benefited by the Treatment, I decided, if possible, to have Dr. Koch continue to treat her. I saw Dr. Koch and he told me he would continue the Treatment if it was possible for her to go to his office. I made arrangements for her and her nurse to go to a hotel. From there they went to Dr. Koch’s office at appointed times for two weeks. At that time, she had so improved that she was able to return to Toledo on an Interurban car. From that time on improvement was apparent and after several visits to Dr. Koch’s office, he pronounced her cured. Today, four years later, she is enjoying splendid health, doing her own housework, besides enjoying all social activities, weighs one hundred and sixty pounds. A feeling of profound gratitude prompts me to make this statement.

Sincerely yours,

Signed— F. F. Fritts.

F. F. Fritts, being personally known to me, swears the foregoing is a true statement to the best of his knowledge and belief.

Signed— John H. Laycock, Notary Public,

My commission expires Aug. 9, 1926

Does this indicate that “nothing came of it” was an accurate assessment presented by the W.C.M.S.’s official evaluation?

THE FOLLOWING TESTIMONY WAS GIVEN BY MRS. FRITTS AND WAS ENTERED INTO EVIDENCE ON BEHALF OF DR. FREDERICK DUGDALE, WHO WAS BEING PROSECUTED IN THE MASSACHUSETTS COURTS IN 1926 FOR USING THE KOCH TREATMENTS:

EDITH MAY FRITTS, Sworn.

Q. (By Mr. Lehr) What is your full name?

A. Edith May Fritts.

Q. Did you have an illness?

A. I did.

Q. Tell us when. When was your first serious illness?

A. My first serious illness was in 1917.

Q. What was the nature of it?

A. Well, I don’t know. At that time it went from one thing to another. I had different doctor; I had different doctors who said different things each time.

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Q. Were you operated on?

A. I was.

Q. By whom?

A. By Dr. Louis Smead, Toledo, Ohio.

Q. Do you know what he did?

A. He opened me up and made an exploratory operation but did not remove anything.

Q. Did you go home after that?

A. About two weeks I left the hospital.

Q. Who was Dr. A. W. Smith of Toledo?

A. He referred me to Dr. Smead. Oh, before that I had had about three or four, and after that Dr. Smith.

Q. Dr. Smith was your family physician?

A. Yes.

Q. After you returned from the hospital what did you do?

A. They gave my husband a prognosis of six months, and told him to take me home and make me comfortable.

Q. What did you do after that?

A. I laid there for five months.

Q. In bed?

A. Yes, under the doctor's constant care.

Q. Then what did you do?

A. They heard of Dr. Koch and his treatment. My husband decided to try it.

Q. They took you to Detroit?

A. Yes.

Q. How did they take you?

A. In an ambulance.

Q. And you were treated by Dr. Koch?

A. I was.

Q. When was that?

A. In 1919, in November, just around Thanksgiving time.

Q. What had Dr. Smith's diagnosis been at the hospital?

A. He didn't tell me; he told my husband.

Q. Mrs. Fritts, that is ten years ago?

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A. Yes.

Q. Do you remember each of your reactions at that time?

A. Yes, I had very severe reactions at that time.

Q. What did they consist of?

A. Vomiting, fever, chills, not able to walk, dizziness.

Q. Was your abdomen swollen?

A. Yes.

Q. To a large extent?

A. Yes.

Q. And did you have diarrhea, do you recall?

A. Yes.

Q. Any trouble with your feet?

A. Yes.

Q. How long were you under Dr. Koch's care?

A. I was under Dr. Koch's care about two years. .

Q. What was your weight at the time you were treated by Dr. Koch?

A. Between 85 and 90 pounds.

Q. What is it now?

A. 155 pounds.

Q. What is your normal weight?

A. When I got sick I weighed about

Q. And your weight now is 155?

A. Yes.

Q. Did you learn at any time subsequently what your trouble was?

A. I found it to be carcinoma.

Q. What did that involve?

A. Everything.

Q. The uterus?

A. Yes, stomach, and all the lower organs.

(At this point the Court took a recess until 2 o'clock.)

CONCLUDING COMMENTS BY DR. DUGDALE'S ATTORNEY:

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“Now I want to call your Honor’s attention to the last case, and I urge this upon your Honor because it was a case which shows that recovery must have been complete on account of the lapse of time. That is the Case of Mrs. Edith M. Fritts. That is the one where she had an extensive cancer of the uterus involving the abdominal organs. It was as bad a case as that of Mrs. Caton’s, (Dr. Dugdale’s patient). She testified she had an operation performed by Dr. Louis Smead, of Toledo, Ohio, upon the request of her attending physician, Dr. A. N. Smith of Toledo, that a cancerous growth was found of such an extensive nature that no attempt whatever was made to remove it; that she was taken from the hospital to her home and later was taken to Detroit in an ambulance and placed in the Herman Kiefer Hospital, having been selected and accepted by the “cancer committee” of the Wayne County Medical Society as one of the nine test cases upon which Dr. Koch was to demonstrate to the society the benefit of his Treatment. Mrs. Fritts Testified that she was first treated in October of 1919 at the Herman Kiefer Hospital. She suffered terribly and had taken morphine constantly. After the Treatment she improved and when the investigation was closed she continued to see Dr. Koch for Treatment. Then after being pronounced as well by Dr. Koch, she returned to Ohio...She said she was perfectly well, and her doctor examined her a number of times and could hardly believe it for every organ was normal. Her terrible bladder trouble was gone and she was normal and without pain or inconvenience in every way, back to full health and strength.”

This case was examined and accepted by the “committee” of 1919 as an advanced case of cancer of the uterus with widespread abdominal involvement. She was also part of the “investigation of 1923.”

The Case of Mrs. Reechko:

The Committee’s 1923 Report on Mrs. Reechko:

“According to the records at Harper Hospital examined by a committee of investigators that were sent by the Lutheran Hospital of St. Louis, Mo., this case was diagnosed as Glioma or more probably Sarcoma of the brain. The representative from the Berwick Hospital of Pennsylvania, who examined the Harper Hospital records, claimed that the diagnosis was satisfactorily made Sarcoma. The “committee” of the W.C.M.S.’s reports the case as “Glioma of Brain, which had decompression plus two deep X-ray treatments.” They dismiss the case thus— “Improvements probably due to above treatments.

The Testimony of Mrs. Reechko:

The Testimony of the patient and husband produce a history that settles both the diagnosis and the credit for the cure, — “Mrs. Tatiana Reechko entered Harper Hospital, Detroit in November 1922, age 35 years, complaining of projectile vomiting, visual disturbance, constant terrific headache, loss of sensation of right side, paralysis of right arm. Dr. Charles Brooks removed a piece of skull from right side of head the size of palm of a man’s hand, gave two X-Ray treatments of two hours and two hours and one-half each. Her husband stopped further X-Ray as apparently it was killing her.

“Left Harper Hospital middle of December, 1922, with a soft swelling raised the thickness of a finger above the level of the scalp. This swelling was soft as if containing water. The patient steadily got worse in all symptoms and the swelling on her head became as large as a grape fruit and as hard as wood. Another lump developed in the lower spine, which pained terribly and prevented lying on her back and sitting down.

“The paralysis got worse; both the loss of sensation and the inability to use her muscles had soon involved the whole right side. The headache grew much worse, practically complete blindness set in. The vomiting got worse so that even the slightest quantity of water was ejected even to a distance of 12 feet. Other

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material was also vomited that had so terrible an odor that the neighbors could not stay in the house because of the odor. She became very thin, weak and bedfast, finally had to be carried like a baby. She lost weight from over two hundred lbs. to weigh so little that she could be carried by her husband like a baby. "She did not improve after leaving Harper Hospital, but got worse nearly unto death when Doctor William F. Koch was called to treat her, with the large hard mass growing out of her head and the new large mass that had developed in her back which did not have any X-Ray treatment, and all the other troubles that had gotten so much worse that she was nearly dead. It was July around the middle of the month that Dr. Koch gave his Treatment, around eight months after she left Harper Hospital.

"Improvement started within twenty-four hours after taking the Koch Treatment. In a few days the vomiting stopped and never returned. Likewise in a few days the headache got better and stopped. Sensation returned each day and within a month vision and muscle control was perfect and is so to this day. The paralysis completely left in a month. The lump on the head and the one in the back went away in the same way. They were soft like water within two days after the Treatment and completely gone in a month. There is no trace of them and the hole in the head where the bone was removed is soft and sunken a very little.

"Mrs. Reechko is in perfect health today, weighs 220 lbs., can work hard all day and the only trace of her sickness is the absence of the piece of bone removed from her skull by the surgeon.

Signed—MRS. TATIANA REECHKO.

PETER REECKHO.

Subscribed to and sworn to before me this 15th day of September 1924.

My commission expires Jan. 31, 1926.

Signed—GERTRUDE WHITESELL, Not. Public.

The Case of Mr. Avery:

Committee Report on Mr. Avery:

W.C.M.S. Committee Report— "Epithelioma of the hand, X-ray therapy at Ann Arbor sufficient to cure condition." The "committee" dismissed this case with the excuse that the five minutes spent in the X-ray room at Ann Arbor, part time under the picture machine was enough in Dr. Rollin Steven's "opinion" to cure him, "to destroy the growth."

Testimony of Mr. Avery:

"I entered the U. of M. Hospital for examination March 20, 1922. I paid one-dollar registration fee; they examined the hand, took some of my blood, a small piece of skin or flesh from the sore, then took an X-ray picture for which they charged one dollar, then sent me home. Said it would be up to my own doctor to care for me after the analysis was made and would send him (Dr. McGarry) word as to what they found this to be. In one week they sent Dr. McGarry a letter saying that they had found Mr. Avery's trouble to be a basal cell carcinoma and they advised cutting this out and then following this up with X-ray treatment. On the following Monday I took my first Treatment from Dr. Koch and I don't believe that the

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cancer ever grew one bit after that first treatment. I never took an X-ray treatment or any other kind of treatment from anyone, only Dr. Koch's Treatment."

Signed—SANDFORD E. AVERY.

Sworn to before Hazel S. Smelker, Notary Public,

Genesee Co.

Commission expires Nov. 17, 1926.

I am submitting a case for qualification of Dr. Steven's surmise that shows that adequate X-ray, Radium, and Cautery treatment according to Dr. Stevens' own experience and best knowledge does not cure cancer nor destroy the growth, but in the following case, given up to die shortly, can be cured by the Koch Treatment.

The Case of Mr. Elder:

Committee Report on Mr. Elder:

The "committee" failed to file a report on Mr. Elder.

Affidavit of Joseph Erwin Elder:

"My statement regarding the history of the cancer I had in my mouth.

"The trouble started under my tongue in the spring of 1920 as a lump and spot the size of a pea when I first noticed it. It gradually got bigger and hurt more.

"I went to Dr. Campbell at the Ford Plant where I was working and, after examination, he sent me to my family doctor, Dr. Bennett. Dr. Bennett had my blood tested and I went to the Ford Hospital spring of 1922. They examined me and wanted to operate.

"I went to Dr. Suggs of Highland Park May 30th, 1922. He said not to operate but sent me to Dr. Stevens of Detroit. Dr. Stevens gave me two X-Rays and two radium treatments. The first X-Ray kept it still for a while so it did not pain so much or grow fast, but it did not get well and within a year it got worse more rapidly than ever and the more X-Ray and radium he used the worse it got. So finally Dr. Stevens said he would try the cautery. This he did, but told my friend Mr. Hamilton and my wife heard it that I could only live three months or rather that I would be dead in three months. I lost weight from 180 to 140 lbs. Dr. M. W. O'Connor examined me Aug. 1923 and said that I could not live long, that he had no hopes at all.

"I kept on getting worse, the pain increasing as the cancer spread along the floor of my mouth and was destroying my tongue. I got so that I could not talk or eat and was starving to death and became so thin and weak I could hardly walk and had to stop work. Dr. Rollin Stevens' prediction was coming true. I could not last much longer. Then I heard of Dr. Koch and went to him Aug. 28, 1923 and he treated me with an injection of fluid into my hip. I rapidly got well, gaining at the rate of 11 or 12 lbs. a month until I fully recovered. The painful corroding cancer went away so fast that I could eat within a few days. I went back to work within two weeks. I now weigh 180 lbs. and am perfectly cured and healed. The other treatments I had, the radium X-Ray and cautery, were leading me to the grave and Dr. William F. Koch's Treatment saved my life after the X-Ray doctor (Dr. Rollin Stevens) said I would soon be dead. Dr. Koch

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cured me. The diagnosis of cancer was made by the Henry Ford Hospital, Dr. Suggs, Dr. M.W. O'Connor, Dr. Bennett and Dr. Rollin Stevens- a member of the "committee."

Signed—JOSEPH ERWIN ELDER.

Subscribed and sworn to before me, the 23rd day of August 1924.

Signed—PEARL HICKS, Notary Public

My commission expires March 4th, 1928.

The Case of Mrs. Plumb:

Committee Report on Mrs. Plumb:

Instead of reporting the facts, the "committee" obtained the following false statement from Dr. James Davis. Dr. James Davis evidently did report the case to the "1923 committee", apparently yielding to pressure and changing his diagnosis. For the "committee" concluded:

Report of "1923 committee" — "Demonstrated as Paget's Disease — Wrong diagnosis. Was not Paget's disease, but simple ulceration with associated lymphadenitis — There was a slight irritation of the skin surface with very slight fissuring. A diagnosis of cancer was not made. She presented a normal appearing breast (at the "committee's" examination) in 1923."

Why would Dr. James Davis be willing to make himself out as completely incompetent before a committee of the A.M.A. by admitting that he was incapable of making a proper diagnosis of Paget's disease? In 1919, he was convinced enough to prescribe immediate radical surgery, and followed with this statement when asked about the success rate, "that he could not promise that it would cure," but 4 years later, with only 2 lines of explanation, Dr. Davis simply states that he had made a mistake.

Affidavits on Mrs. Plumb:

"The sickness first started in the fall of 1918, with tiredness and pain under the shoulder blade. The lump in the right breast behind the nipple, being about the size of a hickory nut was starting to pain. We consulted Dr. James Davis in August 1919. In the presence of witnesses he made an examination, measuring the lumps in the breast, armpit and over the collar bone, in the neck, and recorded the ulcerated, retracted, bleeding condition of the nipple and surrounding area. Also consulted Dr. Davis in October 1919. He examined again. The body weight had dropped from 170 lbs. or over to between 115 and 120 lbs. Before witnesses Dr. James Davis gave a diagnosis of Paget's disease cancer and upon being asked to explain what Paget's disease was, he explained to all present that it was the fastest growing cancer on record and had never been known to have been cured, and that Mrs. Plumb must go to Providence Hospital immediately so he could remove her breast and have the whole armpit cleaned out. He stated that it was possible she could not use her arm again as he had to remove the cords from under the arm, and that the longer she waited the worse she would be. Mrs. Plumb asked if that would cure her, and Dr. James Davis answered that he could not promise that it would cure.

"Mrs. Plumb refused the operation and stated that she would go to Dr. Koch for Treatment. Dr. Davis said that it was foolish, that she could get no help from Koch. He requested, however, to watch the progress of the Koch Treatment. Dr. Koch was glad to have Dr. Davis watch the progress of the cure. Dr.

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Davis watched the progress of recovery under the Koch Treatment to its completion. On Dec. 19, 1919, Dr. Davis examined Mrs. Plumb and said she was no better. This was about two weeks after the first Treatment. On Jan. 25, 1920, Dr. Davis examined her and found her all well and said so. He also noticed much improvement in her general health. On May 15, 1920, Dr. Davis examined Mrs. Plumb again, found her all well and without a trace of cancer. On July 26, 1920, Dr. Davis examined her again and again found her in perfect health, cancer free and healed without a scar. Dr. Davis stated that she was cured, as there was no sign of cancer left.

“Mrs. Plumb and Mr. Plumb asked Dr. Davis to take Mrs. Plumb before the Wayne County Medical Society and demonstrate this case as a cured cancer, as he said she was cured of cancer. But he said he would think about it, He did not question the diagnosis of cancer nor the cure, but he did not take Mrs. Plumb before the medical society.

“Mrs. Charles Plumb is still cured of cancer and weighs 180 lbs., in perfect health, working hard every day without fatigue or any sort of inconvenience, and without any evidence or suspicion of cancer.”

Signed—MRS. CHARLES PLUMB.

MR. CHARLES PLUMB.

Subscribed and sworn to this 8th day, of July 1924.

Signed—MRS. GERTRUDE WHITESELL, Notary Public

My commission expires Jan. 31, 1926

Statement of Mrs. Edgar Britton, witness to Dr. James Davis' diagnosis of Mrs. Plumb's case of cancer of the breast:

“On or about Oct. 14, 1919, Dr. James Davis examined Mrs. Charles Plumb before me and said after thorough examination that her disease was Paget's disease, the most fatal form of cancer on record and never known to have been cured. He said immediate operation was necessary.

Signed—MRS. EDGAR BRITTON.

Subscribed and sworn to before me this 8th day of July 1924.

Signed—MRS. GERTRUDE WHITESELL, Notary Public

My commission expires Jan. 31, 1926

Mrs. Celia Alpert:

Committee report on Mrs. Celia Alpert:

“Demonstrated as a cure of recurrence of breast carcinoma. Never had recurrence.” (Statement Dr. B. E. Friedlander who operated upon her and has observed her since.)

“Mrs. Celia Alpert. The history presented to us was that Dr. Friedlander removed the breast for carcinoma in 1920 that six months later there was recurrence and discharge from it, a specimen was taken

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and the patient referred to Dr. Koch. This Treatment had removed the recurrence. She presented a well-healed scar and was in good health. Dr. Friedlander stated to us that the breast had been removed for carcinoma, but that there never had been a recurrence. He had seen the patient every month or two since operation.”

“History of case (Woman’s Hospital) and statement of patient and husband made to Dr, Lynch of Fairbury, Nebraska:

“Dr. S. Friedlander (history by Dr. Heiksen)

“Diagnosis, Medullary carcinoma of left mammary gland.

“C.C. core at nipple.

“H.P.I. 3 months ago she felt a little lump in the breast, which she said, felt like a stone. It has not grown in size since then as far as she knows but last week it began to bleed. Appetite good, no epigastric pain or discomfort. No eructation, pain or discomfort; bowels regular. Lungs, heart and urine negative.

“P.M.R. measles, diphtheria, no operations or injuries.

“M. 142.8-4-5, no pain last period July 25, 1924.

“E.R. No children, married 8 years, no miscarriages.

“P.E. 5—120 lbs. T. 98, P. 84, B. P. 110-65. R. 20.

“Nutrition very good, has lost no weight; complexion dusky.

“The left nipple is red, otherwise the breast appears healthy.

“No blood could be expressed. Small mass on right of nipple palpable. Mass hard, freely movable and about the size of a bean. Nipple not retracted, ducts at nipple hard and felt like small shot. Axillary glands not palpable. Right breast normal.

“Operation, 7-9-20.

“Diagnosis, Adenofibroma, chronic mastitis, Paget’s disease of breast, left nipple.

“Dr. S. Friedlander, operation—dissection and excision of left breast. Small, indurated nodules around left nipple, several masses in breast, bleeding from nipple.

“Laboratory report—left breast—duration of condition 4 mos.—chief symptom, bleeding from nipple—eczematous condition of nipple. (Paget’s disease).

“Macroscopic—nipple appears somewhat retracted and fissured and extending down from the nipple towards the aponeurosis there is considerable fibrous change. Two sections taken.

“Microscopic—the stroma exhibits hyalinization and fatty infiltration. There is new growth infiltration (epithelial type), The new growth tissue does not stain well and the nuclear material is breaking down.

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“Diagnosis—Medullary carcinoma of mammary gland. J. N. Davis, Pathologist.

“Admitted 7-8-20. Discharged 8-6-20. Result good.”

Statement of Mrs. Alpert:

“Statement of patient and husband given to Dr. Lynch of Fairbury, Nebraska. Same statement was given by patient to an investigating committee from the Lutheran Hospital of St. Louis, Mo.

“June 20, 1924. When patient left hospital, she says the wound was not healed and Dr. Friedlander came to dress the wound for several months after. Ten days after leaving the hospital, she went to Dr. Koch. At this time she says wound was raised on edges and indurated. After first Treatment by Dr. Koch, wound began to heal better. Immediately after patient went to Dr. Koch, Dr. Friedlander cut out one of nodules and made a diagnosis of recurrent carcinoma. After Dr. Koch’s Treatment nodules began to soften and disappear. General condition was good when she went to Dr. Koch and it remained good. At present wound is healed, there are no nodules or enlarged glands and general condition is good.”

Signed—CELIA ALPERT

Mr. John Ackley:

Committee Report on Mr. Ackley:

“Demonstrated as cured rectal carcinoma. Probably perirectal abscess, which ruptured spontaneously.” (Statement Dr. Clarence Sayres).

“Dr. Koch told us there were lumps squamous carcinoma to the edge of the anus. The history we obtained was— pain in the rectum, which cut like a knife, one hemorrhage. No diarrhea, no constipation, the entire duration one month, relieved two days after Treatment.

“Dr. Clarence Sayres saw the case just before the man went to Koch. His data follows—Rapid onset of acute knife-like pain in rectum July 1922. No constipation, no diarrhea, no persistent bleeding. Twenty-five pounds loss in weight. After two to three weeks, the patient saw Dr. Sayres. No growth or other abnormality was noted externally; digital or proctoscopic examination impossible because of exquisite tenderness. After this one visit the patient went to Dr. Koch who says a lumpy growth was found extending to the edge of the anal orifice. He instituted his special Treatment by injections and shortly afterward, while at stool, patient had a tremendous gush of bloody material from the rectum. This brought immediate relief and was followed by a rapid subsidence of all symptoms.

“Dr. Sayres’ impression was that the man had a peri-rectal abscess with spontaneous rupture into the lumen of the bowel.”

Testimony of Mr. Ackley:

Statement of Mr. John Ackley of 1411 Lawndale Ave.,

Detroit, Mich.

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July 24, 1924.

“My rectal trouble started gradually over a period of ten years, off and on. During this period piles were the chief complaint until Feb., 1922, when relief could not be obtained by former methods. Pain was knife-like at times and I gradually got worse, until in July it was unbearable and lasted 24 hours out of the day. Loss weight of 25 pounds in two months.

“My rectum started to close up in June and by July 4th, feces were slender like a straw. Stools had to be kept thin in order to have a movement at all, so painful that I sweat with pain at stool.

“Hemorrhage occurred in latter part of June, 1922. This occurred at stool and was so severe that it left me very weak and in a cold sweat. This hemorrhage took place with such force that the amount that splashed out of the toilet and ran down the side of the bowl was enough to scare the family. This hemorrhage took place some time before I consulted Dr. Koch as I testified to the “committee” of the Wayne County Medical Society and not after I took Dr. Koch’s Treatment as was stated in the Bulletin of the Wayne County Medical Society of June 30, 1924.

“After Dr. Koch’s Treatment there was no discharge of material that relieved the pain all of a sudden as the Wayne County Medical Society Bulletin stated. The drainage from the rectum let up, instead of increasing as the falsifications of the “committee” of the Wayne County Medical Society states, I gave them the exact history and they misstated the evidence. I requested them to examine me and they declined to do so.

“The diseased condition of my rectum was distributed all around. It was hard and rough, and Dr. Sayres did not try to make a digital examination. He tried to force a tube into my rectum, which I immediately stopped on account of the pain. I could not sit down like in health, but had to sit on either cheek. It made no difference which hip I sat on the pain was equally bad. I was cured by Dr. Koch and am in perfect health today.”

Signed—JOHN S. ACKLEY

Signed and sworn to before me this 24th day of July 1924.

Signed—MARK C. TAYLOR, Notary Public,

Wayne County, Mich.

My commission expires Feb. 19, 1928

The Case of Mr. Charles F. Marsh:
Committee Report on Mr. Marsh:

“Carcinoma of Rectum. Had severe radium and X-Ray therapy, sufficient to cause fistula and to arrest growth.”

“Seen by the “committee” Nov. 5, 1923, he appeared fairly well, though sallow. He weighed 135, being nearly up to par. Recto vesical fistula still present but no urine passed per rectum except at time of defecation.

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“Pathological report of tissue removed at operation 4-12-21 neoplasm of rectum, epithelial in character with atypical (sic) glands and inflammatory supporting tissue.

“Diagnosis—Adenocarcinoma of rectum, signed, James E. Davis.

“Impression—Adenocarcinoma of rectum destroyed locally and possibly totally by intensive and extensive treatment with radium and X-Ray prior to Treatment by Dr. Koch, with a slough following final radiation resulting in a recto vesical fistula.” (Since Dr. Stevens is the radiological expert of this “committee”, it is well to remember this case in comparison to the Case of Mr. Elder who also had X-ray, radium, and cautery, in sufficient amount according to Dr. Stevens’ experience to effect a cure, but was not helped according to Dr. Stevens’ own statement. Yet, Dr. Stevens states in the Marsh Case, that the X-ray and radium were effective. His committee’ statement is not consistent with his own experience.)

Affidavit of Mr. Charles Marsh:

“I, Charles F. Marsh, 1919 West Grand Blvd., Detroit, Mich., make the following sworn statement regarding the operation performed, the radium and X-Ray treatments used on me during the years 1921 and most of 1922 by Drs. Andries and Husband, Chene and Weaver, for cancer of the rectum and showing my condition at the end of their treatment, and a history of the Treatment given me by Dr. William F. Koch for the same trouble and a brief statement showing my present condition.

“Just when my trouble started I cannot state as I had a growth there for a long time and bled badly each time at stool, but the first I knew it to be a cancer was in March, 1921. A specimen was taken from me and examined by the Stafford laboratories here in Detroit and the report signed by A. S. Warthin, c/o C. M. S. and another specimen was examined by Dr. James Davis, pathologist at Providence Hospital, Detroit and I have their reports pronouncing it Adenocarcinoma—active.

“In April, 1921 I was operated on at the Providence Hospital. The operation so I was told, being the burning off of this growth down to the walls of the rectum an radium needles were buried in the base of the growth and left there for about ten hours. In June 1921, the needles were again buried in the flesh around the spot and left there for ten or twelve hours. In August 1921, radium in a sort of rubber capsule was applied for about a 4-hour period. Late in the fall of 1921, I was told by Dr. Husband that the sore had healed over. Nothing further was done until March 1922. The sore had evidently opened. So I went to the hospital again and the doctors cauterized the sore without any anesthetic being given and radium needles were again sunk into the flesh and left there nearly 24 hours. I was burned so badly this time that it affected my sciatic nerve in the left leg, and I spent several weeks in severe pain. They also began at this time to give me X-Ray treatments each week about one-half hour at a time. Still I continued to get worse and could hardly sit in a chair and spent most of the time lying down and was in much pain. Was taken to the hospital again in May 1922. At this time Dr. Angus McLean at the request of Dr. Raymond Andries examined me at the hospital and said to me that everything was being done that was possible. Dr. Andries told Mrs. Marsh later that Dr. McLean said my case was hopeless but to continue. At this time, May 1922, my rectum was dilated and radium again applied for almost 24 hours, I came home nearly dead. The doctors insisted that I take X-Ray treatment after this, which I did for three successive weeks, until I could stand it no longer. Was losing so fast that no one expected me to live over a few weeks. Stopped taking X-Ray treatments until I got a trifle stronger, then continued them not quite so often and for a period of only 15 or 20 minutes each. My doctors led me to believe I was improving some but told Mrs. Marsh different. My bladder began to trouble me right after this last radium treatment. I also had

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some hemorrhages from the rectum in August and September 1922. Early in September, 1922, I was examined by another and very able physician and was told that my condition was not improving as I had been led to believe but that the walls of the rectum had become firm and stiff and the trouble had spread from the original spot and that many other organs were affected.

“In October, 1922 a small opening between the bladder and rectum developed. My rectum was very congested and sore. I had to sit on an air cushion or pillow all the time the doctors who had been treating me admitted that they were not getting anywhere and thought I might get some help by taking X-Ray treatment from the big machines. I consulted Dr. Evans who had charge of the machines at Harper Hospital but got very little encouragement although he said he would give me the treatment. I made arrangements with him to do so but later cancelled the same.

“At this time I learned of Dr. William F, Koch from several different sources about the same time, and from inquiry I made and had made, I felt certain he could help me and I was not mistaken. I took the first Treatment of Dr. Koch Nov. 5, 1922 and began to feel easier within a very few days. By the end of the month I was much improved. Took second Treatment Dec. 1, 1922, and during the second month found there was a marked change. The congestion in the rectum had reduced greatly and I was able to sit fairly comfortable on any seat. I took the third Treatment Jan. 20, 1923. Kept on improving and my general health was much better. Gained in weight and my color was much better. By June 1923, was able to go out to the Lake and help rebuild a summer cottage. Started to ride in an automobile again in July 1923, and in August started back to drive my car again. Started back in business in Sept. 1923, after being away one and one-half years and have been able to stand it fine.

“My average weight for years has been around 120 pounds or a little less. I now weigh 140 pounds. My physical improvement is very marked. So much so that my acquaintances and clients cannot help but mention it when I meet them. My age at present is 47 years. I have had no Treatment since Jan. 1923. I have had no hemorrhages since treating with Dr. Koch. My bowels move freely every day without medicine. The congestion and soreness have been gone a long time. The rectal walls are soft and natural. I sit with ease in any position on any seat. I am certainly thankful and appreciate all that has been done for me by Dr. Koch with the great help of the good Father over us all. Would that everyone suffering from cancer could have the benefits of his Treatment. Much pain and untold suffering could be averted and thousands of lives saved.”

Signed—CHARLES F. MARSH

Signed and sworn to before me, a Notary Public, this 28th day of August 1924.

Signed—MARK HELEOMAN, Notary Public,

Wayne Co., Mich.

My commission expires Nov. 29, 1930.

Thus the Testimony of the Mr. Marsh evidently gives no foundation for the impression claimed by the “committee” in their report!

IN 1928, MR. C. F. MARSH APPEARED AS A WITNESS FOR THE KOCH TREATMENT DURING DR. DUGDALE VS STATE OF MASSACHUSETTS.

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CHARLES F. MARSH, Sworn.

Q. (By Mr. Lehr) What is your full name?

A. Charles F. Marsh.

Q. Where do you live?

A. Detroit, Michigan.

Q. Have you had an illness?

A. I did.

Q. When did it start?

A. In 1921.

Q. What was your condition in 1921?

A. Mine was a rectal trouble. I had had that trouble before that. I thought it was piles.

Q. Did you consult a doctor for piles?

A. I did.

Q. What doctor did you consult?

A. Dr. Mowry.

Q. What did he do to you?

A. Dr. Mowry examined me and took a specimen from me and had me take it down to The Stafford Laboratories in Detroit. Later I went back to Dr. Mowry and he gave me a report and refused to treat me, telling me that the report was cancer. I consulted Dr. Husband in Detroit.

Q. What did you do?

A. I didn't state to him anything in regard to the circumstances of how Dr. Mowry had treated me. Dr. Husband had treated me before for piles. I had him examine me—give me a good examination—and he took a specimen. His specimen was sent to the hospital, to a pathologist. I think his name was Dr. Davis. His report was identical with the Stafford Laboratories Report.

Q. Then what treatment was given you, Mr. Marsh?

A. I was advised to go into the hospital for an operation. I went to the Providence Hospital and was operated on for a cancerous growth in the rectum.

Q. And after that?

A. After that, right after the operation I was given radium treatments by a radium needle—radium needles, implanted in the flesh—buried in the flesh.

Q. Then what happened, Mr. Marsh?

A. Well, after I got up from that, I was taken back to the hospital and again radium needles were put in the flesh.

Q. What time was that?

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- A. The first time—the first operation and the first radium needle was in April 1921. The next was in June 1921.
- Q. Then what was done, after that?
- A. Then, in August of 1921, I was given another radium treatment. The radium was put in rubber capsules.
- Q. What was done after that?
- A. Apparently the sore healed over; that is, the doctors told me it did. But in January, 1922, I started to bleed again. I went there, and they advised me that more radium was needed and it was done in March of 1922.
- Q. What was your condition at that time?
- A. Well, my condition after this operation and all these radium treatments in March, 1922, was very bad.
- Q. You were confined to your bed after the treatment?
- A. I was confined to the bed.
- Q. For how long?
- A. Well, for a short time, but I had another radium treatment later which confined me to the bed for some time.
- Q. Then what did you do after that, Mr. Marsh?
- A. They gave me an X-ray treatment.
- Q. X-ray and not radium?
- A. One X-ray treatment.
- Q. Go on.
- A. I was in such bad shape I couldn't stand it any more. I waited until I began to get a little stronger. I wasn't getting any better. I had a couple of hemorrhages in the summer of 1922 and in the early fall, and I think it was August and September.
- Q. Then what did you do?
- A. I consulted another doctor to find out how I was getting on.
- Q. What was that doctor's name?
- A. Dr. Richie.
- Q. What did he tell, you?
- A. He made an examination and told me I wasn't making any gain, in fact I was growing worse all the time; that the cancer had spread to other organs.
- Q. Then what did you do, Mr. Marsh?
- A. Well, I considered going to the hospital for X-ray treatment with the big machine, to Dr. Evans, who has charge of the machine for the Harper Hospital in Detroit. He didn't give me much encouragement. He didn't say that he could do anything for me whatever but he agreed to treat me. About that time I heard of Dr. Koch and his Treatment from three or four different sources.

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Q. Then did you take the treatment with Dr. Koch?

A. I went over and consulted him. He finally agreed to give me the Treatment.

Q. When were you treated?

A. The first part of November 1922, was my first Treatment.

Q. How many did you have, Mr. Marsh?

A. Three.

Q. Do you recall about when you had the other two?

A. December— after the first Treatment the second was in about a month and the third in about six weeks.

Q. How did you get along after the Treatments were given?

A. Began to feel better right away.

Q. Now then, did you have any of these reactions you have heard these patients testify to?

A. I did.

Q. Will you explain what you had?

A. I felt so miserable I don't know as I can explain. But as I remember it what bothered me most was the bloating of the abdomen and the pains in the groin and in the legs; trouble with the bowels. At intervals the bowels would get loose and I passed quite a lot of blood.

Q. What was your weight at the time you were treated, Mr. Marsh? Do you recall that?

A. When I first started my normal weight was around 118 to 120.

Q. What is your weight now?

A. My weight now is around 140.

Q. You had both reports from both pathologists?

A. I had.

Mr. LEHR: I think that is all.

CROSS-EXAMINATION.

Q. (By Mr. Lovejoy) What is your business?

A. Real estate and insurance.

Q. Who asked you to come on here to testify?

A. To testify?

Q. Yes.

A. I came on to testify for Dr. Koch.

Q. Dr. Koch asked you to come on?

A. Yes.

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Mr. LOVEJOY: That is all.

CONCLUDING COMMENTS BY DR. DUGDALE'S ATTORNEY:

"I want to call your Honor's attention to the case of Charles F. Marsh because of the length of time that elapsed before the completion of the reactions and the consequent recovery. This was a case of cancer of the rectum, involving the pelvic organs in which the diagnosis was confirmed by specimens removed upon two different occasions and microscopically examined and reported on by Dr. Alfred Warthin, Professor of Pathology at the University of Michigan and Dr. James E. Davis, Pathologist at the Providence Hospital, Detroit. Mr. Marsh testified that he received three Treatments respectively on November 5th, 1922, December 1st, 1922, and January 20th, 1923. The reactions to the Treatment were extreme distension of the abdomen; in his own words he said he felt as though the abdomen would burst. Pains through the hips and legs, which he had not felt before Treatment, and a feeling of general misery that continued for a year and a half after treatment accompanied by continued pain in the abdomen and legs...He testified that from the time of his Treatment by Dr. Koch, he had no morphine or medication of any kind.

The Case of Mrs. Siegle:
Committee Report on Mrs. Siegle:

"Carcinoma of sigmoid-clinical diagnosis. No laparotomy; no section."

"Described to us as having had a mass the size of a grapefruit in the left and mid-abdomen with pain unrelieved by morphine. The booklet describes this case as cancer of the sigmoid with the usual symptoms of obstruction, bleeding, loss of weight, etc. After one Treatment by Koch she had no further symptoms.

"Since there was no laparotomy, no section of tissue, we were unable to judge anything about this case. She had been referred to Dr. Koch by Dr. Tom Robertson."

Data furnished by Dr. Koch.

Dr. Koch Reviews Her Case:

"Mrs. Siegel, 68 years old, referred by Dr. Tom Robertson, for cancer of the large intestine, (sigmoid flexure of the colon) which caused the usual symptoms of such a condition, obstruction of the bowel, bleeding, putrid discharge, pain, loss of weight and strength, etc. Physical examination showed a cancer mass some five inches in diameter extending from deep in the left pelvis to a few inches below the umbilicus. The mass could also be palpated through the rectum.

"She was given a Treatment on October 7, 1922, with improvement following within a few days and continuing until Dec. 21, when she appeared practically cured, only a trace of the growth being palpable. The bowels had long since been working normally, bleeding had stopped and the general condition of the patient had greatly improved. A second Treatment was then given, resulting in complete cure of the patient. She has no more cancer as revealed by careful examination as well as by the fact that her bowel functionates normally, and by her return to excellent health.

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The Case of Mr. Simon Grace:
Committee's Report on Mr. Simon Grace:

"Described to us as a massive carcinoma of the liver and stomach who had been under continuous morphine treatment because of the pain. After a few serum Treatments, he gradually and soon went back to work. There was no operation, no section."

Affidavit of Mr. Simon Grace:

"I, Mr. Simon Grace, of my own free will make the following statement regarding the cure of my case of cancer accomplished by Dr. Wm, F. Koch's Treatment.

"During the spring of 1922, I began to fail, and had attacks of stomach trouble, necessitating stopping work at times. My stomach pained, and I vomited blood and corrupt matter. I had several bad hemorrhages from the stomach. A large mass developed in my abdomen and filled the space between the ribs and navel. This mass stood out plainly so that my wife saw it plainly. It was hard and painful.

"Finally I had great difficulty in swallowing, and for three weeks or so before Dr. Koch treated me I could scarcely swallow water or saliva. It would go part way down but not enter the stomach and then be returned. As I became too weak to walk I had to stay in bed and rapidly got as thin as a skeleton. I was under hypodermics of morphine for pain. I rapidly got worse. Was examined by Dr. Lefevre who made the diagnosis and offered to treat me for cancer and by Dr. Caughey who also made the diagnosis of cancer of stomach and liver. Dr. Morey had Dr. Koch Treatment.

"At the time Dr. Koch treated me, he found me scarcely conscious, for I do not remember his injecting me and I could barely move my legs in bed from weakness. Dr. Koch made the diagnosis of cancer of the stomach and liver, and told my wife that I had very little chance, if any chances for recovery.

"After his Treatment, I recovered rather rapidly, and could swallow my food in about ten days. After that I gained in strength rapidly, and the mass in my abdomen went away in a month or so. My weight came back from something like fifty or sixty pounds at the time of Treatment, July 25, 1922, to 139 pounds on September 17, 1922, and I returned to my work at the Ford Tractor Plant shortly after. I kept on gaining and before the first year was over I was healthy again, as good as ever in my life, I am now in perfect health. I was examined by the Ford Hospital surgeon in October, 1922, and they found my abdomen perfectly normal. My stomach works as well as ever in my life and I am cured."

Signed—SIMON GRACE

Subscribed and sworn to before me this 13th day of September 1924.

Signed—EMMETT E. SCRIMSUI RE, Notary Public.

My commission expires Mar. 20, 1928.

Wayne County Medical Society Committee Reports:

"Two members of the "committee", Dr. Kelly and Dr. Owen, spent considerable time going over cases of Dr. Koch's. (Furnished by Dr. Koch - These additional cases were shown to them not as cured cases but

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that the two members of the “committee” could watch at intervals to see how the Treatment worked.) These cases were as follows:

The Case of Father Joniatis:

Committee Report on Fr. Joniatis:

“Myxosarcoma with no results from Koch’s Treatment.”

“Father Joniatis, 8300 Longworth Ave., Detroit. Was operated upon in Chicago by Dr. T. J. O’Donoghue for tumor on the right forearm, which was diagnosed after removal Myxosarcoma. This tumor recurred and in September 1923, the patient visited Dr. Koch and was given Treatment. Several Treatments followed with no improvement, the patient visited Dr. Angus MacLean, who advised amputation of the forearm. He then visited Dr. Jose Andries who removed the mass with knife and cautery.

Data by Dr. Koch,

Dr. Koch Reviews His Case:

“Rev. Joniatis left me shortly after the inspection of the “committee” and was improving under Treatment until after his departure.”

The Case of Mr. Homer Tayler:

Committee’s Report on Homer Tayler:

“Hypernephroma, with no results from Koch’s Treatment.”

“Homer Tayler, living at 721 Distel St., was operated on at Mayo Clinic, April, 1923, for Hypernephroma of the left kidney. He had also been operated upon in Milwaukee in Oct. 1923. While at Mayo’s he was given two sets of deep X-Ray therapy, one set in June 1923, and one in September 1923. Was treated by Dr. Koch in October 1923. Upon examination of the patient, numerous tumor masses were found throughout the abdomen, especially one large mass in lower abdomen, six by five inches.”

Data by Dr. Koch.

Dr. Koch Reviews His Case:

“Mr. Tayler left me shortly after the examination by the “committee.” This case was improving up that time.”

The Case of Mrs. Schonscheck:

Committee Report on Mrs. Schonscheck:

“Non-malignant tumor of ovary. Treated by Dr. Koch for cancer.”

“Lena Schonscheck, living at 14 Forest Street, River Rouge, Mich., 38 years of age, had been operated upon at Delray Industrial Hospital by Dr. Edwin Durocher. Visited Dr. Koch and was informed that she had carcinoma, Dr. Koch did not remember whether it was of the stomach or the uterus, Patient generally well, weighing 200 pounds. Dr. Durocher was consulted, as also was the Delray Industrial Hospital. We

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were unable to find any record of examination of tissue. An abdominal operation had been performed with the removal of ovary which was clinically non malignant.”

Affidavit of Mrs. Schonscheck:

“Age 38, operated at Delray Hospital June 30, 1923, by Dr. Durocher. He said he removed a decayed ovary and blood clots. This operation followed an illness of some 14 years. After the operation health did not return, so Dr. Durocher wanted to remove the tonsils and gall bladder. Mrs. Schonscheck grew worse and in four months was very sick, vomiting, having terrible pains in the abdomen and back and with the abdomen getting large and hard, Dr----a Detroit specialist, was called by Dr----. They examined her and said she was pregnant. They did not help her. The vomiting persisted and got worse, so that even a teaspoonful of water was ejected. The pains also got worse and the abdomen increased in size and hardness. By November 1923 she was vomiting blood and was very thin and weak. The pains through the abdomen to the back became terrible. She had become very thin, weak and bedfast. She took practically no nourishment.

“For the three months following she became worse in every way and Rev. Ebendick said she was dying. Her husband knew she was dying when Dr. Koch was called as by this time everyone decided she had cancer. She was not able to take any nourishment and even the medicine was vomited as fast as it was taken.

“Dr. Koch was called in January and said she would not live two days, but was requested to treat her. This he did. She gradually recovered. The hard masses in her abdomen went away in three months, however; no baby came. Her weight gradually gained to 177 pounds, from the thinness of almost a skeleton. The vomiting stopped within a month and her strength returned. She is now perfectly well and does all her household duties, taking care of her 7 children. During her recovery it took two months to learn to walk.

“Dr. Koch’s cancer Treatment cured her of a disease in a dying condition which, even in its early stages, operation and all the other doctors did could not even prevent the disease from rapidly getting worse and nearly killing her. She was examined by Dr. Frank Kelly and he found her abdomen normal.”

Signed—MRS. LENA SCHONSCHECK.

Signed—MR. LOUIS SCHONSCHECK

Subscribed and sworn to before me this 8th day of July 1924.

Signed—MRS. GERTRUDE WHITESELL, Notary Public

My commission expires Jan. 31, 1926.

Dr. Koch Reviews Her Case:

“If anything this case presents a history of malignant disease, cured by the Treatment. Why did they ignore the facts? When first seen by me the primary focus could not be determined. The whole abdomen was involved.”

The Case of W. Thayer:

Committee Report on Mr. W. Thayer:

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“Hopeless metastatic treatment of testis. Died soon after Koch’s Treatment.”

“Was operated upon in the spring of 1923 by Dr. Andries. He had a tumor of the testicle, which upon microscopical examination, proved to be a teratoma. A few weeks later, the tumor having recurred, he was again operated upon and several weeks after that he was seen by Drs. R. H. Stevens, Frank A. Kelly, and Clarence Owen. The tumor had then extended up into the abdomen and an X-Ray examination revealed metastases in the lungs. The case was pronounced hopeless and was permitted to go to Dr. Koch for Treatment. The progress of the case was followed during the Treatment, X-Ray examinations being made of chest at intervals and the disease was found to increase. The patient died in the early part of 1924.”

Data furnished by Dr. Koch.

Dr. Koch Reviews His Case:

“This case is correctly reported except that no mention is made of another infection.”

The Case of Mr. Clarence H. France:

Committee Report on Mr. France:

“Committee” failed to file a report on this case.

Dr. Koch Reviews His Case:

“This case was shown to representatives of the “committee” but was not reported in the Bulletin with the others. Mr. France had a specimen of the growth of the larynx removed, which was examined at the Harper Hospital, Detroit, and diagnosed cancer. Clinical diagnoses by Dr. Canfield at Ann Arbor and Dr. Simpson of Detroit as cancer.”

Signed—W. F. KOCH, M. D.

Affidavit of Mr. France:

State of Indiana

Steuben County, S. S.

“I, Charles H. France, of Huntington, Ind., upon oath say that I was suffering from a cancer of the larynx as I was informed by two specialists.

“I was unable for several months to speak above a whisper and when I did talk, I suffered intense pain. Upon advice of some friends I consulted Dr. William F. Koch, Detroit, Mich. After examination by Dr. Koch and assurance from him that his Treatment could cure me of my trouble, I then took a Treatment from him on Nov. 27, 1923, and thereafter began to improve, my voice gradually got stronger and the soreness in my throat disappeared.

“In about three months after having taken Dr. Koch’s Treatment my health was restored and I gained 20 pounds in weight and returned to my work as a salesman and have worked steadily ever since. I feel

Dr. William F. Koch Articles

confident that I have been entirely cured of my cancer and I take pleasure in recommending Dr. Koch as a capable, careful, competent physician with a successful Remedy for the dread disease of cancer.”

Signed—CHARLES H. FRANCE

Subscribed and sworn to before me this 8th day of August 1924.

MILO THOMPSON, Notary Public

My commission expires Jan. 1st, 1927.

The Case of Mrs. Jenny Wagenlander:

Committee Report on Mrs. Wagenlander:

“Committee” failed to make a report.

Dr. Koch Reviews Her Case:

“Was shown to representatives of the “committee,” but was not reported in their Bulletin of June 30th, 1924.”

Signed—W. F. KOCH, M. D.

Affidavit of Mrs. Jenny Wagenlander

“I, Mrs. Jenny Wagenlander, make the following statement regarding the history of the sarcoma of which I was cured by Dr. William F, Koch of Detroit.

“My age is 43 years. For the 12 or 15 years prior to 1920, I was not quite well and in 1920 my abdomen started to enlarge and attacks like intestinal obstruction set in. I could feel the pressure in my abdomen and my legs started to swell. The attacks of pain that doubled me up terribly became more frequent. The mass that filled my abdomen was as large as a man’s head and hard as stone.

“An exploratory operation was performed at Harper Hospital by Dr. Angus McLean and Dr. Francis Duffield, August 7th, 1922. They removed a small piece from the growth and it was proven by examination to be a small cell sarcoma. The growth was found to be so large and to involve so much of the abdomen that the doctors could do nothing but sew me up and sent me home to die in, they thought, about ten days.

“I rapidly got worse, could not feed myself from weakness when Dr. William F. Koch was called and treated me a few days before I was to die. I gradually recovered, the swelling left my legs. I got stronger. The mass in my abdomen that stood away out and extended to all extremities of the abdomen gradually melted away and I regained my health.

“I now feel that I am cured, but Dr. Koch says that on deep examination he finds a small-calcified scar, which should be expected as the sarcoma originated in a bone and therefore had a special predilection toward calcification, and that heavily calcified tissue dissolves slowly. At any rate, it does not interfere

Dr. William F. Koch Articles

with my good health and it is steadily disappearing. I am as active as ever in my life and I believe I am cured and am in fine health, thanks to Dr. Koch's Treatment."

August 25th, 1924.

Signed—MRS. JENNY WAGENLANDER

State of Mich.

County of Wayne S. S.

Subscribed and sworn to before me this 25th day of August 1924.

Signed—GILBERT DICKSON, Notary Public,

Wayne Co., Mich.

My commission expires Sept. 15, 1926.

Summary of W.C.M.S.'s Investigations

By Dr. William F. Koch, Ph.D. M.D.

“These cases presented to the “committee,” as a preliminary step, comprised a few of several classes. All had sufficient and satisfactory diagnosis; some had other forms of treatment that failed; some had no other treatment. All were cured to the satisfaction of the patient, their families, and quite to my own satisfaction. The evidence proves that the cures resulted from the Koch Treatment, in several cases even after X-ray and radium treatments not only had greatly depleted the patients, but had also increased the disease to near fatality. Thus, the “committee’s” fraudulent report is exposed!

“Why did the committee not report on the last two cured cases, instead of spending so much time and space on two cases shown them as under Treatment, which were weaned away before cure could be established? It seems that the cases of Mr. France and Mrs. Wagenlander should have carried weight both from a diagnostic and a cure standpoint. They were omitted in the “committee’s” report. They were the type of cases the “committee” wanted most, —with specimen diagnosis, and no other form of Treatment. This evidence could not be denied. That the findings in these two cases were withheld demonstrates the perfidy and the intentions of the “committee.” However, in the daily press the secretary of the “committee” stated, ‘we have not been able to find one case of cancer helped, much less cured by the Treatment.’”

“Had the Treatment been correctly reported more cured cases would have been shown, and by this time the family doctor would have the Treatment and been instructed in its use. He could cure his cancer cases as fast as they came to him, and the surgical X-ray and radium business, as applied to cancer, would be a thing of the past. I wonder if this had any influence on the stand of the manipulators of the medical profession?

“The following letter from the Propaganda Department of the A.M.A. may also have decided the course of the “committee” of the W.C.M.S. and further unrevealed pressure might have been forced on the “committee.” ‘Therefore the A.M.A. policy must not be overlooked. The two chances the A.M.A. refers to below must be the offers made me or rather the attempts made by Dr. Simmons and the Michel Reese Hospital, on different occasions, to get control of the Treatment. Note the dates of the communications showing that the A.M.A. answered the W.C.M.S. inquiry before it was made. The quotation is taken from the “committee’s” report in the W.C.M.S. Bulletin of June, 1924.’

“A meeting of the “cancer committee” was held on Nov. 1st, 1923, to discuss this matter. Those present were, Drs. Kelly, Stevens, Saltzstein and Spalding. The bureau of investigation of the Journal of the American Medical Association was consulted regarding the advisability of further investigation. Their reply follows:

October 29, 1923.

Dr. Harry C. Saltzstein,

306 Kresge Bldg.,

Detroit, Mich.

Dear Mr. Saltzstein:

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“There appears to be no reason or warrant for a further examination of the “Koch Cancer cure.” This man had his opportunity; in fact, two opportunities, with the results that are a matter of record.

“In spite of the unfavorable resort of the Wayne County Medical Society and the publicity that was given to this report, both through the society’s official Bulletin and also through the Journal of The American Medical Association, Koch has continued to commercialize his alleged cure.

“To take any further official action in this case would, in our opinion, simply serve to advertise Koch and give his “cure” a dignity which is not in the public interest.

“Very sincerely yours,

“THE JOURNAL A.M.A.

“Propaganda Dept.”

Articles on Dr. Koch also appeared in the “Propaganda for Reform” column of the Journal of the A.M.A., February 12, and 19, 1921.

“So here the A.M.A. would stop an investigation of a cancer cure that is offered to the medical profession for the sake of the sufferers that have no other chance for cure. Is this the service the A.M.A. owes the profession? Is it because the A.M.A. has defrauded the public out of the truth for so long already, that they are afraid of being shown up. Or is it a matter of ‘ethical’ business that must destroy everything that does not lend itself to exploitation by this octopus?”

Letter from Dr. W. A. Dewey, expressing his evaluation of the W.C.M.S.’s Investigations.

“Dear Dr. Koch:

“I have received what is termed the latest report on your Treatment.

“This claims to be an account of the séance held on November 5th, 1923, at which I was present and took notes of each case.

“For a studied intent to falsify, a premeditated determination to condemn everything, and an unscientific, un-American assumption to be judge, jury and prosecuting witnesses, the report of this so-called committee outstrips in bias, unfairness and mendacity anything that has ever been my lot to observe in a medical practice of forty-four years.

“The frankness with which you presented these cases, giving the committee all the details and referring them to original records and to the family physicians, showed your honest desire to have an honest investigation of your method.

“The composition of the committee being for the most part surgeons and Radium or X-ray “experts,” a class that assumes cancer to be curable only by these methods, was unfortunate in the first place, and in the second place, no member of the committee was in my opinion, qualified to sit in judgment on your Treatment, by education, experience or by right.

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“The greatest American authority on cancer is doubtless L. Duncan Bulkley, senior surgeon of the New York Skin and Cancer Hospital. (*Italics are mine*). He has probably seen and treated more cases ten times over than has been seen or treated by the combined membership of this “official” committee.

“Dr. Bulkley declares first that cancer is not a surgical disease, and that neither surgery, X-ray, nor Radium have changed in any way whatever the ultimate mortality of cancer in forty years. It was 90% in 1884. It is 92% in 1924. This is the result of surgery, X-ray and Radium treatment.

“I can corroborate Dr. Bulkley’s declaration, for in a practice of nearly forty-five years I have yet to see a single case of cancer, save a few semi-malignant epitheliomata, that have been cured by these measures, and my experience has been in hospitals of both this country and Europe.

“However, to return to this really grotesque report— anyone who reads it will be impressed by its “scientific” deductions.

“I hope that some day your Treatment will have an investigation before a body of seekers after the truth. These you will not find in American official medicine, which is a trust to keep all progress not coming from its own, out of the field.

“Should the Pasteur Institute investigate it, I am quite sure you will not suffer from false and trumped up reports upon it, and moreover, the investigation will be thorough, with a foremost desire to find out the truth, and not to get control of your procedure.

“Best wishes,

“W. A. DEWEY,

“Middlebury, Vermont,

“October 25, 1924.”

In “**The Koch Cancer Treatment And Its Investigations**,” Dr. Koch concludes his evaluation of the medical community’s attitude surrounding the 1919 and 1923 Investigations:

“Recently the Board of Health asked for material to be used by someone, I do not know who it might be, for purposes of trial and report, but as the Board of Health was a party to the action in the “1919 Investigation” and has not shown itself any more honorable than the manipulators of the medical profession, I had to deny them another opportunity to put one over against the Treatment. I consider their proposal the sneakiest one that could be made, inasmuch as they have not come to the rescue of the truth, for the sake of humanity they pretend to serve. They still owe it to the world to report on the cures obtained in the “1919 Investigation.”

“Results of investigations made by other institutions and physicians are universally favorable.

“For example, The Radium Institute of New York, the second oldest radium institute in America, after some twenty years experience with cancer, reports its investigation of October, 1923, through its director, Dr. C. Everett Field, of thirty-four cases seen in one day, ‘The exhibit without doubt formed the most remarkable experience of my medical career.’

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“The Lutheran Hospital of St. Louis, Mo., if not the oldest, at least one of the oldest and most conservative hospitals in Missouri, reports after its investigation of February, 1924, through its trustee, Theo. Lange: ‘Feb. 6th, 1924—Ever since my return I have been so overwhelmed with enthusiasm, that I can not refrain from speaking and proclaiming your wonderful cure to everybody I come in contact with. You certainly are a Godsend and I wish you continued success in spite of all humiliation; they will eventually crawl on their knees to get your support.’”

“The Fairbury Hospital, of Fairbury, Nebraska, through its surgical director, Dr. Albert Lynch, reports on its investigation made in February, 1924, ‘You have thrown a monkey-wrench in my machinery; if I had not seen these results myself I could scarcely believe them.’”

“The same type of report was made by many clear-headed and eminent medical practitioners and professors from various parts of the country. These men have also adopted the Treatment, and are reporting cures in from forty to ninety percent of their cases.”

“An equal privilege has been, and is being, denied the family doctor, the first line of defense against this advancing plague, by the obstructionism detailed and exposed in this report, until the profession is purged of its perfidious exploiters.”

What Cancer Really Is:

“The general misconception of the process of immunity production taught in our schools, and principally following the Ehrlich Theory, is largely responsible for the failure to understand what cancer is and the function it attempts.

“Immunity is taught to depend upon the production of antibodies, elaborations of the body cells that combine and neutralize the toxin of a particular infection. My own researches have shown that immunity is rather the process of conversion of the toxin of the infecting agent into a substance harmless to the host, but destructive to the infecting agent. Thus the toxin is the material from which the antitoxin is made. And the process of conversion is a shifting of certain essential groupings in the toxin, an isorropesis change. The changed toxin still can combine its source, the infecting agent, and induce further chemical change leading to death of the same. Moreover the changed toxin can induce further isorropesis change in the molecules of the toxin already liberated from the infecting agent, producing therefore more antitoxin. That is why toxin-antitoxin mixtures are better therapeutic agents than the antitoxin alone.

“Now the first indications that I had that such a process took place, came from the study of the parathyroid glands, which led me to observe that certain guanidine-related poisons produced by flora in the intestinal tract, were changed into nontoxic ureas through the parathyroid activity. Thus a grade of immunity persists so long as the parathyroids are present to metabolize the guanidine-related toxins. Also the nascent inter-products are able to induce the same change in the guanidine precursors. In this sense the altered toxins are truly antitoxins. This is why parathyroid gland material is clinically helpful together with lime salts in the healing of many types of ulceration, even tubercular lesions, should the guanidine-related toxins be present.”

Cancer Is An Attempt At Immunity:

“The histological characteristics of cancer identify it with similar attempts at gland production to those represented in the evolution of other glands of internal secretion.

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“The clinical observation that toxic symptoms precede the development of cancer for a period of years, and then let up partly or completely when the growth is well on its way of development, points to a detoxicating function for the growth. Yet since the growth persists in its development, its effort cannot be adequate. Moreover during the growth period a set of cachexia symptoms are in evidence, which we refer to the insufficient alteration of the toxin, calling forth the growth response. Were the growth effort adequate, complete conversion of the toxin would be accomplished and true immunity obtained. Instead, the growth only makes a more toxic product out of the stimulus-toxin.

“Chemical study of both the stimulus-toxin and the toxic growth product has led to the structural identification of their active groupings, and has also indicated the type of change required for successful antitoxin structure. The synthetic manufacture of an antitoxin for this disease was thereby made possible. Our clinical results prove the accuracy of this outline.

“The synthetic antitoxin is harmless to the body. Even where injected in concentrated solution, it produces no injury or soreness. After the causal infection and its toxin have been destroyed (the function of the growth having been accomplished for it) the growth becomes obsolete and undergoes digestion for removal like any other excess tissue in the body. The first stage of digestion is a calcification, coagulation as takes place in milk digestion, digestion of the inside of developing bone preparatory to its removal, or of the disintegration of blood. We recognize calcification to be the first step in the digestion of the body proteins. The rest of the process of removal of the calcified cancer tissue is accomplished by the in-growth of angioblastic tissue, just as takes place in the organization of a blood clot or in the clearing out of the inside of developing bone. This in-growth of angioblastic tissue also serves to heal destroyed tissues and replace structural deficiencies consequent to the ravages of the growth.

“The material obtained from the digesting cancer tissue is again used in the nutrition of the body, for the food elements thus obtained are the same units from which the cancer tissue was built up. The gain in strength shown by patients during the process of absorption of the cancer material, though still not able to take food, has in many instances proven this nutritional value of the cancer material.

“Thus, through physiological processes a cancer growth disappears, after the function of immunity it attempts, is performed for it.”

WM. F. KOCH, Ph.D. M.D.

THE UNPUBLISHED REPORT:

By Cash Asher,

Reporter for the Detroit Free Press.

The following is an unpublished report, by Cash Asher of the Detroit Free Press, written at the request of the Wayne County Medical Society's Committee on Cancer:

“ I first heard of Dr. William Fredrick Koch in 1929, when I was a reporter for the Detroit Free Press. In the summer of that year, I was assigned by the city editor to investigate five medical clinics operating in the downtown section. With the assistance of the State Police, I learned that they were directed by quacks, posing as licensed physicians. They were connected with a national chain with headquarters in Atlanta, Georgia. Their methods were weird. They treated cancer, arthritis and syphilis under electric lamps with the bulbs painted red and blue. Patients were told that the lamps gave out ultraviolet and infrared rays that would cure their maladies. Clever-tongued salesmen were employed to frighten all callers into believing they were afflicted with dangerous diseases, and that they could be cured in the clinic. The clinic, the salesmen said, had worked out its methods and had procedures not available elsewhere. We raided the five one night, arrested the operators and brought them to trial. They were closed and about one hundred similar clinics scattered about the country were put out of business.

“The success of this effort pleased the American Medical Association, and I was asked by the Wayne County Branch in Detroit to serve as publicity director of a drive to enlighten citizens about the danger of cancer and the importance of an early examination. After this was over, the chairman of the Cancer Committee told me, facetiously perhaps, that virtually ‘every woman in Detroit with a pain or a pimple had been into his office.’ He asked me then if I would investigate Dr. William F. Koch, who had a clinic on Jefferson Avenue. He said that Koch was a clever quack, and I agreed to undertake the assignment.

“I picked up his trail at the University of Michigan, read his writings, sought to find some ‘crime’ that the medical profession could bring against him.

“Almost everyone I talked to believed that Koch was a quack. He was not orthodox. He was outside the established, accepted channels. I learned through hospital records of cases of cancer that had been pronounced incurable, and then had been given the Koch Treatment.

“I went to see several of these and I found men and women who had been restored to health after all other therapies had failed, and hope was gone. They were well and happy, and enthusiastic over what had been achieved. “One woman with a bulging cancer of the brain had been cured six years previously by the Koch Remedy. Cancer specialists had given her up to die, and she went to see Dr. Koch in a final despairing effort to get well. It took four months and two injections of Glyoxylyde to cure her. Another case was a woman with an abdominal cancer so large that surgeons dared not operate. When the abdomen was opened, they found a mass of cancerous tissue that had metastasized into the stomach and liver. She got well after receiving three Treatments from Dr. Koch. Hospital records of biopsies and microscopic verified the diagnosis in these and other cases I investigated. I found these people scattered throughout Detroit and vicinity...men and women lifted out of the deep valley of impending death and vigor by the startling efficacy of the Koch Remedy. All of this was contradictory to the purpose of my inquiry.

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“Curious as a reporter rather than a detective, I went to see Koch. I found a man of solid dimensions, physically and mentally; a likable, kindly character, with a large head, a strong jaw, a ruddy complexion, and, most pronounced of all, blue eyes into which the alchemy of heredity and environment had never poured a strain of dishonesty or charlatanry. It was a relief just to look at him after dealing with the suave, almost slimy imposters who had operated the downtown clinics.

“I talked with him at great length. He answered my every question fully and freely.

“‘The Free Press will never publish anything favorable about me,’” he said. “‘In fact, I am regarded as a medical outlaw.’”

“‘But it seems that you have cured cancer,’” I replied.

“‘Yes, many, many cases; but The American Medical Association is trying to put me in jail. They want me to surrender everything I have learned to them, and I could get a million dollars by selling out. I have been approached by a group that wants to commercialize my products. But I have not finished my research, and I am afraid of what would happen if they got hold of my formulas. I will give them to the world when they are ready, and you can say, if you write anything, that I will surrender them for investigation to any commission or committee that approaches the subject sympathetically and its qualified to do clinical and field research.’”

“‘Have you ever tried to have the Surgeon General’s Office or the Food and Drug Department test it?’” I asked.

“‘Many times. They have been disinterested. First, they want my formulas. I have refused. I must be sure that they are properly prepared. After they are adequately tested, I will gladly surrender them to the profession.’”

“I noticed a Lutheran church publication on his desk, and a picture of ‘The Last Supper’ on the wall behind him. He noticed my wandering gaze.

“‘You are wondering about my religion,’” he said. “‘My parents were devout Lutherans, and I have not departed from that faith. It is a sustaining thing. All one has to do in order to realize the feebleness of human intelligence is to look at a flower. It makes colors and dyes. I have studied color chemistry with interest, and realize that no one could ever duplicate what the flower does so easily and naturally. We could consult all of the libraries and use the most intricate apparatus and the most powerful chemicals and never succeed. The flower takes CO₂ out of the air with some moisture and some salts out of the earth and makes the color and then makes seeds to perpetuate itself. The flower follows the laws of wisdom. But where is man’s wisdom?’”

“I had no response to this. I lighted a cigarette and he pushed a tray toward me.

“‘I don’t use tobacco,’” he said, “‘but most of my callers do. It may be a factor in cancer. The coal tar in it is an irritant, and can be used for inducing cancer in mice.’”

“I asked him about his family, and his eyes reflected loneliness as he talked about his wife and children. He said he had been too preoccupied for years with his research to ‘see much of them.’

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“He rose from his desk then, and asked me to accompany him into another office. It contained several filing cabinets. He opened a drawer and showed me some records.

““These are doctors,”” he explained. ““They had cancer and recovered through my help.””

“He showed me other records of members of doctor’ families, who got well after receiving Glyoxylyde injections.

“Physicians are my best patients,”” he said.

“He gave me a glimpse into his laboratory, and took me upstairs, where he had a half dozen cancer patients. The place was scrupulously clean. When we returned downstairs, I noticed that several people were waiting in his reception room, and, telling him that I would return soon, I bade him good-bye and left. There was a quizzical expression in his eyes as I turned away, and I felt that he was communicating in me that what I had learned would never reach the light of day or night on the printed page.

“But I was tremendously impressed and convinced. This was an amazing reportorial find...had the curse of cancer been lifted at last?

“When I, the detective-reporter, made my report to the chairman of the Cancer Committee of the Wayne County Medical Society, I presented in writing the evidence I had found. The chairman read my report with growing irritation. His face reddened. He had wanted me to obtain the evidence against Koch. Finishing the report in some degree of apoplexy, the chairman proceeded to tear it into fine pieces, which he threw into a wastepaper basket.

““I hired you to do a job, and you came in with a lot of hog-wash,”” he said.

““I came in with the facts, as I found them,”” I countered angrily.

““Hell!”” he exploded. ““Every scientist in medicine knows that this man is a charlatan. He has been investigated by cancer specialists.””

““And I am only a newspaper reporter?””

““Yes—and completely wrong.””

““What about Mrs. G., who recovered when your specialists opened her up and found too much cancer tissue to dare to operate on her?””

“He wrote out a check and handed it to me. It was for seventy-five dollars. I thanked him and left, glad to get back into the sunlight.

“I then submitted a copy to the managing editor of the Free Press. He read it with interest, but advised me that the newspaper could not use it because Koch was under fire from the American Medical Association, and doctors in general.

““We have to accept the truth of authority, and sometimes overlook the authority of Truth,”” he said, quoting from something he had read as a journalist.”

Dr. William F. Koch Articles

The following resources were used to compile the case histories in this report:

Original W.C.M.S. 1919 Investigation,

1924 W.C.M.S. Review,

1926 Massachusetts Court Trial of Dr. F. Dugdale,

Cash Asher, **The Unpublished Report**,

“The Koch Cancer Treatment And Its Investigation”

Blood Chemistry In Malignancy

By Dr. William F. Koch, Ph.D. M.D.

Abstract: Blood Chemistry in Malignancy: In this early paper prepared by Dr. Koch, he states that cancerous tissues must be studied from a physiological rather than a pathological perspective. The pathogenesis and pathology of all disease have much in common and this detailed discussion of blood chemistry is found to be enlightening in many conditions that might appear only remotely related to malignancy.

It is the current teaching that the cardinal inflammatory phenomena are compensatory, protective, combative, physiological events. In our January paper, we demonstrated conclusively that these changes are the direct result of chemical action of the invading toxin upon the proteins of the area attacked; an action that results in dehydration of the protein with liberation of surface energy in the form of heat, vascular degeneration, extravasations of blood and lymph, and the well known symptoms. These are evidently pathological changes. But the lymphocytic infiltration and subsequent fibrosis are repair processes, and though they cannot replace parenchyma, they are physiological events.

Cancer tissue is generally thought to be a pathological tissue. In our January paper, we demonstrated conclusively that this is not the case, but that it performs, in an imperfect way, a protective function; that as soon as the etiological toxin has been removed, it reverts to a normal type of tissue and is immediately digested, absorbed and becomes nutrition material for the rest of the body. The injury done to a paraneurathous tissue through inflammation is permanent and normally is not regenerated. The injury done by cancer tissue is corrected with restoration of lost parenchyma sufficient to meet functional requirements. Thus, cancer tissue differs from a pathological tissue and performs a new function in its imperfect way. It thereby resembles the physiological instead of the pathological.

To discover the pathology in malignancy, we must look beyond the cancer growth. Surgery and other attempts at destruction of the cancer have not succeeded in removing its pathology, in any instance, even though employed with skill and on a large scale. However, an inquiry into the chemistry of the blood not only locates the etiological factor, but it traces the injury done, and discloses the means of arrival at the cancer state. Just as a correct valuation of the changes of inflammation was gained from an inquiry, so to a useful comprehensive conception of cancer will be gained from an inquiry into its chemistry.

The pathogenesis and pathology of all diseases have so much in common that the discussion on blood chemistry to which this paper is devoted will be found enlightening in many conditions that might appear to be only remotely related to malignancy.

All diseases are caused by toxins, whether the toxin arises through the action of a bacterium, a protozoan, a snakebite, a plant, or a chemical laboratory. It is not the morphology of a germ that is poisonous; it is the toxin it produces. Moreover, the toxin of each germ is essential to the germ's existence, and since it is impossible to destroy germs directly through an antiseptic within the body, the only feasible means of destroying a germ is to remove its essential toxin, better yet, change the structure of this toxin so that it is no longer useful to the germ but incompatible with its life. We demonstrated in an earlier Bulletin that chemotherapeutic agents, like salvarsan, do not slaughter germs in the body, but act entirely through their dispersion effects on the proteins of the host, and that their use in too large dosage may destroy the host while the germs are stimulated into activity. A measure, therefore, whose action is entirely upon the toxin

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of the germ and thus removes the true etiological factor in the first instance and necessarily, thereby, the germ that depends upon the toxin, must be a matter of profound interest.

The primary action of a toxin, as we demonstrated in the January paper in our discussion of inflammation, is one of chemical combination with the protein of the host. The result is an alteration in the colloidal structure of this protein, mainly the circulating blood protein that picks up and carries the toxin. The changes in the physical structure of the protein determine the fate of nutritional elements that should be carried and metabolized, and besides the passage of blood through capillaries may be partly or wholly impeded. As a result, intestinal changes or parenchymatous degenerations result from changes occurring in the physical state of the blood protein. Lytic toxins favor vascular injury and intestinal changes, while hydrators injure the parenchyma preferably.

In health, the blood protein presents the following physical properties. Besides the well-known characteristics of the red and white cells, the tendency of these cells to remain suspended uniformly in the plasma must be emphasized. Normally, the suspension stability of the red cells is such that they tend not to settle more than two-tenths of a c.c. from a citrated blood in one hour. They tend to remain in suspension by virtue of the surface charges they carry, just like the big bodies of the solar system remain suspended by virtue of such charges. In disease where these charges are lost, the cells tend to settle out to an extent and with a rapidity that follows the rate of loss of the surface charges.

When observed with the dark field microscope, the plasma is seen to be made up of many small, evenly dispersed, moving particles of about equal size. These particles are seen by the light they diffract, and are much smaller than they appear. When albuminous they appear dull gray; when their lipid content has increased they become gloubinous and appear whiter and more highly refractile, with increase of fat content. There is a normal extent to which the albumin and globulin characteristics may vary, but beyond certain limits an increase in fat content is pathological, and determines increased viscosity, diminished surface tension with resulting functional injury.

The dissolved crystalloid constituents are present in two forms. A definite equilibrium is maintained between the crystalloids present in the dispersion medium in ionized solution, and those absorbed into the protein particles in a colloid state. Those in ionized solution present ionic activity, and those in the colloid state present electronic activity contributing to the dispersion charges carried by the particles. Losses in the absorbed colloidal constituents, therefore, diminish the surface charges and detract from the extent of dispersion of the protein particles. The state of dispersion of the particles is thus dependent upon the surface tension, which determines ease of absorption of crystalloids by the colloids. The balance between monovalent and divalent cations control whether or not a lipid in water, or a water in lipid phase shall predominate and thereby cause a rise or a fall in the surface tension and absorption powers. Thus, the balance in crystalloids of various characteristics will help determine their concentration in ionized and electronized state. Since deviation from the normal state of dispersion contributes so much to pathogenesis, the amount and distribution of crystalloids is of utmost importance, and the data revealed by blood analysis have a far greater significance than is awarded them at present.

The electric charges contributed to the particle as its absorbed constituents contribute much to the state of dispersion and capacity to functionate. There is another very important but heretofore unrecognized source of surface charges for the proteins of living tissues, namely, electromagnetic waves arising through chemical activity going on in functioning nerve, muscle and gland tissue, and perhaps also in the contents of the digestive apparatus. It is no longer possible to deny (even by the most ignorant) that each chemical action has its electromagnetic counterpart. So the chemistry of thought possesses, the chemistry of each nerve impulse, and of each muscle contraction has its wave of change in electric potential and

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electronic manifestation, depending thereon. The nerve impulses to an injured or inflamed area are increased reflexly and pain is registered in consciousness. Muscle spasm about the injured area cannot help but contribute electromagnetic waves and electronic charges to the region. Nerve impulses, with their accompanying waves of increased electric potential dissipating along the capillaries and to their thin layers of contained blood, cannot help but serve to add electric charges to the circulating protein particles. These are physiological means of aborting the beginning dehydration of inflammation. An osteopathic treatment causing a flood of nerve impulses to be sent out to an inflamed area cannot help but produce an increase in this physiological electronic bombardment of the protein particles of the area, at the expense of the chemistry of the nervous system. But it has been amply demonstrated that such a flood of charges contributed to extremely dehydrated protein, as occurs in pneumonia, and can bring about the restoration of a satisfactory state of dispersion. Perhaps the osteopath does not realize the minutia of the changes initiated through his treatment, except that he is playing upon a natural mechanism with limits of responsiveness and limits toward exhaustion, and requiring intervals of rest for nerve chemistry regeneration. We must appreciate the effectiveness of the mechanism. The favorable influence of sunlight and some therapeutic light measure upon the state of dispersion of protein particles is indirectly recognized. The only favorable influence of radiotherapy depends upon the very early and comparatively brief tendency to increase dispersion of proteins. It is too bad that therapists do not care to remember how transient this phase of radioactivity really is and that its dominant phase is a persistent induction of non-dispersion, e.g., hydration. Thus too great exposure to sunlight, or any exposure to X-ray or radium tends to permanently increase the development of cancer. An optimum amount of sunlight, exercise and nerve tension tends to favor and preserve normal dispersion, and hinder the influence of disease, and cancer causing toxins. (Fifty years ago, Dr. Koch advocated fresh air, sunlight, exercise, and low stress as factors in disease prevention!)

With progress in the evolution of the nervous system, the glands of internal secretion and the much-misunderstood hormones have come into existence. We discussed their means of action from the basis of their chemical and electronic structure, in a former paper. The selective physiological action they display goes hand in hand with their differentiation from the various germ layers. Those of entodermal origin protect against injury to the colloidal state of the proteins by substances having their origin in the digestive tract. So the pancreas, the parathyroid and the thyroid tend to maintain normal dispersion of the proteins, in the face of the lytic and hydrator influences of materials absorbed from the intestinal tract. The cells of internal secretion of the testis, ovary and the cortex of the adrenal, protects the state of dispersion in tissues originating in the mesoderm. The functioning derivative of the ectoderm and the nervous system is aided by the posterior lobe of the hypophysis, the pineal and the various chromofine tissues, including the medulla of the adrenal that develop from the ectoderm. These chemical substances are distributed throughout the body by the bloodstream and serve complimentary to the impulses sent out by the nervous system. In the long run, they all determine, to a great extent, the distribution of crystalloids in the blood, and accordingly, the blood analysis must be interpreted with their function in view.

When in spite of all normal regulatory influences, a disease agency disturbs the chemistry of the blood, its physical manifestations are: a loss of surface charge carried by the particles with accompanying disintegration of the particles, increases in number, decreases in size, and a lessening of the Brownian Movement. The particles may subdivide so greatly as to become invisible and pass into true solution, or they may form a gel. This change is called lysis or dehydration. Loss of the Brownian Movement and the surface charges permits them to come together and agglutinate, precipitate, or form large clumps. Thus, they can physically plug up blood vessels. The anti-mortem clots that occur in the veins in parathyroid deficiency, lytic fevers and all of the white and striated clots, have their origin through gelation of the particles. This great loss in surface charge, moreover, reduces the suspension stability of the red cells, so they settle out and leave large white clots and striations of red and white. This type of coagulation differs

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from true coagulation in important respects. Whether the settling out of agglutinated particles, or the gelation disturbs the circulation in an organ, clinical manifestations occur that can be classified. They are discussed below:

In consequence to prolong lysis and following the action of toxins of protozoal or gram negative bacterial origin, the particles upon loss of electronic charges clump very markedly with only a short, barely noticeable lytic or dehydration phase. This process is called hydration. The enlarged particles, thus formed, increase in lipid content. As time goes on, their surface tension decreases and they take up or absorb practically any colloid or crystalloid that comes in contact with them. Thus, they enlarge and increase their electronic charges with each addition of crystalloid absorbed. But their absorption takes place not only throughout their surface, but also throughout the body of the particle, even to the extent that an inner surface is formed to better accommodate the charges gained. Thus, the particles become hollow spheres and rings. Together with this change, a drop in the content of ionized crystalloids takes place. Since the usual blood estimations register only the ionized form of a substance, they must be interpreted in accord with the physical state of the blood colloids in order to have full significance.

When the blood protein is in a normal state of dispersion, the equilibrium between ionized and electronized, or absorbed sugar is reached with approximately one-tenth of a gram in solution in one hundred c.c. of blood. Sugar is one of the substances absorbed with moderate tenacity by the protein particle, the salts are held in less firm colloidal combination, and the amino acids and urea are held more firmly than the salts or sugar. Hence with mild lysis a change in ionized salts is estimated, with more effective lysis, the sugar is set free showing an increase in solution and with very deep lysis, the urea and certain nitrogenous rings are liberated. When we observe a high increase in urea, therefore, we know that an advanced state of protein disintegration has taken place. Normally, there is a fairly wide divergence in urea estimations, which depends upon deamination going on in the liver after meals. It will vary normally from twenty to forty milligrams per one hundred c.c. of blood. Manipulations during the analysis set free some of the substances to be estimated from the colloidal form, and no estimation can be counted as absolutely correct, but with careful technique a valuable insight into the proportioning of materials in the blood is obtainable.

Let us illustrate the above relationships with common observations in diabetes. Sugar diabetes is not a disease in itself, but a symptom of a constant state of lysis of the protein particles at the hands of a persistent poison. The change in the blood picture, the ultra-microscopic lysis, the loss of suspension stability of the red cells, the increase in salts, sugar, and finally of urea, above the normal dextrose to nitrogen ratio allowed by amino acid metabolism, simply traces a chronic or acute increase in lysis of the blood protein. The interstitial changes in the tissues and finally the parenchymatous changes that follow the blood injury are its ultimate and fatal results.

The first effect of the poison is a mild dehydration of the protein particles, they lose their Brownian Movement and split up into smaller, sluggishly moving particles and some of these particles come together and coalesce. An increase in salt is estimated in the blood and also in the urine. If the lysis is very rapid, sugar and urea may show immediate increase and there may be some filtration of the very finely divided protein into the urine without any nephritis being, as yet, produced. But as a rule, the condition is mild and goes on without notice, except perhaps for some increase in blood pressure and such symptoms as dizziness, headache and vasodilation that accompany the rise in blood pressure. The production of the etiological toxin increases and the blood injury increases with it. Sugar appears constantly in the urine and is found to also increase in the blood. The symptoms may not be marked, but the state of lysis in the blood sensitizes it to further lysis by other dehydrators, such as the coccogenic germs and resistance to infection is thereby reduced. Boils occur. Any physiological increase in dehydration, as menstruation or

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pregnancy, will increase the lysis and the amount of sugar set free from the blood protein will increase. Likewise, lytic substances, as anesthetics, aggravate the loss of sugar from the blood protein, or may increase the lysis to the point of gelation and result in impeding the passage of blood through the capillaries and thus cause coma. On the other hand, an old gonorrhea infection, an old lues, tuberculosis, cancer, or malaria will moderate the lysis and the diabetic state will improve because of the hydration induced by the toxins of these diseases. The injection of insulin, which is really a hydrator, likewise brings together and collects the disintegrated protein particles, lowers the surface tension and increases the absorption powers, so that the free ionized sugar is absorbed by the particles and held in the electronized state, in which condition it can functionate. Each molecule thus absorbed, increases the particle's charge and its state of dispersion. If too large a dose of insulin is given, the hydration may be so extensive that the collected particles form such large clumps as to block the cerebral vessels and cause shock, mild or fatal. Hydration increases the absorption power for all blood constituents, such as oxygen, salts, amino acids and urea. Under the influence of a hydrator, they are taken up by the colloids and are usable because after absorption; they exist in the electronized state. For the same reason they do not exist to so great an extent in the ionized estimable condition, nor are they filtered out through the urine. An interesting feature that reflects upon the chemistry of the hydrated particle, distinguishing it from the hydrated particle, is the behavior of blood sugar in early diabetes, as compared with that in late diabetes when lipaemia arises. Early in the disease, when dehydration is prominent, the blood sugar estimates are high. Late in the disease when hydration has gone on sufficiently to produce a high degree of globulin and lipogobulin, the blood sugar estimates drop. This is because the surface tension of the lipogenous hydrated particles has become sufficiently low to raise their absorption powers and most of the sugar is taken up into the colloidal form, even though the etiological toxin is still as active as ever. The change from the lytic phase to the hydration phase of reduction has not received enlightening discussion from physical chemists, but we may hazard the explanation that the prolonged lysis has brought about so great a loss of monovalent over divalent cation, like calcium, that the colloids assume the water in lipid phase of structure, the fat diffuses to the surface of the particle, and oxidation is impeded. The failure toward oxidation of Carbonyl groups leads to production of further fatty acids and the general lipid characteristic increases still more. The production of Carbonyl groups adds to the surface charges and independence of the particle, but when a reversal in the balance of monovalent and divalent cations comes about, the whole particle undergoes disruption with an extreme degree of lysis, gelation taking places in the cerebral capillaries, and a coma results. It is at this stage that the urea nitrogen rises high, and creatine and other nitrogenous substances are found in the urine in great quantity. If sugar were fed when it is found to drop in late diabetes, it would tend to prevent this evil form of hydration, likewise calcium and parathyroid extracts, both of which are dispersers of conductors of electrons, would help prevent the rapid fatal lysis.

Insulin is not a specific for diabetes. If carefully handled it will manage a useful degree of hydration over dehydration so that sugar will be absorbed and exist in a useful electronic state in colloidal combination with the protein. Insulin does not remove the etiological toxin that started and continues the mischief, but patches up to some extent the bad effect of the toxin on the protein particles. The changes in the sugar behavior of diabetes are only secondary to the protein injury. It would be more logical to remove the cause of the trouble, stop the production of the toxin, or better yet, change it to its anti-toxin and have a fairly permanent protection against the etiological factor.

A certain amount of lysis is physiological in women at menstruation and still more during pregnancy. After menopause, hydration is the tendency, yet after the age of forty, hydration is the tendency in many people of modern habits. The states of lysis that are pathological are usually due to focal infection by streptococci and staphylococci, and autointoxication from the colon. With high blood pressure, a mild degree of hydration that goes with the lysis at the start increases as time advances until hydration

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dominates, as described above. However, the lysis endures long enough to bring about marked interstitial damage before hydration sets in with its tendency to parenchymatous degenerations. We may look upon the state of lysis going on as a universal state of inflammation of mild degree. The blood changes are like those occurring in diabetes in its earliest stages, lysis of the protein particles, diminished suspension stability of the red cells, lowered viscosity, vasodilation of the capillaries and increased surface tension with loss of electric charges carried by the particles and increased systolic and diastolic pressure. The dehydration of the intima of the smaller vessels increases the permeability of the walls so that rupture is entertained; perilymphatic and perivascular infiltration by lymphocytes, and a subsequent replacement with fibrous tissue bring about interstitial damage. If such important capillaries as the glomerulus of the kidneys are concerned, the early changes may be shown by bloody and albuminous urine. The final fibrosis means their obliteration and a permanently high blood pressure till heart failure supervenes. If the liver is the seat of rapid dehydration, red atrophy is the result; if dehydration and hydration go on together rapidly, acute yellow atrophy is the result. Rapid lysis, such that has reached the degree of gelation, means an abrupt loss of supply of oxygen and nutritional elements to the tissues, and the clogging of the capillaries by the gelated protein. If the central nervous system is involved, coma results. If the cord is the site of the change, a transverse myelitis results; if the heart is concerned, an interstitial myocarditis results. Dehydration is a matter of tissue hardening or deaquafication, as indicated by Perdue. It follows an increase in amino above carboxyl groups, (the state of so-called hyper-alkalinity), irritability and sleeplessness are among its symptoms.

Hydration, on the other hand, is a softening process due to the development of fat in the particle, (the so-called acidaemia state), as previously explained. Syphilitic arteritis (hydration) is characterized by areas of softening, whereas, the arteritis due to dehydration agents, is characterized by hardening and calcareous deposits. The soft leucic arterial wall is subject to aneurismal dilation; the hard area of arteriosclerosis does not do so. Yet, they may be found side by side in an old leucic. With hydration, parenchymatous degeneration of liver and convoluted tubules marked with fatty change is the rule, and other things being equal, low blood pressure, tendency to be chilly, disinclination to be active, amyloid changes and the cachexia of malnutrition and anemia characterize this state. Hydration with its parenchymatous degeneration is the sequel to prolonged lysis, and this late change with the interstitial injury that belongs to the early damage done leaves the patient in a sad state for efficient kidney, heart and liver function. Yet this represents the condition of so many cancer patients, for cancer is most often a sequel to a prolonged intestinal intoxication that has exerted full dehydration changes and a good quota of degeneration attending hydration.

The blood of most cancer cases, as we meet them, presents a fairly marked anemia, a low suspension stability of the red cells. They may drop three or four cm. instead of two-tenths of a cm. in one hour. The ultramicroscopic picture shows both lysis and hydration of marked degree in that only very few diminutive, sluggish particles with proportionally many large, highly refractile, hydrated particles are seen. The blood sugar and urinary sugar show increase, and there is albumin, perhaps simply filtered into the urine because of the high degree of lysis, but often of a fatty globulin nature due to tubular degeneration. The behavior of the red cells to hypo and hypertonic salt solution is characteristic in demonstrating hydration. Either lysis with its hypertension or hydration with its hypotension may predominate. At any rate, both conditions have progressed beyond any hope of control through physiological means. The necessity for a reaction on the part of the body, in the way of a protective response, has become inoperative and the cells most handicapped by the difficulty attempt the conversion of the primarily lytic toxin, into a substance with inductive dispersion properties. They fail with the result that their product is a hydrator, fatally toxic even to the cancer cells that induce the change, as well as, a general producer of cachexia. Removal of the cancer growth does not materially alter the blood picture, demonstrating that the etiological toxin is still at work. But the longer the cancer activity is permitted, the

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greater the tendency towards muscular softening and the greater the likelihood for hemorrhage, because of fatty change. The very pronounced and fundamental general pathological changes that lead to and exist with cancer are so great, that it is impossible to claim good vitality or a good prognosis for any cancer patient, simply because fatal complications of the disease are apt to be imminent.

The return to health that we observe a year or so following the cure of a severe cancer case involves regeneration of much tissue and the renovating of the whole body, as it were. It is not surprising when the extensive organic degeneration of so many of these patients is considered, that they should come to termination aside from events taking place in the cancer growth. The surprising experience that with recovery from the cancer state, regeneration of a normal state with loss of both the interstitial changes of the early dehydration and the late degenerations of hydration, takes place so frequently.

These pathological states may be variously named, but usually an interstitial, or a glomerulo-tubular nephritis, a myocarditis, and hepatitis with a certain amount of fatty degeneration, is present. There may also be myelitis and the vascular changes consequent to hydration, such as military aneurisms. Functional glandular expressions of dehydration of exophthalmic goiter, so-called diabetes and of Addison's disease may be present. But, the removal of the etiological toxin can, in time, result in complete removal of all pathology. The cure of an advanced cancer case, therefore, involves a host of changes and presents an interesting study.

The Function of Cancer

Wm.F.Koch, Ph .D., M.D.

Abstract: The Function of Cancer: Dr. Koch approaches the study of cancer from the stand point of a physiologist, thereby revealing insight into cancer's purpose and function within the body. His research sheds light into a tumor's purpose as a protective, auto immune response to a definite toxin; an attempt at specialization of function in which all tissues compete. The tumor's response; however, is destructive and inadequate.

THOUGH we fully appreciate the contributions to the study of cancer by both pathologist and clinician, we might expect an investigation of the problem from the viewpoint of the physiologist to reveal something about the purpose and value of this deviation from the normal that is so commonly rated as turmoil and disorder. .

The histological expressions of cancer impress us as a desperate attempt at gland production, characterized by its persistence, as a response to a persistent stimulus, by its equalization of cells in proportion to their malignancy, as indicating a singleness in the response type. While the loss of differential structure, and individualization of cells indicates a return to a simple balanced equipment in preparation for a new differentiation along lines so far not developed in the organism. Thus we may infer that the cells are responding to a new or not normal stimulus. Moreover, as the response persistently increases it cannot be adequate, and as structural differentiation has not been accomplished, the effort toward response appears to be only in the earliest stages of development.

Still the cancer process bears strong resemblance to the behavior of several glands of internal secretion that are now established as indispensable factors in the animal economy.

In such simple glands as the parathyroid, we observe acini production by vacuolization and death in cells located farthest from the blood supply. This process is very perfectly imitated in the cancer behavior. Yet in a higher type of gland, as the thyroid, acini production occurs by death of cells close to the blood supply. Thus as cell death is an important phase in the production of the internal secretion of the thyroid, its survival as a method of choice illustrates the adaptation of processes acquired from states of disadvantage in the established service of the organism. Thus we may conclude that the process as occurring in cancer, predicts its future place among the glands of internal secretion. And as limitation and control of activity in an established gland indicates its adequacy, so we must again qualify the cancer effort as at present inadequate in its attempted service. We may therefore infer from the histologic manifestations that cancer has a function in the process of development.

Our chemical studies corroborate this surmise and indicate also the place and value of this function. Our earliest work on the chemical significance of glands of internal secretion was directed toward the explanation of the parathyroid activity. Parathyroidectomy was long known to be followed by a set of tetany symptoms that could be ameliorated by calcium therapy. So the parathyroid glands were universally credited with a vital place in the calcium metabolism. This supposition fell short of agreement with so many experimental facts that the theory could not be sustained. Should a farmer or even a pharmacist observe an animal in the tetany of parathyroidectomy, he would certainly say the animal was poisoned. And after a careful checkup of the calcium theory we choose to direct our research along the "farmer" hypothesis.

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After developing a suitable method of isolation, we were able to isolate uniformly from the urine of parathyroidectomized dogs, toxic quantities of guanidine bases. The concentrations of these poisons were proportionate with the rapidity of development and severity of the symptoms and the earliness of fatality. We proved them the responsible factors for the symptoms and death of the animals. Thus it appeared that the parathyroid protected from a toxic agent. Our work was amply verified by Paton at the University of Glasgow whereby he earned the Triennial Prize in medicine awarded by Harvard University.

Yet the guanidine bases were only incidental to the loss of parathyroid activity as we later proved by the isolation of the guanidine precursors the cyanamides, very simple fundamental metabolic inter-products. These cyanamides easily took up an ammonia radical to become the guanidines in which form they were excreted. The cyanamides are evidently products of activity of other factors than the parathyroid and were not metabolized further after parathyroid removal. So we assume that the parathyroid disposed of the cyanamides in their activity for further benefit to the organism as a whole. We cannot go further into this subject here but cannot omit it as it exemplifies an established gland activity serving as a protection of the organism against a definite toxin. Like-wise we shall find evidence that the cancer behavior is a protective response to a toxic product generated within the body. The localization of the cancer effort in congested areas indicates that the exciting stimulus is distributed through the blood stream.

Clinical observation discloses the persistence of toxemia over a period even as long as twenty years previous to the advent of the growth. After the growth has come these toxic manifestations disappear completely or nearly so. After a surgical removal of the pre-growth they return, and with recurrence of the growth again disappear. We designate these symptoms as the pre-growth symptoms, for they differ from those consequent to the activity of the growth itself.

The pre-growth symptoms caused by the toxin-stimulus are mainly manifestations of interference with normal nerve function, and predominately with certain mechanisms of the central nervous system. Thus in a series of two hundred cases distinct mental aberration, incorrectly diagnosed as paranoia, was observed in two percent of cases. But the prevailing disturbance is an interference with function of the second and third nerve mechanism. Thus an optic-migraine without much or any headache or aural disturbance, or an optic-vertigo with scotomata, might express the condition. I have not been able to find a discussion of this complex in the literature and propose to take it up in a further paper. However, I may indicate the main characteristics, as they occur in fully eighty per cent of my cases.

The points of disturbance lay both in the perception centers for optic impulses and those centers where optic impulses are conveyed into paths of motor control, of both the optic apparatus and the general musculature.

Thus visual impulses, in one case, periodically caused muscle tremors and convulsions. Covering the eyes gave relief. In several cases teichopsia gave the impression that the patient persistently saw needles and pins wherever she looked, and she was diagnosed to be a paranoiac. Difficulty in accommodation results in a large proportion of cases in a haziness of all objects closer than or beyond a distance of usually some ten feet from the patient in these cases attempts at accommodation give rise to a sensation of sickness but not nausea particularly. Temporary blindness of the whole or part of the visual field is common, so that a patient may run into things without seeing them. Or a sudden general loss of sensation with blindness and a complete loss of muscle control, causing the patient to drop to the ground, without loss of consciousness, giving the impression of dying. The muscle control may be only partly lost and movements consequently be in coordinate. During these spells pinpoint pupils have been reported. Great changes in visual impulses, as occurring on turning out the light or waking up in the morning, may cause dizziness with topsy-turviness of after-images or true images. In the former case turning on the light and

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fixing the eyes on an object relieves. In the latter case closing the eyes relieves. These occurrences come in spells of only short duration or lasting several weeks at a stretch and over a period of a few or as long as twenty years prior to the development of the growth.

Occasionally a peripheral neuritis is present. It may be mild or severe and may be associated with areas of anesthesia and paralysis of one or more groups of muscles. But the percentage of such cases is small.

Since these symptoms, which occur in nearly ninety percent of my cases, let up entirely or in large part with development of the growth, its detoxicating function is evident, and resembles the detoxicating function of the parathyroid, which removes the cyanamides from the blood.

The cancer cells absorb and hold the stimulus-toxin in combination without changing its chemical identity for the most part. That is, they store it. This is proven by the fact that with dissolution of the growth following our treatment, the stored toxin is again liberated with return of the pre-growth symptoms, until the growth has entirely been digested and eliminated.

The cancer cells, also in small part and continually, alter the stimulus-toxin, but instead of changing it to a harmless or useful immune body, as the parathyroid are able to convert the cyanamides, these cancer cells only produce an even more harmful poison. Thus the cancer products cause loss of weight and strength and a progressive anemia—the symptoms of the growth period. That this is the result of cancer-cell activity is proven by the quick cessation of these symptoms very shortly after our treatment is given. For within a week usually a gain in weight and blood count ensues, even before noticeable change in the dimensions of the growths take place. Moreover this cessation of activity is coincident with the uniform coagulation and calcification of every cancer cell in the body. And we recognize calcification to be the first stage in digestion of the body proteins. Thus the secreting activity of the cancer cells is cut short by the institution of their digestion shortly following treatment.

The type of disposal of the involuting cancer material also bears strongly on the interpretation of its function. For its digestion is the same as takes place in the development of bone or the organization of a blood clot, or even the digestion of milk. Here the first step is the production of a calcium-proteinate from which the protein can never again be reclaimed un-denaturalized. Thus to all intents and purposes the calcified cancer tissue is dead and prepared for removal, as occurs in the organization of a blood clot or the clearing out of the inside of the developing bone. Our slides of specimens removed at various periods following treatment show that calcification is uniformly established within two weeks and that the other steps that complete the removal process are associated with the in-growth of angioblastic tissue, as occurs in developing bone and the removal of a blood clot. This process continues until all traces of the cancer tissue are cleaned out. Angioblastic tissue replaces the cancer tissue and contracts down, and, undergoing autolysis, finally also disappears, only leaving a scar where mending of a destroyed wall is necessary.

The material absorbed from the involuting cancer is used in replenishing the exhausted tissues of the patient. This is exemplified in patients who, though unable to move their legs in bed from weakness, within ten days after treatment had gained sufficient strength to support their bodies, though not having been able to take food. Thus the method of removal and disposal of the involuting cancer tissue is exactly that used in serving other physiological processes.

The strongest and the sufficient proof that cancer is a response at protection against a definite toxin, however, rests with the fact that removal of the toxin from the body and destruction of the toxin's source is followed by complete involution of all cancer tissue, complete healing of the regions involved, return to health with absence of growth and pre-growth symptoms, and the absence of recurrence. (Cases cured in

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1918, still remain cured.) The cancer tissue then becomes obsolete and disappears when the function it attempts is performed for it.

The histologic, physiologic, and clinical relations in the development, behavior, and involution of cancer therefore, identify it with a physiological effort and a protective function, or immunizing attempt, which though inadequate at present, promises at some future time to be instituted in the animal economy as a definite function, perhaps as a gland of internal secretion like the parathyroid, and able to overcome one more opposing force in our environment. Cancer then represents an attempt at specialization of function in which all tissues now compete.

The chemistry and source of the toxin, the synthesis of a successful anti-toxin, and the mechanism of immunity (a provision for conversion of a toxin into such chemical modification that it is harmless to the host, and destructive to its own source, the infecting agent), as exemplified in our work will be detailed in a further report.

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Pathogenesis And Immunity As Conveyed By Ethylene And Carbonyl Groups In the Cause and Cure of Cancer, Allergy and Infection

by

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Abstract: Pathogenesis and Immunity as Conveyed by Ethylene and Carbonyl Groups: Dr. Koch explains the chemical nature of cancer and allergy in this text. The chemical mechanism of recovery is also outline in this text as a foundation to the discovery and development of his Reagents. Examples of Koch's Theory are put to the test in numerous clinical cases, which are referenced to in great detail. (1938)

INTRODUCTION

At its beginning, back in 1910, this work started as a study of the functions of the parathyroid glands, but a number of incidents directed it into a study of allergy and cancer; for the behaviors of the central nervous system and of the body muscles as influenced by the toxic amides that I was able to isolate from the urine of dogs after parathyroidectomy, revealed certain fundamental facts about the oxidation mechanism, and its influence in preserving the normal state of the tissues and their normal chemistry against toxic activities.

From the meager data available at that time on the photochemistry of catalysis, and from some muscle perfusion experiments, the system of aerobic glycolysis, presented later in this text, was evolved and used as a key Hypothesis for pursuance of the study.

Observations with fluorescent substances gave in one instance a brief but definite transfer of energy from an exothermic reaction yielding a faint blue light. Since at the time this explanation was not available, an attempt had to be made and during these cogitations, the principle of energy diversion we have used to explain the allergies and malignancy was defined.

The first check-up was secured in October 1914, when I was able to produce a sensation that continued for days after the application of a fluorescent compound of the dioxyphenylic olefin series to the skin and washing it off within a few minutes, and without the production of any visible change whatever. Thus I had to construe allergy as a hyper-responsiveness, which was not under physiological control. On the other hand, a sub-responsiveness of a functional structure due to a blocking of energy production or of its normal utilization was recognizable as the opposite phase of the process. The changes fundamental to both are discussed here.

Search for substances that carried immunity to allergy and cancer was made in fresh healthy animal tissue; and the heart and brain yielded them. Some of the results were published in the New York Medical Record, October 1920. With what was learned in part from the foregoing experiences synthetic attempts were made to produce these bodies and the results are outlined as a mere sketch in this monograph.

Pathogenesis And Immunity As Conveyed By Ethylene And Carbonyl Groups In the Cause and Cure of Cancer, Allergy, and Infection

By

WM. F. KOCH, PH. D., M. D.

DETROIT, MICHIGAN. DELRAY, FLORIDA.

Given in substance before members of the staff of Byron Sanitarium, London, Ontario, August 18, 1935; before members of the Staff of the Hartford Connecticut Hospital, December 1, 1935; before members of the staff of Hahneman Hospital, Liverpool, England, February 23, 1937, and before the American College of Proctology, in convention, Chicago, September 21, 1937.

The oxidation mechanism supplies the energy for all vital processes and for every cell function, for cell growth, repair, and for the phenomena of immunity. This same oxidation mechanism burns up the poisons that interfere with cell function and growth and thus it overcomes disease. Indeed, efficient activity of the catalysts of oxidation determines the state of health and immunity, and therefore their supply must be maintained and protected. Since diseases often obtain entrance to the general economy through the intestine, it is important to protect the catalase and peroxidase of the intestinal mucosa from destruction. Sulfides, certain amines, amides, and oximes that might be produced in the colon through bacterial activity in conjunction with faulty diet and constipation are able to destroy these catalysts. The various metals that inactivate these oxidation catalysts, as aluminum and bismuth are known to do, should also be avoided. Thus by guarding the main portals, great advantage can be gained in health maintenance.

However, where disease has already established itself within the body something more specific and active is demanded. The renewal of a vigorous oxidation mechanism including an increase in the activity of the well-known oxidation catalysts is imperative. All of the catalysts concerned with oxidation activities are not known as yet, and the chemistry of very few of them has so far been definitely revealed. It could be recognized nevertheless that these key substances have by necessity certain properties in common, which even so long ago as in 1912, I was able to identify, though at that time the chemical structure of none was known. The conception of allergy and immunity presented here was based on the free valency common to the active groups of them all. So rapidly is confirmatory data being accumulated in our present day that one may now discuss fully the chemical natures of allergy, immunity, and of the oxidation mechanism as we employ them to remove the basis of disease.

THE CHEMICAL NATURE OF CANCER AND ALLERGY

All catalytic activities are photochemic, and therefore depend upon the residual valences of their atomic groups. They can be traced spectro-graphically more or less exactly. The groups important to our subject are the imide group, presenting free valency between carbon and nitrogen, the ethylene group, presenting free valency between carbon atoms, and the Carbonyl group, presenting free valency between carbon and oxygen. The type and structure of the molecule containing these groups determine the particular value and activity of each, whether or not the group serves pathogenically or protectively as a normal physiological activity.

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The imide group, as present in guanidine and its methyl derivatives and in the imidazole ring of histamine, definitely paralyzes oxidations even to the point of tissue disintegration and death. This was beautifully demonstrated after parathyroidectomy. * However, these groups may protect the oxidation mechanism by their presence in certain oxidation co-enzymes, (creatine phosphoric acid) by preventing these co-enzymes from being burned in the oxidations they mediate. The imide group is able to combine directly with catalase and peroxidase, but it is more probable that it extinguishes catalytic activities photo-chemically by resonance induction, a phenomenon described by the French physicist, J. Perrin.** This group must be viewed with suspicion wherever it is found, and it brands a compound as either a toxic quencher of the oxidations or as a protected member of the oxidation system. Its fluorescence should carry much the same importance as will be said of other fluorescent groups.

The ethylene group has quite opposite values in oxidation matters when contained in a short aliphatic chain and in a cyclic molecule of high molecular weight. In the former it may be an energetic activator of the oxidations and in the latter it may serve to inhibit oxidations in three different ways that apply to the production of allergy and the destruction of immunity against infection.

The Carbonyl group likewise carries both possibilities of furtherance or obstruction of the normal oxidation course. In a short aliphatic chain, it may serve as an active catalyst, while in the large aromatic molecules, according to structure and circumstances, it may serve the oxidations through its quinone, hydroquinone transformations. But the quinone group may carry a perpetual allergenic chain reaction using the intermediary products of sugar and fat oxidations to supply energy. It also depresses peroxidations of ethylene groups thus favoring fluorescence.

In order that the groups exhibiting free valency should serve to produce allergies of any and all kinds, they must be contained in molecules of large enough molecular weight to adsorb deeply into the colloidal structures that constitute the physiological units of the cell, for example the contractile fibrillae, the secreting fibrillae, the impulse conducting and generating units, and the reproductive units. When a fluorescent substance is adsorbed into chemically active colloidal structures like the cell functional units, and the fluorescent substance possesses a spectrum emission value equivalent to the absorption ranges of a functional unit, that functional unit will accept energy from the fluorescent substance, and this energy will activate the chemical processes of the acceptor functional unit and force its functional activity. Now it happens that fluorescent substances can absorb energy from exothermic reactions going on in the medium where they are contained; they thus become a new system, but only momentarily, for they give up this energy at their own emission range and return to their normal state. In so doing they either emit the energy they adsorbed as radiation or they pass it on to the acceptor into which they are adsorbed, and this energy activates the chemical processes and function of each acceptor unit. Thus the mechanism of forcing a function constantly and beyond physiological control comes about. Ethylene groups so behaving can be photo chemically quenched temporarily more or less imperfectly by the imide group in an appropriate molecule, and so certain guanidine compounds have served us quite imperfectly in the past, and histidine shows a similar partial activity. Potassium iodide has a similar value and large dosage of this salt has given valuable aid in the treatment of the allergies for many years even though the mechanism was not properly interpreted. It is our opinion, that these salts overcome allergy temporarily by quenching fluorescence because of the relatively great deformability of their valency electrons.

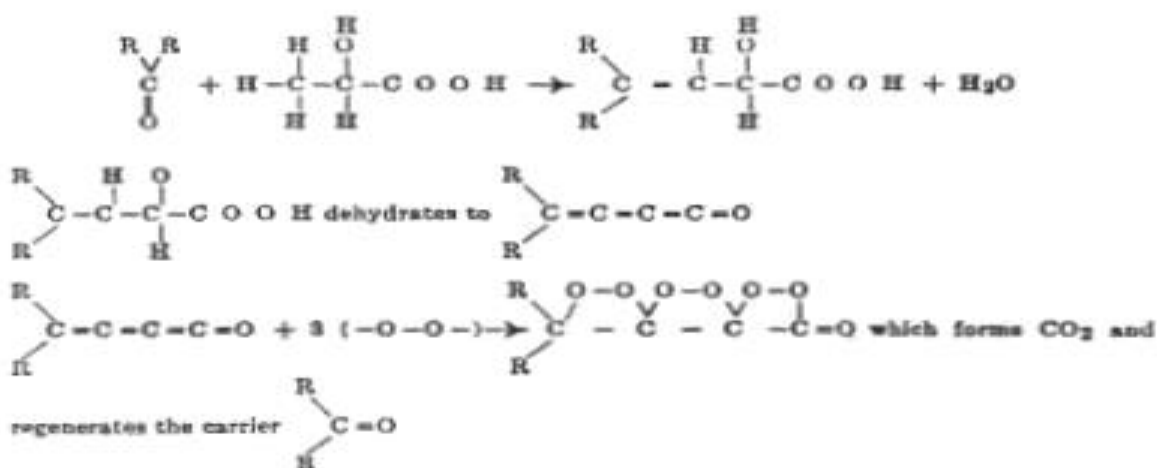
*Koch, Wm. F., *JOURNAL of Biological Chemistry*, Vol. 12. p. 313, (1912), Vol. 15, pp. 43-61 (1913).

**Perrin, J., and Chourcroun, *Compt. Rend.*, Vol. 183, p. 329 (1926).

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The specificity of the allergenic substance depends, therefore, upon the similarity of the absorption spectra of the functional mechanism to the emission spectra of the adsorbed fluorescent substance. By taking up the energy of glycolysis going on in the cell it infests, and passing it to a particular functional unit, it can produce any allergy from asthma to neoplasia, neuritis, or the fixed ideas of insanity, involving passage of continuous impulses over a chain of neurons associated in some concept. Thus free valency in a molecule of difficult oxidation may not only produce an uncontrollable functional response, but it thereby also interrupts the normal progress in the oxidation of sugars, and thus it lowers the immunity against infection. So its pathogenesis is twofold, and this is our usual clinical experience.

The quinone group may carry a chain reaction with such substances as lactic acid, ketene, formaldehyde, or other metabolite and produce a continuous evolution of energy within some functional unit to cause allergy and at the same time to misdirect the progress of glycolysis, thus, with RR representing the aromatic residue, —



With the chemical properties and possibilities explained we may now consider the simplest mechanism of allergenesis and carcinogenesis.

The structures of the allergenic substances as I have defined them are repeatedly being confirmed in the synthesis of carcinogenic coal tar bodies, though no definite mode of action has been assigned to them by investigators in this field. Though they may themselves continue the allergy in the different ways outlined, it is more probable that they block the oxidation mechanism first by becoming stable peroxides which induce polymerization of structures of similar types offering free valency like the cholesterol derivatives as well as polymerization of intermediaries in fat and sugar oxidation with free valences here pictured, and of the catalysts that mediate the oxidation process. Thus accumulations of materials that resist oxidation are produced and at the same time the carriers and substrates of the process are removed, so that the oxidation mechanism is blocked. The polymerized bodies of large molecular weight possessing free valency may then produce allergy through fluorescence or through quinone carrier activity as described above. Important in this connection is the opportunity to produce polymers of various porphyrins as present in catalase, peroxidase, and various oxygen carriers, and the hydrogen acceptors of the cell. Thus the oxidation catalysts are inactivated and allergenic pyrrol derivatives might be formed. Certain bacteria in the intestine appear to have this power too, and, therefore, a meat diet should be avoided by allergic patients. The peroxides of cholesterol derivatives, producible by ultraviolet light and X-rays, and the peroxides of coal tar and benzene derivatives of the industries are the chief offenders. One has observed that the peroxides of cholesterol derivatives are produced by the sun's ultraviolet rays acting upon the skin and upon the pollen of plants. They can only be produced directly and become active in a

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tissue where a depleted oxidation mechanism proves insufficient to destroy them. The radiations of necrobiosis in cancer cells, convertible into mitogenetic rays by fluorescent substances of appropriate structure must be considered too. It is also important to look upon the aging of the race, the aging of the individual, and the necrobiosis in cancer cells as much the same change, for in each the energy potential of oxidation is less and less so that it more and more favors the production of stable peroxides of large difficulty burned molecules like cholesterol. The more malignant the cancer cell, the more do these facts hold true in my experience. The stable peroxides tend to catalyze the polymerization of bodies of free valency as mentioned above, and hence the tendency toward the accumulation of un-oxidized materials corresponding to the accumulation of more and more complex terpenes in plants as their age advances. This behavior appears to be attained par excellence in the cancer cell, and should it ever learn the means of surviving, it should constitute a new protective gland of internal secretion from which the whole organism must benefit. That such a means of pathogenesis is actually the case appears to be verified by the use of our treatment, which is given to shatter the polymers and to catalyze the burning of the stable peroxides beyond harmfulness and also to burn the accumulated un-oxidized material. Fevers develop after the treatment in patients in whom these things are burned and the greater the degree of malignancy, time greater is the fever. Fevers also develop sometimes in lesser degree when the fatty deposits that hold lime salts in sclerotic lesions of vessel walls and nerves or other tissues, consequent to old age syphilis and the like, are being burned. Thus the mechanism of undoing the mischief supports our contentions, and these matters are brought forth not for the pleasure of theorizing but to leave no possible measure of pathogenesis unattended to and to demonstrate that the measures we employ to cure these things are absolutely fundamental and complete in their action.

So, consequently, the problem of prevention and cure is one of restoration of a vigorous oxidation catalysis to completely burn the allergenic stable peroxides, the polymers, and the other products of deficient oxidation. For this purpose we use the structures we believe to be active in aerobic glycolysis. They comprise certain unsaturated cyclic structures, and a group of ketenes and oxyketenes of the general formulae $R = C = C = O$ and $R = C = C = C = O$. The R may represent two hydrogen atoms as in the case of ketene and Lactene or Malonene, as we designate the three-carbon chain, or the R may represent an oxygen atom as in the case of Glyoxylide and Malonide, the internal anhydrides of glyoxylic and malonic acids respectively. The peroxides of formaldehyde are also used. The polymers of these bodies, which are always present, play an important role as will be seen immediately.

CHEMICAL MECHANISMS OF RECOVERY

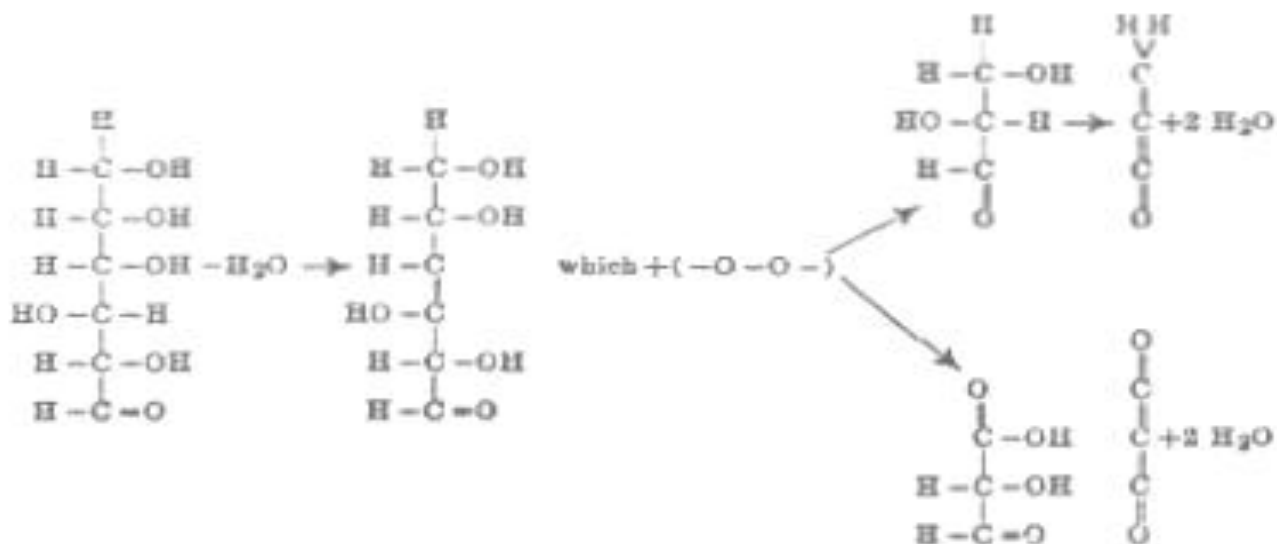
The peroxide of formaldehyde serves in two ways. It yields by internal oxidation a molecule of water besides a free Carbonyl group which uniting with a similar group temporarily exists as Glyoxylide, ($O=C=C=O$). The electronic migrations concerned in this internal oxidation constitute a catalytic act of great vigor similar to what I believe peroxidase performs, and which induces the rupture of the peroxide group in the stable peroxides of the polymerizing type. The Glyoxylide structure, however, has a greater significance, which holds to a less extent for Malonide. They both have the power of taking up peroxide oxygen and combusting completely to carbon dioxide. The electronic migrations involved are both a heterorrhopsis and an isorrhopsis, which constitute all that is needed according to my view to accomplish complete oxidation catalysis for the burning of the allergenic toxins. Malonide is the clumsier and, therefore, much less active than the Glyoxylide that is so unstable that its isolation is as yet impossible. However, it can be held in a favorable state for a practical time to serve therapeutic uses.

Glyoxylide, Malonide, ketene, lactene, and formaldehyde can conduct chain reactions also that may serve the oxidation mechanism and aid in the destruction of allergenic agents. Though aerobic glycolysis remains unsolved, these substances cannot be excluded from the process both because their structure

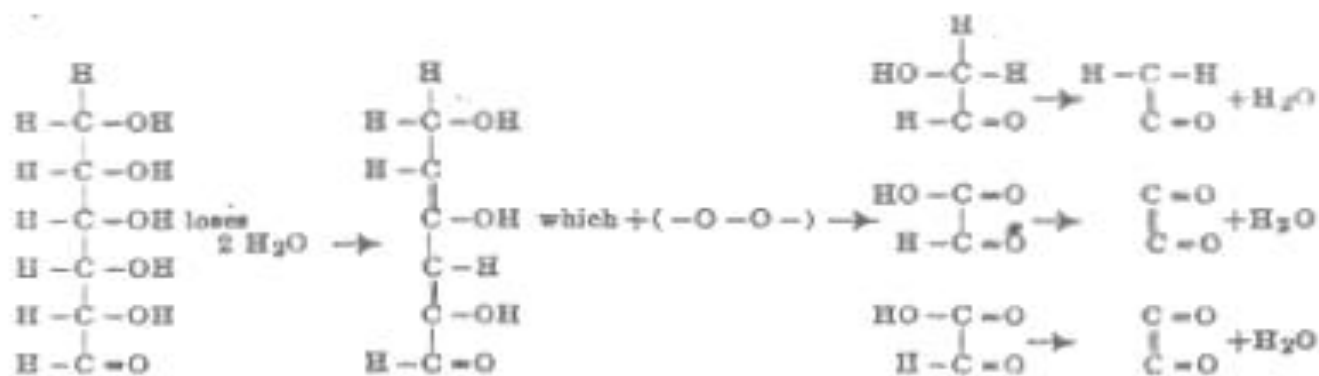
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shares the instability of the normal agents and because they are able to step up the oxidations of sugar and fats and prevent 'acidosis.' The reactions pictured here are explanatory.

Hexose phosphate is converted to glyceric aldehyde and the aldehyde of glyceric acid, which yield lactene and Malonide, thus:



Hexose is converted to ketene and glyoxylyde, thus:

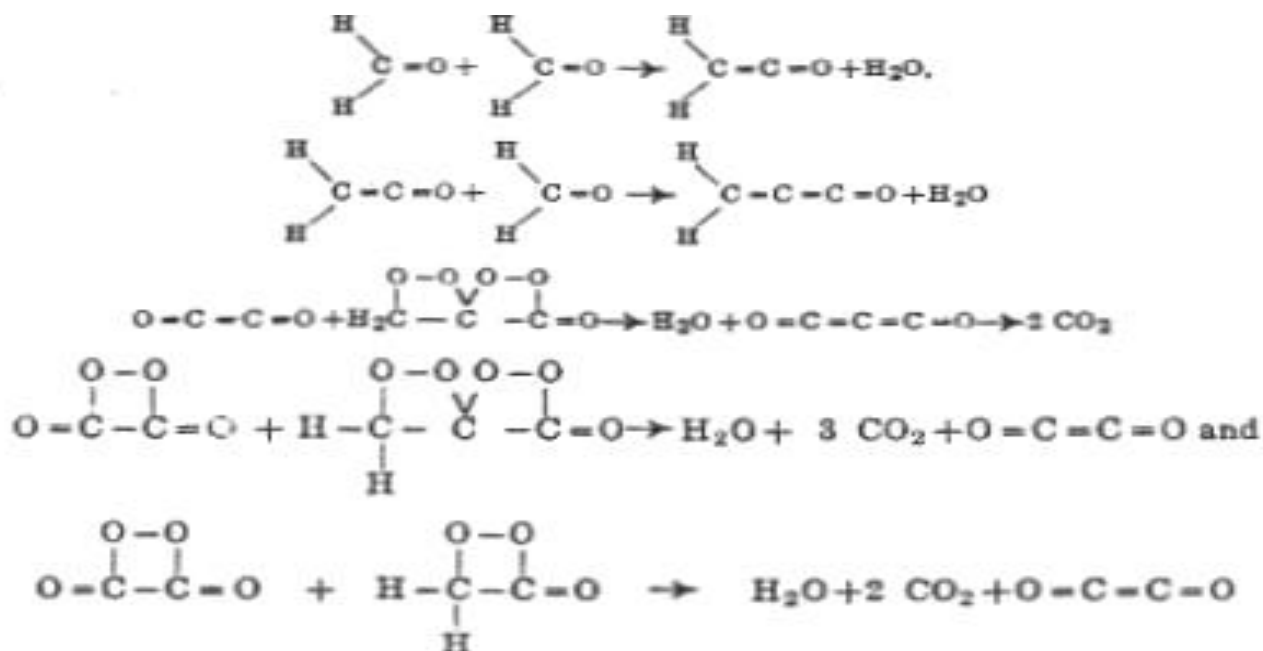


The four dehydrated ketones thus produced serve with formaldehyde, produced from ketene and Malonene (Lactene), as carriers of the chain reactions of aerobic oxidations and in the condensations that yield sugar and, ultimately, glycogen, as glycogen from lactic acid.

THE REACTIONS OF FORMALDEHYDE

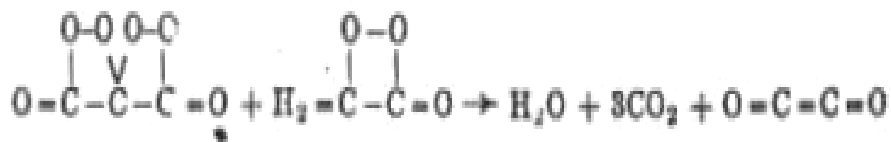
Formaldehyde might be grouped with the ketenes in our scheme of the oxidations in spite of its possession of but one carbon atom. It serves as the carrier of a chain reaction which any of the ketenes may mediate, and it also serves as the starting point for the syntheses of ketene, and lactic acid, and even of hexose and glycogen. This is possible because of the ease of union of two molecules by dehydration that forms double bonds between carbon atoms, able to take up oxygen and burn to formaldehyde and carbon dioxide on the one hand, or, on the other, to take up water as the condensations are made and thus to produce the hydrated molecules mentioned, thus:

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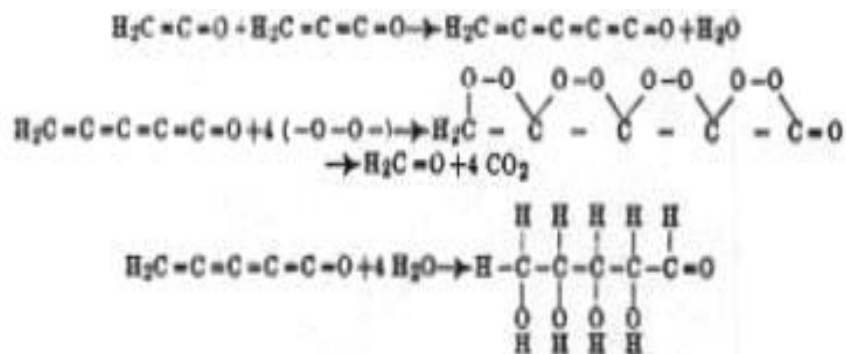
Thus the carrier (O=C=C=O) is regenerated with each cycle and the products are water and carbon dioxide, the reactants being fully burned.

In like manner the internal anhydride of malonic acid (O=C=C=C=O) mediates the same combustion forming the carrier Glyoxylide and the same resultants, carbon dioxide and water.



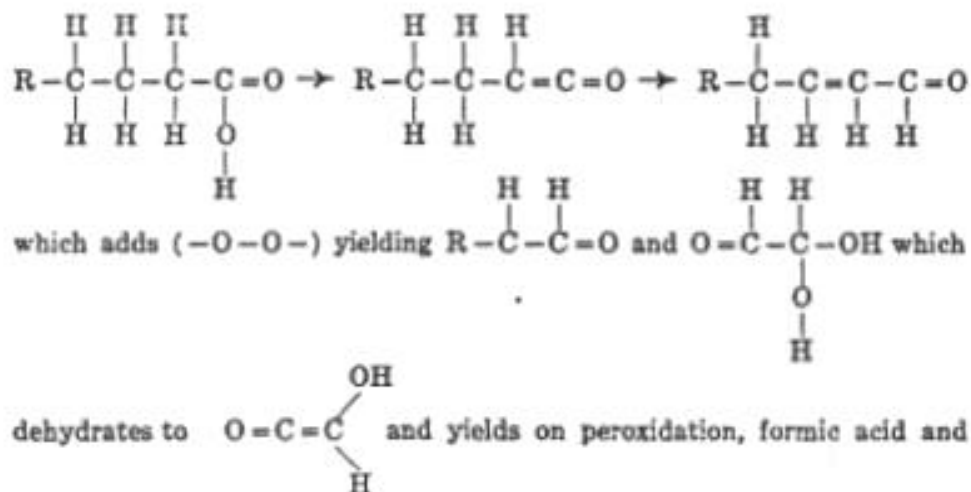
By following the above types of reactions, Glyoxylide or Malonide may mediate the combustion of such fatty acid as acetoacetic acid and thus remove the acidosis of diabetes. This has been accomplished practically.

Ketene or Lactene, by condensing with lactic acid either before or after dehydration and peroxidation, leads to the production of formaldehyde, water, and carbon dioxide. The dehydrated product of condensation, on the other hand, may add water to become a pentose or hexose.



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Thus energy may be yielded or utilized by the by the unsaturated carbon chains by oxidation or hydration, and carbon dioxide or sugar produced. The formaldehyde or ketene formed in the first reaction may also be burned or carry another cycle as the conditions determine. Fatty acid may dehydrate and then undergo hydrogen shift, yielding double bonds between the alpha and beta carbon atoms, which may add peroxide oxygen and split off a two carbon atom chain glyoxal, leaving the long chain with a Carbonyl group at which oxidation commences the same series of events.



Thus the chemical basis for oxidation of fats is provided by this system.

The procedure outlined gains probability because the intermediaries in aerobic glycolysis have never been isolated and thus must share instability of the order of the substances belonging to the scheme here presented. Hence the peroxides have not been found, even though active peroxidase is well distributed in the tissues. Furthermore, oxidations of the substances here described are depressible by such substances as the quinones and aromatic dihydroxy compounds. Exactly such anti-oxidation influence is produced by the aromatic carcinogenic bodies, both in the body and experimentally in pure chemistry. The experiments leading to this conclusion will be published with others as a group. The production of a prolonged sensory allergy by means of dermal application of halogen derivatives of the caffeic acid, aesculin coumarin series of substances, and the production of cold light by means of fluorescent materials in the presence of chemical reactions yielding exothermic energy, helped direct our line of research at its beginning. The production of allergy, and the maintenance, destruction and restoration of immunity required study, therefore, from the standpoint of photochemistry for their common solution.

The importance of the Carbonyl group in determining the necessary events requisite to the aerobic oxidation of fats and sugars as I see them are principally to favor hydrogen shift where three carbons and an ethylene group are concerned, and its tendency to favor divalency between the carbon atoms in alpha and beta position to it in fatty acid and sugar molecules in the presence of iodine. The free valencies add peroxide oxygen and cleavage takes place. Thus the place of iodine in the thyroid function is intimately explained for the first time and the reason for the rapid burning of fats and sugars through its excessive activity is comprehensible.

Our observations demonstrate that in the Warburg Chamber these agents increase the rate of oxidations of living tissues as much as thirty percent in two hours, and they step up the blood catalase and peroxidase activity enormously in gasometric and colorimetric experiments.

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Polymers of Glyoxylide, Malonide, and the peroxide of formaldehyde, (dangerous) and the various ketenes, present possibility of resolution, not only by destructive distillation but also by high dilution. Further, such solutions are able to shatter the polymers of metabolites produced by the stable peroxides of cholesterol and other allergenic substances. Thus the inactivated metabolites are returned to work and the normal oxidation mechanism is again set going. In the high dilutions, both the polymers and the simple molecules are present in an equilibrium which is controlled by the extent of the dilution, and so the higher one carries the dilution, within limit, the more efficient the solution becomes. Dilutions up to $10 \times 10^{(30)}$ have proven efficient in my experience within the tissues. The restored and resolved monomers become peroxides that are able to catalyze the combustion of the stable allergenic peroxides and other abnormal products.

The catalysts we employ in the treatment of disease are prepared from hexose phosphoric acid compounds and the sulphonic acid derivatives of ethyl ether, acetaldehyde, and the peroxide of formaldehyde. They contain both the polymers and the monomers of the agents discussed above and their intermediary phosphates and sulfonates.

CLINICAL ASPECTS OF CANCER AND ALLERGY

In order to determine if the normal cell contained protective and hence curative substances I made extracts of the most resistant tissues of the body, the heart and brain. In the cephalin fraction, more than in the lecithin fraction, active substances were present which after intramuscular injection in dilute solution, brought about a coagulation, calcification, and digestion of the cancer tissue. * The recoveries followed the same cyclic course with reactions of chills and fever that we obtain by the use of the synthetic catalysts described here. Likewise, the coagulation and digestion of the cancer cells is similar and we, therefore, called them Tissue Thrombin. Maisin has likewise produced growth inhibitory and curative results with tissue products, and more recently others have repeated these results.**

*Koch, *New York Medical Record*, Oct. 1920.

**Maisin J. Vasilliadis, H., et Picard, *Bulletin De L'Association Francaise Pour L' Etude Du Cancer*, IXXXI No. 4, Avril, 1932.

Only a crippled oxidation mechanism is required to permit the entrance, development, and activity of the poisons at the bottom of allergy; and this suppression of oxidation can come about in part by hereditary gene deficiency. But the common catalase destroyers like aluminum, bismuth, hydrogen sulphide, tannin, toxic amides, and other nitrogenous materials originating in a putrid colon and in focal infections, and also the exhaustion of catalase by fatigue and exposure play their part here just as they do in the preparation of the patient for such acute infections as pneumonia and infantile paralysis. In all of the allergies including cancer, the toxic agent is a product of comparatively anaerobic activity, be it produced in a plant, a germ, a spirochete, some virus, or from some metabolite in the body.

The toxic activity may be multiple and persist for years producing various allergic symptoms and tissue changes before an appropriate molecule has absorbed deeply enough into so primitive a structure as the reproductive mechanism to facilitate its acceptor behavior. Thus we often see years of allergic headaches, neuritis, gastric ulcer, psoriasis, arthritis, and the like, before a cancer growth comes. *** Strangely enough when the growth gets well under way the pre-growth symptoms are lessened in intensity or may disappear altogether, and the growth evidently serves as a detoxicating mechanism so far as these symptoms are concerned. But it, of course, produces other poisons incidental to its lost oxidation capacity, because it permits support to so many toxic organisms. This protective function is secondary to the

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allergic cell divisions for with increase in the amount of colloidal cell substance; adsorption capacity is increased favoring detoxification of the rest of the body. This factor is also facilitated by the deficiency in divalent cations and a lipid in water phase of the cancer cell contents, whereby materials gain more ready entrance to the cancer cell than to normal cells. What the cancer cell attempts in part, therefore, is to protect the body, and come back to normal by diluting its contained toxins through multiplication.

***Koch, Cancer And Its Allied Diseases, First Edition, p. 52, (1929).

Malignancy is profoundly cyclic in its expressions. Psoriasis, epilepsy, insanity, and asthma are among the other allergies that share this quality most noticeably. Both in the pre-growth stages and in the development and progress of the neoplasm this rhythmicity may be very evident. Thus a visible cancer may come and go more or less completely before it comes to stay. In other words every malignancy probably shows at its beginning one or more partial spontaneous recoveries. But after it is once established it is there to stay and progress, unless the deficiency at its basis is made good. Reasonably enough, there is no greater difficulty in doing this late in the disease than early. However, the injuries to the general economy and to the areas affected will determine the time and effort required for full return to normalcy.

The periodicity of the aggravations may be scarcely perceptible or it may be very marked, as in the case of malignant glioma of the eye in a baby girl of two and a half years of age. This child developed a marked aggravation of all symptoms plus rapid growth increase in the tumors starting promptly the first day of the last quarter of the moon and lasting through the week. This was the mother's usual menstrual period. During the other three-quarters of the moon the condition would remain comparatively quiescent with only slight if any progress of the disease above what happened during the unfavorable period. Taking advantage of this periodicity, one should if possible give the injection of oxidation catalysts during this phase and preferably on the first day of aggravation.

The recovery process exhibits its own rhythmicity too. Starting twenty-four hours after the injection, or sometimes a few hours earlier, or more often at the middle of the fourth day, a reaction of chills and fever and general achiness is observed. This response may not take place till the seventh or tenth day or during the third week. Such reactions generally repeat every three weeks, and more particularly at the ninth and twelfth weeks or the twenty-fourth, thirty-sixth, forty-eighth or sixtieth week, or some later period which is a multiple of three weeks or of twelve weeks from the injection. After a good definite reaction, improvement is expected, but several times I have seen severe cases recover without showing reaction, until after the recovery from the malignancy was fully established and then take place at the seventy-second week. Sometimes a recovery process will go on slowly for four years before it is completed.****

****Koch, Cancer And Its Allied Diseases, First Edition, p. 151, (1929).

The reaction fevers are to be attributed to the oxidation of materials absorbed from the growth as it undergoes digestion. But it is also to be attributed to the burning of accumulated polymerized fat and sugar products and other bodies that should have been burned up were the oxidation mechanism sufficient and unencumbered. Thus we see a step up in the oxidation efficiency with periodic accelerations at definite intervals, the smallest unit of which is generally three and a half days, or a fraction as short as twelve hours, that is, one seventh of the three and a half day cycle. The increase in the oxidation capacity of tissues in the Warburg Chamber and the marked activation of catalase by minute doses of our catalysts is like-wise diphasic. The phenomenon possesses the requisites to be self-perpetuating therefore, and the clinical evidence supports this observation.

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During the recovery the destroyed tissues are replaced with normal tissue elements, and not with scar tissue, because there is no infection present to call for a scar tissue capsule, and in other parts of the body where scars had been present for many years following infection, such scars are absorbed and the deformity corrected in a major way. It makes no difference whether the destroyed part is a bone, the recto-vaginal wall, the uterus, the breast, the larynx, or the tongue, and even perhaps the retina and brain. We have seen them all undergo full repair to normal structure where visible, and with return of normal function.

A few cases will illustrate.

CANCER OF UTERUS

Patient- Mrs. T. —Age 31.

Squamous cell carcinoma of cervix uteri. Biopsy confirmed by three different pathologists. Report reads: "Sections show an atypical pro-liferation of squamous epithelial cells which have markedly infiltrated the underlying tissues. Diagnosis—Squamous cell carcinoma (Epithelioma)." Surgically inoperable, invading body of uterus and adnexia. Severe hemor-rhages and pain, cachexia, no children, one miscarriage. Treated with two doses of Glyoxylide solution, one cc. each, two weeks apart, August 1923, Recovery followed with complete restoration of uterus in one year. Four healthy children born since. Perfect health remains.

GOITRE AND CANCER OF THE RECTUM

Patient- Mrs. S. —Age 35, normal weight 152 pounds.

Family History—Father had sarcoma of right knee.

Past History—Tonsillitis periodically for years.

Pre-growth Symptoms and Status of patient—An enlarged thyroid gland for past six years, that increased in size with onset of rectal trouble, some dizziness throughout this period, with short blind spells, which let up during the last year. She had suffered with piles for years, was operated for them nine years ago and again three years ago. Later treated by Dr. M. for a time but, as the trouble got much worse, he referred her to a surgeon, Dr. T., who made a diagnosis of cancer and refused to operate. This was in November 1922. She applied to us for treatment December 15, 1922. She had suffered severely for several months, with pain in the back and down the legs, bleeding from rectum and vagina, great difficulty of bowel move-ment, and finally the passage of all fecal matter through the vagina, plus a discharge of blood and pus. Weight on admission 126 pounds, anemic and weak.

On examination, December 15, 1922, it was impossible to explore the bowel through the anus as this was blocked by a mass of cancer. Vaginal examination revealed a hard nodular posterior wall perforated by a recto--vaginal fistula large enough to admit two fingers. The cancer mass extended to and involved the uterus, which likewise was nodular, greatly enlarged, hard and immovable, biopsy confirmed diagnosis, Adenocarcinoma of rectum.

The ketenes were given. Recovery was complete in five months, nearly all feces passing through the rectum without pain. Within nine months, the recto-vaginal fistula was completely healed by replacement

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with normal tissue, all signs and symptoms of cancer and the thyroid enlargement had completely disappeared. Her weight returned to normal and perfect health remains reestablished.

CANCER OF LARYNX

Patient- Mr. C. F. —Age 48. Salesman. History taken November 26, 1923.

Diagnosis—By history, physical examination and microscopic findings pre-growth.

Symptoms—Marked dizziness for about ten years.

Family History—Nothing definite relative to malignancy.

Past History—Well all his life. Usual weight about 205 pounds until three years ago when he had a “nervous breakdown.”

Present Illness—Started with hoarseness, in May 1923, which persisted and increased to aphonia by the end of November. In the meantime he was examined by at least four throat specialists who diagnosed the condition clinically to be cancer of the larynx. A specimen was removed on November 2, 1923, which microscopically proved to be squamous cell carcinoma.

Physical Examination—The left side of the larynx was one mass of cauliflower tumefaction that obscured the natural structural characteristics. The lesion spread posteriorly over the midline and anteriorly to involve the epiglottis. Extensions were visible and palpable on both sides of the neck, mostly on the left side along the anterior border of the S.C.M. muscle, which was somewhat, displaced by the glandular enlargement. The meta-stases numbered four, varying in size from a bean to a walnut. There was difficulty in breathing and in swallowing, and aphonia.

Treatment—One cc. of Glyoxylyde solution was given on November 29, 1923.

Results—There was some fever in twenty-four hours after the treatment and general achiness. After this subsided the patient improved in several respects. Within twelve weeks recovery was complete, so far as function was concerned. He could speak and swallow normally and had regained his strength and a weight of 225 pounds, but there was some redness and asymmetry within the larynx which did not entirely come to absolute normalcy until about the sixtieth week after the treatment. He remained in excellent health until 1933 when he had moved to Chicago. A finger was amputated, but he was otherwise well, he stated. Since then no report, has been received from him.

CANCER OF LARYNX

Patient- Mr. M. —Age 58.

Treated once, November 1928. Diagnosis confirmed microscopically by two different pathologists. “Squamous cell carcinoma of larynx showing many epithelial pearls.” Involvement vocal cords and cervical glands extensively. Voice and breathing impaired. Recovery complete within six months with complete reconstruction of vocal cords and restoration of voice. Remains well. The peroxide of formaldehyde was used in this case.

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MALIGNANT GLIOMA OF BRAIN

Patient- Mrs. R. — Age 35.

Treated July 1922. One dose Glyoxylide. Paralysis of right arm and leg; hemeralopia. Trephine four inches in diameter through which bulged hard mass size of large orange. Cachexia extreme, projectile vomiting. Progressively getting worse since onset of disease in summer of 1921. Large liver metastasis and metastasis to spine. One dose Glyoxylide was followed by steady recovery. Masses and symptoms no longer present in November 1922. Weight 200 pounds and perfectly restored. No recurrence of trouble to date. Complete bone replacement took place at trephine within two years.

MALIGNANT GLIOMA OF THE EYE

Patient- Baby R. L.—Age three years and six months.

First observed by me November 21, 1935, Right eye was removed May 1933, for rapidly developing glioma. In November 1935, the other eye was found to be similarly affected. Surgeon advised that its removal would be useless and patient was referred for a dose of Glyoxylide. At this time pains were a prominent feature, eye was red, pupil dilated and apparently par-alyzed. Visual field was diminished by one-quarter its area, and the neoplasm was visible as a mass about the size of a bean. Malonide was given November 25, 1935, and August 18, 1936. Recovery was completed within a year. During the reactions mild muscle twitching in the legs took place at the twelfth to the twenty-fourth week period. This we interpret as evi-dence of reaction in multiple gliomata distributed in parts of the central nervous system. The results are a return to normalcy of the eye in every respect, and a very good condition of her health in general.

CANCER OF TESTIS

Patient- Mr. T. — Age 38.

Medullary carcinoma of testis, recurrent after two operative attempts at removal. Biopsies done at these operations confirmed diagnosis each time. The last biopsy report reads: "Carcinoma probably secondary to previous carcinoma of testis as the cells were histologically similar." Recurrences involved scrotum, abdominal wall and structures of lower abdomen. Patient weak, cachetic. Treated once, June 10, 1925. Recovery complete in six months and has remained well ever since. Is very hardy and strong after recovery in contrast to general muscular weakness in previous part of his life.

CANCER OF RECTUM

Patient- Mr. M. — Age 44.

Terminal case of Adenocarcinoma of rectum. Biopsy before surgery and radiation reads: "Polyploid Adenocarcinoma. It is of course impossible to state how deeply this is infiltrating or how extensive it is."

Biopsy after failure of surgery and irradiation reports:

"The specimen represents a fungoid type of growth which is soft in consistency. Two sections are saved.

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“The tissue in all parts of the field examined exhibits an actual diminution of the supporting tissue and an increase of the epithelial structures. The gland epithelium, as well as the gland morphology, are abnormal; a marked productive change has occurred. The new growth material is distinctly anaplastic and differentiation is not good for rectal tissue. The stroma is infiltrated with small round cells, the tissue resistance is poor and the growth activity is marked: “Adenocarcinoma of the rectum, Active.”

When treated with Glyoxylide, October 1922, patient was practically bedfast, very cachetic, and edematous generally. Blood picture twenty per cent of normal, Recto-vesicular fistula. Feces pass through penis. Considerable bowel obstruction. Putrid drainage, bleeding. Incontinence, massive metastases in abdomen and liver. Two treatments of Glyoxylide at two-weeks interval resulted in complete recovery. In very good health in one year and remains in very good health today.

CANCER OF STOMACH

Patient- Mr. R. —Age 69,

Treated once, August 1926. Medullary carcinoma of stomach. After gastroenterostomy, to relieve pyloric obstruction, the neoplasms spread extensively, completely closing the new opening. Diagnosis confirmed by biopsy.

Biopsy reports:

“Microscopic Examination: Small alveoli combined with a diffuse growth of atypical proliferating epithelium form the structural picture of this neoplasm. The epithelial cells are generally polyhedral or round in shape, with large hyperchromatic nuclei. One portion is necrotic—a superficial ulceration. This may be classified as the diffuse type of gastric carcinoma. I am unable to determine this point exactly as it is necessary to know something of the gross appearance. If there were extensive involvement of the wall, this would be the correct interpretation. If the growth were sharply defined, rounded and ulcerating, it would be placed with the circumscribed types of carcinoma simplex.

“This type is always infiltrating and early invades the lymph nodes with widespread metastases.

“Diagnosis: Carcinoma of the stomach. (Type dependent upon the gross pathological anatomy.)”

Bulging mass fist size when treated with one cc. Glyoxylide solution August 1926. Recovery complete in six months. Natural opening at pylorus now functioning, but gastroenterostomy healed shut. Remains well and vigorous.

TOXIC GOITER AND CANCER

Patient- Mrs. W. —Age 59.

Heredity—She could not trace cancer in her ancestors but exact knowledge was lacking. Her husband died of cancer of the stomach eight years previously, a fact that might have a significance. Her daughter, age 28, developed a brain tumor some years after an accident and was cured by the Glyoxylide. Her home is in the goiter belt of Ohio. In this location she both developed and recovered from the disease.

Present Illness: She had been nervous and had a rapid pulse for several years before consulting a physician. X-ray pictures of the chest in 1927 showed heart enlargement. The pulse was exceptionally rapid and her fingers trembled and her eyes bulged. The exophthalmus was not always equal in both eyes

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and sometimes the right eye protruded much more than the left and would turn downward. She became short of breath, the veins in the head enlarged and engorged with blood, this condition being worse when she was lying down. The skin became bronze color and tumors developed in the abdomen. She lost from 150 to 108 pounds in weight, in spite of a gradually developing dropsy of the feet and legs that extended up above the knees at the time of her visit to my clinic.

Examination—Her chief complaint was a distress in the liver and stomach region, and our examination revealed a large mass in the epigastrium the size of a big fist and four smaller masses below the umbilicus and one the size of a walnut above the clavicle on the left side. The presence of a large tumor in the mediastinum was suggested by the difficulty in the return of blood to the heart from the head region. Marked exophthalmus tachy-cardia and tremor.

Treatment—One cc. of Glyoxylide solution was given September 28, 1929.

Results—Reactions of chills and fever followed several times at three-week intervals as she came to complete recovery with disappearance of every abnormal change. Her last examination was made June 18, 1933, and recovery confirmed. She claims she has perfect health, according to a report made a few months ago.

THYROID SUPPRESSION AND CANCER

Patient- Mrs. K. —Age 4-4.

Heredity—Mother and two sisters died suddenly. Father died after three strokes.

Previous Illnesses—Pneumonia at 18 years of age and influenza in 1918.

Pre-growth Symptoms—Began to gain weight rapidly six years ago. A myxedematous condition gradually developed and she was put on thyroid substance, four grains a day. Peculiar spells of loss of control of the muscles, particularly of the arms and hands, gradually developed. Dizziness and susceptibility to pus infections and a general nervousness was present during the last six years.

In March 1929, she noticed a mass in her right side of lower abdomen, which definitely bulged and made it necessary for her to bend over when she walked. She was operated upon and a small growth was removed from the labium, which was diagnosed microscopically to be a squamous cell carcinoma. The mass in the abdomen was not disturbed. Her health continued to fail. There was drainage with bad odor from the uterus. For the last few weeks she was sick in bed with pain in the right side.

Our examination made in April 1931, revealed a large mass that involved the uterus and the surrounding structures, particularly on the right side. Rectal examination revealed that the mass bulged into the cavity of the bowel, almost obstructing it. The tissue was characteristic of squamous cell carcinoma, such as it was found to be microscopically. She was rather weak and anemic. The ketene was given and recovery was gradual, not being completed until May 1933. The cancer growth had completely absorbed and the uterus was normal by March 1932, but the thyroid function did not come to near normal until the spring of 1933. While under treatment, she was not given any thyroid extract and the thyroid gradually improved. There was a slight deficiency remaining, which required about a grain of thyroid extract a week to bring the thyroid action up to par for a few years. Of late the patient has found that this is not required.

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This case illustrates that considerable time is required for any reconstruction of the thyroid gland.

The metastases disappear generally before the primary lesion is absorbed and healed. The last to come is the first to go. This is because there is usually less material and because the growth is more rapid and hence the reverse process, the digestion of the cell, is also more rapid. Recurrent cases recover like primary ones.

CANCER OF BREAST

Patient—Mrs. C. N. —Age 43, Housewife.

History taken September 1926, when Glyoxylide was administered.

Past History—Abscess of right breast following injury in childhood, Rheumatism at 13, Appendectomy in 1914. Gall bladder explored in 1920. Also tonsillectomy. Since 1920, enlargement of finger joints, helped by colchicum.

Present Complaint—A hard mass above the nipple, egg size, first noticed in 1921, as a soft swelling, which recently grew rapidly, large and hard, causing retraction of the nipple. In January 1925, right breast was radically removed with “axillary glands and pectoral muscle, carrying the dissection to the midline over the sternum upward to the clavicle and outward to the latissimus dorsi muscle, and downward including the upper part of the rectus fascia. The pectoralis major and minor were included. The microscopic examination made is reported thus: 1.) Sections from tumor proper show larger and smaller gland alveoli lined with many rows of epithelium or entirely filled by epithelium. These cells are of moderate size and have relatively large deeply staining nucleus and many of them are undergoing mitosis. In addition to these large gland alveoli the fibrous stroma of the breast is infiltrated in all directions by compressed alveoli of the same type of cell. 2.) Sections some distance from the tumor show hypertrophic gland alveoli and also large atypical alveoli like those seen in the tumor proper. 3.) Other areas some distance from the tumor show no invasion, but alveoli containing large clear epithelial cells of the type designated ‘hyperplastic number 2’ by McCarty. 4.) Sections from nipple show no invasion. 5.) Sections from axillary glands show large tumor alveoli in those from the mid-axilla only. Diagnosis: Adenocarcinoma of breast.” She left the hospital, February 12, 1925. The hospital reports their examination made, June 2, 1925, after a series of radiations from February 9, 1925, to May 3, 1925, to show no evidence of recurrence. Likewise in July 1925, no recurrence was noted. However, patient returned to the hospital in September with pains in the right subcostal region, nausea and vomiting. Examinations were reported also in November and December 1925, and no recurrence mentioned except the possibility of liver involvement. In late 1926, the right arm began to swell, which her surgeons account for as due to lymphatic obstruction.

Examination—On applying to me in September 1926, examination re-vealed a mass above the right clavicle a little larger than an English walnut. In the right axilla two tumors were found, one the size of a hickory nut and one the size of an almond kernel. The operation area showed some malignant induration as three small tumefactions in the line of suture. The liver was enlarged by three finger widths below the right ribs as a definite hard mass attached to the liver. She was somewhat icteric in color. Very thin and toxic.

Treatment—One cc. Glyoxylide was given September 21, 1926. There was some definite reaction of grippiness, slight chills and fever several days later and during the third week. The metastases absorbed

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completely before the end of the twelfth week. The large one above the clavicle disappearing first of all, namely, during the fourth week. In the meantime, the gastric symptoms also cleared up and the liver involvement was no longer detectable after the sixth week. Her health improved steadily and her weight increased from about 87 to 103 pounds. Examination made in February 1937, ten years after treatment, shows no involvement by cancer whatever and general good health.

Discussion—This case of very malignant cancer of the breast that recurred vigorously during the year following operation of the most radical sort, and deep X-ray therapy, made a prompt complete recovery on the Glyoxylide even though the recurrences were so widespread as to involve the liver as well as the glands and tissues of the operation area and above the clavicle.

The type of neoplasm may determine the rate of recovery. The fast growing types disappear more rapidly.

LYMPHOSARCOMA

Patient- Mrs. A. G. — Age 40.

Family History—Mother died of cancer of the uterus at age of 62.

Past History—Appendectomy at 35. Had small lump back of neck size of pea from childhood.

Present Illness—Eight weeks ago lump began to increase to hickory nut size very rapidly and after five weeks had it removed surgically. Microscopic study revealed it to be “lymphoblastoma of lymphosarcoma type” as reported by pathologist of good standing. Rapid recurrence took place so that in three weeks the operated area became a tumefaction somewhat reddened and occupying the middle third of the Sterno-C-Mastoid muscle about an inch in diameter. Area below contained several masses the size of a pea and hard. There was rather rapidly developing toxicity and failure in general health. Loss of weight from 108 to 101 pounds in last few weeks.

Treatment of one dose of Glyoxylide was given on May 19, 1937, and recovery took place rapidly. In three weeks all tumors were completely absorbed and the weight gained to 102 1/2 pounds. Inspection, August 31, 1937, confirmed the recovery. Rapid recoveries take place in cases where the growth develops rapidly and where the patient is not overwhelmed with the disease, very uniformly, as this case illustrates.

MALIGNANT CHANGE IN MYOFIBROMA OF UTERUS

Patient- Miss G. —Age 45. History taken December 2, 1930.

Diagnosis—Malignant change in large fibromyeloma of uterus.

Present Illness—She had suffered with backache for a number of years and three years ago felt the presence of a tumor in the lower abdomen.. It grew larger, especially after the menopause two years ago, when with a spurt of speed it began to bulge even above the umbilicus. Glyoxylide was given on December 2, 1930, May 16, 1931, and May 9, 1932.

Results—Recovery was complete before the end of 1932. At that time no more of the mass could be palpated by most thorough examination. The first few months brought the greatest change in the size of the growth. The material that underwent most rapid digestion and absorption we consider to have been the tissue of malignant character, and the slower portion to leave was no doubt the original fibroid material. After the majority of the growth, the malignant part, had disappeared, she had a return of pre-growth

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symptoms, iritis and photophobia for a week, that was very troublesome but did not prevent her from attending to her work. Since that time her vision has improved and her hearing is definitely better. She is in perfect health.

This case demonstrates the common basis for non-malignant and malignant neoplastic development and the removal of the essential pathology by a single agent.

Slow recovery follows slow development of the disease.

RECURRENT CARCINOMA OF THE BREAST

Patient- Mrs. S. - Age 51. Sister died of cancer of the breast. Present illness started when seventeen years of age as a tumor in the anterior axillary border of lower right axilla. In January 1927, she noticed it beginning to enlarge. It was removed by very radical operation in November 1927. After about six months, recurrences were observed and in September 1929, when I examined her, there were widespread and well-developed masses present over the operation area, in the axilla and above the clavicle. The largest were about the size of a hen's egg in the axilla. There was swelling of the arm and considerable pain. Moreover, the right knee pained and made walking difficult. Radiographs showed metastasis to the lower end of the femur. Malonide solution was given then and recovery was slow and steady, being completed in thirty-six weeks. Reports in 1936 were the last received and indicated perfect health.

True recovery is permanent.

CANCER OF STOMACH WITH COMPLETE PYLORIC OBSTRUCTION

Patient- Mrs. P. —Age 61, at time of treatment in November 1919. At this time, she had lost from 180 to 110 pounds in about four months, during which severe abdominal pain, anorexia, and vomiting with rapidly developing cachexia were present. The blood hemoglobin was 60%. Examination revealed a long operation scar recently made, and a bulging mass as large as a cabbage filling the upper abdomen, also a mass above the left clavicle, and a smaller mass lower in the abdomen. The findings of the operating surgeon at exploration are given in his words: "She was taken ill August 1, 1919, with what was diagnosed a gallstone colic. Needed opiates for relief of pain. During the following six weeks had repeated attacks, pain, nausea, jaundice. Was seen by several doctors, all of whom agreed in diagnosis and need of operation. I first saw her in September, in one of these attacks. I found her emaciated and anemic, suffering severely from gall-stone colic, deep jaundice over entire body, itchy skin, clay stools and vomiting bile. Unable to retain any food. Temperature 98.4, pulse 112. Abdomen so tender as to make palpation impossible. I also advised operation and was requested to do so at once. I had her removed to the hospital where she was operated upon the following morning by Dr. A. and myself. To our surprise, we found the liver and gall bladder perfectly normal, no stones, no thickening of the duct walls and so forth. But the lesser curvature of the stomach was one large sausage-shaped tumor, hard in consistency, with some nodules in various spots. So much of the organ was involved and the patient in such a weakened condition, that we were both of the opinion that gastroenterostomy or any modification of such operation would be of no avail. We closed the wound, and about November, first, sent her to you. At this time, (August 8, 1920), she appears to be in splendid health, does her own work and eats everything, and certainly is grateful to you." Following operation she sunk fast, complete pyloric obstruction being present for a number of weeks before treatment.

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She was given three treatments at two-week intervals. Each was a dilute solution of the oxidation catalysts taken from the cephalin fraction of beef heart muscle. In two weeks the pylorus opened. In three months, growth -free. Her case was reported with others in the New York Medical Record, October 1920. She is in fine health still as reported just two days ago. After recovery was complete, she was given a dose of a mixture of Glyoxylide, Malonide and the ketenes, and after a year, a dose of the peroxides of formaldehyde, all as a matter of insurance. Her reactions consisted of chills and fever at the third week and twelfth week after the first dose. She developed fever from the dose of synthetic agents at her twelfth week, and in all respects, the reactions were alike except much milder from the mixture of synthetic agents. The peroxides of formaldehyde showed no response, perhaps, except an improvement in health.

CANCER OF PROSTATE

Patient- Mr. B. —Age 68 at time of receiving treatment

Diagnosis—By history, physical findings and biopsy, cancer of prostate.

Family History—His father and mother both died of apoplexy. One aunt died of cancer of the stomach.

Present Illness—His trouble started in 1922 as pain in the prostate and end of penis. The urinary frequency steadily increased and he became worse in every way until in three or four years he had to pass the urine painfully every hour or so. Pain and wakefulness and the toxic injury made him weak, emaciated and of yellowish complexion. He went to the Battle Creek Sanitarium where complete diagnostic routine with radiography and micro-scopic examination of a specimen proved he had a far advanced cancer of the prostate. They wished to operate but he refused. Six months later he went to the Mayo Clinic where the same diagnosis was made, but they considered the condition entirely inoperable and hopeless and sent him home to die. On his way home he stopped at one of the large clinics in Chicago where the diagnosis was again confirmed, and one of the doctors privately suggested that he come to see us. He left for Detroit the same night and we made our examination the next day, October 24, 1927.

Physical Examination—Rectal examination revealed a hard, somewhat nodular growth that was at least the size of a baby's head occupying the anterior rectal wall, and bulging both towards the sacrum and into the abdomen. It expanded the width of the bowel cavity. The mucous membrane was tight, hard and nodular, being thoroughly infiltrated by the growth. The condition was so well advanced that bladder function was destroyed so far as storage of urine was concerned and complete obstruction of urine threatened. The glands in both groins were involved as walnut-sized masses.

Treatment—Two injections of Ketene solution were given, one in October 1927, and one in June 1928.

TUBERCULOSIS

Patient- Miss A. —Age 16.

Advanced tuberculosis of both lungs. Spontaneous pneumothorax, left chest. Heart shifted to the right side. Massive tuberculosis left kidney. Evident tubercular meningitis. Projectile vomiting every few minutes for three weeks, cyanotic. Fever 105°. Pulse very weak and rapid. Bedfast. Treated one dose of Glyoxylide, July 1922. Recovery took two years. Whole left lung regenerated. No more pathology traceable. Heart restored to left side. Married, has healthy twins who are very resistant to colds. Health is still perfect.

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TUBERCULAR ARTHRITIS AND OSTEOMYELITIS

Patient- Miss S. —Age 20.

Tuberculosis of left knee joint for fourteen years. Three operations between ages of six and twelve to relieve acute flare-up of osteomyelitis in lower half of femur shaft. Distortion of bone progressive with increasing ankylosis and deformity. Motion angle ten degrees. The fourth flare-up took place in July 1934, with swelling and intense pain of the knee joint. Rapidly progressive. Could not walk. Radiographic study revealed irregular structure and contour of lower third of shaft of femur, with defective calcification and bone absorption, clouding of articular surfaces narrowing of joint space, extensive proliferation around periosteal border. One dose of Glyoxylide given July 23, 1934, was followed by rapid decrease in the pain and a steady restoration of joint and bone to normal, functionally and structurally; with perfect use of leg and full motion within nine months. General health has become excellent.

GASTRIC ULCER

Patient- Mr. W. F. —Age 38.

Family History—Negative to cancer.

Past History—Measles and chicken pox in childhood, pneumonia at 20 and again 4 years ago.

Pre-growth Symptoms and Status of Patient—Stomach trouble started as indigestion when 16 years of age, always taking soda. Operated on in 1913 for appendicitis, the appendix found normal; operated on in 1914 by the same surgeon for gastric ulcer; he resected two small ulcers and one large ulcer and made a gastroenterostomy; no relief. The patient kept taking soda continually; the stools were black, had pain and gas, was unable to straighten up for years, the pain extended through the epigastrium to the back. He was careful about diet to date of admission, was very nervous all the time. In the year 1920, his weight dropped from the normal of 155 to 135. On January 8, 1920, he had two severe gastric hemorrhages that left him nearly bloodless and cold. His physician had him well packed in ice but that did not stop the bleeding. Tarry stools were passed for several succeeding days. Our examination on January 12, 1920, revealed a cancer mass in the epigastrium the size of a fist. The ulcer was still bleeding.

Ketenes were given and recovery was complete in four months with disappearance of all stomach trouble and the mass in the abdomen. Chills, a slight fever and achiness for the first six weeks following treatment constituted the reactions in this case. He now weighs 197 pounds and is in the best health he ever experienced; stomach functions perfectly on any diet.

Acute infections may produce allergic necrosis, poliomyelitis and Vincent's infection being good examples.

ANTERIOR POLIOMYELITIS

A boy of two and half years of age was brought to me in September 1931, with both legs in flaccid paralysis. He had taken sick three days before with headache, vomiting and fever, and awakened two days before my observation with both legs paralyzed and quite ill. The mother had been cured of malignancy of the breast by this treatment several years previously and desired the child to have the same treatment that had cured her, no matter what the condition was, and especially since there was nothing definite for the family doctor to do. The reflexes were abolished and there was foot drop, both legs being equally

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affected. Treatment was given and the mother requested to hold the child for an hour. He was then asked to move his legs, which he could do quite well. After another hour he was asked to walk and this he could do for a few steps. Recovery was completed in twenty-four hours.

One other case is that of a boy age 16, six feet, two inches tall, 190 pounds, very strong and muscular, exposed to very cold water and much exertion for six hours nearly to the point of exhaustion. He had been eating plenti-fully of "hot dogs" for the week previously, and might have carried some intestinal poisoning that lowered his general resistance. He took sick with vomiting, headache, fever and general achiness August 20, 1935, in the evening. The next morning the right leg was paralyzed. He tried to be about, nevertheless, until he dropped with a more general paralysis that involved all the muscles of the back, trunk, neck, abdomen, diaphragm, pelvis and left arm and right leg. The left leg was too weak to move but there was no foot drop. The right eye turned outward and the face muscles twitched. He had been crying with pain for two days and nights, pain through the spine and abdomen, in spite of narcotics the local doctor had given him. When I arrived August 25, 1935, respiration and swallowing were about paralyzed and the bladder and intestines were also paralyzed. He had not passed urine for two days at a stretch. There was delirium, cyanosis and the "death" odor. Dr. A. who hurried with me to the bedside gave a prognosis of a few hours to live, unless the treatment would prove helpful. Glyoxylide solution was given and very soon the pain was better and the face twitching ceased. In twenty minutes the abdominal bloat started to subside and the eye straightened out. The cyanosis lessened and respiration improved.

It was necessary to catheterize him every four hours for four weeks before normal function returned. Five treatments were given at two and three-day intervals and recovery progressed rapidly after the fourteenth week. There is no paralysis remaining, but the muscles most affected are still the weaker muscles especially the quadriceps extensor of the right leg. However, it is steadily gaining strength and he is able to walk without defect though climbing stairs is not as good as normal. During the reactions every seventh day there was some cyanosis and rapid pulse for several hours but after the twelfth week from the last treatment the readjustment was complete so they did not occur again. This phenomenon reflects the injury to the vasomotor nerves caused by the infection, and also displays the rhythmic nature of the recovery process.

Both coronary thrombosis, a late sequel of rheumatic infection, and obliterative endarteritis display allergic vascular injuries with hyperplastic response more evident in the latter.

OBLITERATIVE ENDARTERITIS

Patient- Mr. S. K. —Age 50. History taken July 23, 1928.

Diagnosis—Obliterative endarteritis.

Past History—Enjoyed good health until 40 years of age. For last ten years suffered with gastric ulcer, but obtained comparative comfort by careful diet, taking soda and so forth. In the summer of 1927, he found it progressively more and more difficult to walk about when playing golf. Walking caused pain in the feet, and rests became necessary at shorter and shorter intervals. Diagnosis of obliterative endarteritis was made by a number of experts and the blood sugar of 380 was found. He was given insulin treatment but grew worse. He was finally advised of the hopelessness of his case, that he should stay in bed, take such opiate as was necessary submit to the necessary amputations and await the end.

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Present Illness—Our examination made July 23, 1928, disclosed considerable nutritional injury, the yellow waxy color of one suffering rapid blood destruction, but no tumor mass could be found. Although both feet and the right leg were severely involved with the endarteritis no gangrenous decomposition had yet taken place. The toenails, however, appeared dead. There was great pain on motion, but he could get about some.

Treatment—One cc. of the Glyoxylide was given in July 1928.

Results—In a few weeks a rapid improvement took place and he was able to return to work. Within twelve weeks the anemia gave way to a normal blood quota and fine healthy color. During this period the gastric ulcer symptoms completely cleared away and the left foot and leg practically gained normalcy. The solid cord-like vessels became thin, compressible and pulsating and after pressure on the skin the blood came back with normal rapidity, and by the fifteenth week he could walk all day without pain or inconvenience. The toenails regained much of their normal pink color. However, the right foot and leg did not regain true normalcy until after the eighteenth week had passed. With his recovery he acquired the best health he had experienced since he was thirty years old and his urine remained free from sugar. Blood sugar dropped to between 80 and 90 mngs. and remained normal. He indulged in periods of excessive work, and in May 1933, after a prolonged period of exertion he dropped dead from heart failure.

CORONARY OCCLUSION

Patient- Dr. H. G. A. —Age 64. (Courtesy Dr. D. H. Arnott)

A physician had been bothered for a couple of years with pain and stiffness in his shoulder Joints; but one did not recognize the essential rheumatic nature of his disability. While walking December 2, 1936 he was suddenly disturbed with a severe pain in the center of his chest. After resting a short time, this passed away. However, it returned with terrible severity two days later, while he was quiet in his own home. Heavy, hypodermically-administered doses of morphine relieved him, only while the narcotic action rendered him unconscious.

Glyoxylide was used December 8, and this gave him considerable relief in a few hours. Three and a half days later, a second dose was given, following which all pain subsided and has not recurred.

Five weeks after the pain had left him, an electrocardiogram showed evidences of severe coronary damage. Nine weeks later, a second tracing disclosed a practically normal condition. These graphs are reproduced.

The injury to his vitality had been most far-reaching, and the first ten weeks of convalescence were spent in bed, for the most part. But, long before he was able to be around, he was surprised and pleased to find him-self free from his stiff, sore shoulder symptoms.

For a time I had observed his lips were pale or cyanosed when he had become fatigued, but soon after the Glyoxylide was used, this gave place to a normal healthy appearance.

Now, fourteen months since his seizure, he leads a normal, fairly active life, free from any sign of his old coronary symptoms.

First Electrocardiogram taken five weeks after treatment, at a time when pain was fully abolished. It still shows a grave cardiac condition.

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Second Electrocardiogram, taken nine weeks after first, when patient was showing recovery from cardiac pathology.

CORONARY OCCLUSION

Patient- Dr. B. —Age 58.

January 1926, time of treatment with Glyoxylide.

In this case, the coronary thrombosis was complicated with marked arterial and coronary sclerosis. He had been a busy country practitioner until 1917 when angina pectoris pains shut down on his work. They came on exertion or alter eating. Finally, pains were unbearable and he had to stop practice. He could walk a hundred feet very slowly before pains put a halt to the effort. Often, at last, pain was severe without exertion. Electro-cardiogram confirmed the condition of occlusion, and the sclerosis was verified. In January of 1926, I gave him one injection. Recovery was rather steady and I think rapid, for in three months he was again at his practice and in a year was as vigorous as ever, pretty close to normal if not entirely normal and remains so. The systemic blood vessels show no more sclerosis. Up to the present time, in spite of heavy work, he does not seem to have aged noticeably.

It seems that in all allergic lesions, the first pathological change seen microscopically is an endarteritis leading to a hyperplastic response of the intima and surrounding structures. The general effect of the destructive injury is hyperplasia in which the vessels show the greatest responsiveness at first. The chancre is the dominant example, but all other members of the group to which cancer must be added show the quality in characteristically lesser degrees. Whether the necrobiotic rays may be fluoresced into mitogenetic rays and so the hyperplastic response be explained, or whether another mechanism be involved, the poisons that can produce allergic lesions can also injure vascular tissue and the attempt at

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granulation varies from normal more or less. It seems that where arterial sclerosis exists the malignant neoplasms are postponed or inhibited quite perceptibly, and where the inflammatory changes with myocarditis and dilated vessels is dominant, malignancy is favored also. In the first instance, divalent cations dominate tissue reactions more than in the latter, and even though a sclerosis featuring cholesterol deposits are present, the behaviors of this latter substance do not resemble those in malignancy. The two cases of coronary occlusion here reported were primarily arteriosclerotic and both had enlarged obstructive prostates. With recovery, prostate structure and function returned to normal in a major degree. The case of senile sclerosis given below shows the same change in a general and extreme degree; thus, low-grade infection with its prolonged colloid lysis and calcium liberation causing cholesterol deposits.

In contrast to the above vascular picture, the following histories of myocarditis in advanced cases of cancer should illustrate the correction of a different type of vascular pathology by the same treatment. So the reduced oxidation catalysis may be responsible for widely opposite pathological trends.

CANCER OF UTERUS

Patient-Mrs. M. P. —Age 47. Housewife.

Pre-growth symptoms—Dizziness for twenty years. Double vision with overlapping of objects above each other apparently, from October 1925, to July, 1927.

Past Illness—Cardiac lesion, mitral stenosis, for many years, with consequent cyanosis, dyspnoea, etc.

Present Illness—Started as brownish discharge from uterus in fall of 1925. By June 1926, tumefaction of lower abdomen, pain uterine bleeding and foul discharge. Examination by several surgeons and radiologists were made. Malignant infiltration found so widespread surgery was refused. Radium applied early in November, patient drove automobile then. Fourth radium treatment given on December 30, patient bedfast, had to be moved in ambulance. X-ray then tried, declined in health even more rapidly; hemorrhages, pain and tumefaction increased. Examined at University of Michigan Hospital, diagnosis confirmed, but refused treatment, sent home as hopeless. Two exhausting hemorrhages on May 29, 1927, completed her decline and by June 2, she was in coma. At this time the growth was enormous, filling vagina and compressing bowel, causing abdominal bulging.

Treatment—One dose of Glyoxylyde was given June 2, 1927, while patient was in coma.

Results—Within a few days there was substantial improvement. Before the twelfth week she could work a bit in the garden. Within six months all cancer tissue was absorbed, but some radium scars remained which did not clear up until the ninth month. The diplopia disappeared soon after the Glyoxylyde was given. She is perfectly normal now; no cancer; health perfect, except for the cardiac function which is greatly improved only.

CANCER OF UTERUS

Patient- Mrs. S. —Age 60. Housewife. History taken May 3, 1932.

Diagnosis—Cancer of uterus involving whole abdomen by exploratory laparotomy.

Heredity—Mother died of cancer at age 88.

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Past History—Urethral carbuncle for last eleven years, very painful and troublesome for last two years. Ulcer of duodenum demonstrated by X-ray four years ago. Large fibroids were removed at time of menopause twenty years ago. Four successive attacks of pneumonia more than five years ago. Weak heart for last five years, causing blood pressure to fall from 200 to 160 in last year in spite of increasing toxemia. She became short of breath and cyanotic, her feet and ankles swollen with dropsy. Severe hemorrhages from vagina and pain in the back for the last six months. The abdomen was enormously enlarged with cancerous tumefaction.

Examination—My examination revealed a large transverse and a smaller vertical exploratory incision scar. The whole abdomen bulged from the presence of the large masses of cancer within, to equal that of a full term pregnancy. Thus the stomach, bowel and uterus were all involved and she was suffering hemorrhage because of the malignancy. The large ulcerated Urethral carbuncle was noted and the vagina found well filled with the malignancy that involved the uterus and abdomen. She was weak, cyanotic, short of breath and the heart was so dilated that one was forced to doubt if she would reach home before her heart failed.

Treatment—Two cc. Ketene solution.

Results—Recovery was comparatively rapid, the cancer masses disappeared, the vaginal bleeding stopped and a return to normal was complete by April 10, 1933, when the second photograph was taken. At this time no pathology could be found, every trace of the growths had disappeared, all the stomach symptoms gave way to perfectly normal function and, although the heart action was not as perfect as in the average healthy person, it had improved so much that we considered her cured. In 1934, she had an attack resembling appendicitis. Her surgeon made an appendectomy and at the same time thoroughly explored the abdomen, and reported to me that no trace of cancer could be found. From last reports we learned that her health was still excellent.

Toxicity of infection expressed as rheumatism, circulatory deficiency, and malignancy of advanced degree, but without definite cardiac impairment is demonstrated in the following case.

CANCER OF RECTUM AND LIVER

Patient- Mrs. M. G. —Age 67. Housewife. History taken June 5, 1933.

Diagnosis—By history, physical examination, by exploratory laparotomy and biopsy, cancer of rectum.

Family History—Sister died of stroke at age 79. Mother died at 87.

Previous Illnesses—Rheumatism of knees and ankles for the last four or five years. Thirty years ago had an 18-pound fibroid tumor removed with the uterus. Good health since until two years ago when constipation asserted itself and she concluded that she had a growth in the bowel. Examination by a good surgeon found a growth in the sigmoid in December 1932. Obstruction became complete by April 27, 1933, when a “window” colostomy was performed, and a biopsy was made that demonstrated that carcinoma of high-grade malignancy was present. A search of the hospital records by the surgeon showed the biopsy report “missing.” A prognosis was made at the time of about a month to live.

Physical Examination—Examination June 5, 1933, revealed an enormous mass occupying and completely filling the lower bowel, palpable through the abdominal wall to be the size of a large cantaloupe. The liver was enlarged by a fist sized mass, hard and lumpy and bulging. Fortunately the colostomy was a lateral

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opening without severing the bowel. The patient was extremely cachectic, cyanotic and weak. A copious drainage of foul bloody fluid and regular vomiting of food and decayed material was noted. The pain was very distressing.

Treatment—One cc. Glyoxylide solution was given on June 7, 1933.

Results—A reaction took place in three days, with some achiness. Thereafter there was improvement in her general health and less toxicity. The vomiting stopped. Soon she was relishing food and the pain left. By the end of three months some feces were passed per rectum, and in a year the colostomy healed spontaneously and all movements were discharged per rectum. She came to something approaching normalcy. Yet there was always some growth remaining and some discharge from the bowel. On July 30, 1934, a dose of Glyoxylide was given and thereafter a strong reaction took place, on the fourth day and during the ninth and twelfth weeks, fever, achiness, pains in the abdomen and diarrhea for a whole week. True recovery followed quite rapidly and she is in perfect health now, strong, free from cancer symptoms, and without any growth traceable in bowel or liver. Her bowels move normally. The rheumatism likewise was cured.

ADVANCED ARTERIAL SCLEROSIS AND SENILE DEMENTIA PARESIS

Patient- Mr. P. —Age 93.

Quite well most of his life, was a painter by trade. High blood pressure, with usual symptoms increasing with the years. Very feeble during last two years. In the winter of 1932, when this history was taken, he had several "strokes" and a complete spastic paralysis followed, making him perfectly helpless and speechless. I saw him in April 1933, and gave him an injection intramuscularly. At this time the man was as stiff as a board and entirely helpless. The vessels were densely sclerosed, nodular and tortuous. Im-provement was evident within a month. I saw him again in July and he could walk about more or less relaxed and full control of bowels and bladder had returned. He discussed things very intelligently. I saw him again the following summer, when he was making a new cement sidewalk in front of his house and was working actively. At this time the blood vessels were elastic and smooth, but still a little tortuous, and the blood pressure was not over 160. I was able to follow him for three years, during which he remained well and active. Ice diluted solutions of mixed oxyketenes and Ketenes was used for treatment.

ECZEMA AND ASTHMA

Patient- Miss F. D. —Age 20.

Asthma and eczema since only a few weeks old with brief spells of freedom from one or both conditions. Pyelitis at seven; tonsils removed at five; appendectomy at ten years of age. She had seen all the skin and allergy specialists available with no help, but instead the downward course was uninterrupted. For years she lay on pillows wrapped in cotton for she was denuded of epidermis quite completely with hair and nails affected. Suffering was intense and unending. The asthma attacks came regularly at four a. m., besides at varying periods through the day. A dose of the ketenes was given, August 14, 1937. The response was favorable within five days and progressed cyclically for the better with periods of improvement and reactions intervening at three-week intervals until recovery was completed in June 1938. Complete disappearance of the eczema and asthma was accomplished. In this case the most intense allergy, enduring a lifetime of twenty years, yielded completely to normalcy in less than a year. Three doses were required in this period.

ECZEMA AND PIGMENTED MOLES

Patient- Rev. G. —Age 71.

Had some pigmented moles for many years that multiplied to a great number in the last ten years. They were distributed above the waistline in largest numbers and less below the waist, while below the waist involving the limbs was an eczema that became very severe during the last four years, resisting the most expert services obtainable in various parts of the country. This expresses the situation at time of treatment, November 1928, when a dose of the ketenes was given. In less than a week the eczema had improved very much and in less than a year most of the pigmented moles were absorbed. Traces of moles still remain but the eczema has long ago disappeared. Thus the differences in rates of recovery of different structural allergies, is exemplified.

ENDOCRINE DISTURBANCES

One case reported here has demonstrated hyperactivity of the thyroid gland of highly toxic degree, and another showed a thyroid suppression of many years' duration, both extremes were brought to normal by restoring a normal oxidation mechanism with this treatment. Other gland deficiencies have been corrected in the same way. Femininism and infantilism with undescended testes in adolescents and young adults have been brought to full normalcy and mentally backward children of the pituitary type have rapidly acquired mental efficiency and even brilliancy.

OTHER CONDITIONS

Many other conditions, some of known and others of unknown cause and pathology have responded well to the treatment. The nervous system shows especial predilection to a good response, and thus various forms of neuritis, shingles, epilepsy, and some mental disorders like dementia praecox have done well. The nervous disorders with demonstrable structural change, such as transverse myelitis, multiple sclerosis, the early periods of infantile paralysis and even advanced forms of glioma have given nice recoveries.

It is in the infections however that the bolstered oxidation mechanism shows best results. Thus in leprosy, and tuberculosis, and even in advanced syphilis, that refused to respond to the conventional methods, we have produced nice recoveries. Chronic malaria, whose ravages compare with those of lues, has responded well. But it is in the acute form of malaria, as well as in other acute commanding infections that we have seen the most brilliant results. Thus a patient following operation on the ethmoid sinus, developed a staphylococcus pyogenes aureus meningitis. In the last stages, the consultant recommended our treatment as an only chance. It proved successful very rapidly. The high fever and coma gave way to recovery, which was completed in a few weeks. A case of rabies in a man who went bad under the Pasteur Treatment was given our treatment when the coma stage was reached and death was impending. He recovered.

One of the most serious factors in our modern civilization is the effects of anesthetics. The peroxides present are just active enough to produce stable peroxides of certain lipoids, cholesterol and its related compounds for instance. These peroxides are active in the manner we have already described. It is important to overcome their injuries in the manner that this treatment offers. However after the treatment has been used in a serious infection or in cancer, the use of an anesthetic may play havoc again, and in a manner that is not so quickly overcome by repeating the dose of catalysts, as in the first instance.

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Therefore all surgery should be avoided after our treatment when possible. We interpret the high carcinogenic activity of ether extracts of wheat germ, as due to the presence of peroxides of stigmasterols, produced by the ether peroxides. The quinones that can also be produced offer a pathogenesis as we have described earlier. The reason so many cancer cases and infected cases decline so rapidly after operation finds its explanation partly in the effects of ether peroxides on the tissue lipoids and their resultant effects on the body metabolism. Both the support of active leukocytosis accomplished by the ketenes, and the support to the completion of the oxidation powers of the leukocytes and the cells of the reticuloendothelial system, accomplished by the oxyketenes as explained in the formulae of origin and activity are essential to the most efficient recovery.

TREATMENT REGIME

The diet should be selected to give adequate nutrition in dynamic factors but to avoid tannin, the terpenes of fruit skins and the acids that rob the colloids of their cations. These acids are mainly tartaric and oxalic. Animal proteins should be avoided because they supply the bacteria of the colon with nitrogenous material from which to make toxic amines, amides that inactivate or destroy the catalase and peroxidase of the tissues. Vegetables and fruits and whole grain cereals serve excellently. Narcotics and anesthetics of all kinds should be avoided if at all possible, for they injure the dispersion of the colloids and interfere with action of the co-enzyme hydrogen acceptor systems of oxidation. Aluminum utensils are prohibited on the same basis.

Colon lavage should be sufficient to make up for any elimination defects. Milk of Magnesia can be used when required for catharsis.

The injection of the catalysts should be made intramuscularly after a few days of colon lavage and liquid diet of apple and pear juices and the raw or cooked vegetable juices, after which the solid diet is resumed. The injection may be repeated twice at fourteen-day intervals; if a reaction or improvement is observed after the first or second injection the other may be omitted. Some of the examples cited above were given different members of the group of oxidation agents for purposes of observation. But for routine, we use the whole mixture as evolved in aerobic glycolysis. Thus each case has a chance to receive the catalyst most concerned in his particular deficiency, as well as every other member of the group because all are evolved in the polymerization process co-extensively with the degree of malignancy expressed by the growth. When polymerization is so vigorous and extensive as to produce melanines also, we have observed both the greatest degree of malignancy and the quickest recovery rate as well. This holds also for other allergic lesions productive of pigmentation like the gumma.

It should appear from what has been said that in the development of a great variety of diseased states the primary causation factor is a reduced oxidation catalysis. Therefore, the measure that corrects this defect removes the basis for secondary factors of causation and must play the fundamental role in the recovery from all diseases, be they infections, allergies, or meta-bolic disturbances. Indeed, there is but one essential pathology, no matter what clinical picture the secondary causes are able to produce, and thus the complete correction of each of them depends upon the same activity, the restoration of an efficient and sufficient oxidation catalysis. This is possible only by the action of a catalyst that is more labile and more energetic than any of the disease-causing toxins, hormones, vitamins, or other physiological catalysts. This quality will never be found in any molecule in greater degree than it is present in the substances we have presented here. This statement is not rash for they fit the situation no matter which course the pathogenesis takes and there are no other possibilities except certain nitrogenous compounds we are experimenting with at present in the pathogenesis mediated by the imide group in certain vital nitrogenous

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bodies, and in the manner discussed above. So the success in the fight against disease in general will be found to depend upon the expertness with which these substances are employed.

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AMERICAN PRINTING CO.
DETROIT. MICH.
PRINTED IN U. S

Natural Immunity Via Aerobic Glycolysis As Conveyed By Carbonyl And Ethylene Groups By Wm. F. Koch, Ph.D. M. D.

Abstract: Natural Immunity Via Aerobic Glycolysis: In a series of reports presented between 1935-37, Dr. Koch explains the chemical dynamics operating behind Aerobic Glycolysis, their function in the immunity process, and his analysis of Tissue Thrombin. (1938)

Given in substance before the staff of Byron Sanitarium August 18, 1935, before the staff of the Hartford, Connecticut, Hospital December 1, 1935, before the American College of Proctology, September 21, 1937, and before the staff of Hahnemann Hospital, Liverpool, England, February 23, 1937.

There are two means of securing intermediary products of metabolism that were employed in this work of chasing down the mechanism of immunity. One measure we first employed is the removal of an essential tissue (parathyroid glands in this instance) and collecting the products of cell disintegration in the urine. Thus we found that the guanidine group served as a building unit for tissue function,* and now we know that it is important in anaerobic glycolysis as contained in the creatine phosphoric acid coenzyme. But it holds other important functions, especially as part of the guanine group of nucleic acid which carries more importance in the aerobic oxidation mechanism than has been so far reported.

* (Journal of Biological Chemistry, Vol. 12, p. 313, 1912. Vol. 15, p. 43-61, 1913.)

The other means of securing the metabolites is by rapidly killing a tissue, and isolating the products of metabolism, before they can be changed too much. In this way we isolated from the cephaline and lecithin fractions of animal tissues, heart and brain, certain substances that proved curative in cancer and its allied diseases. The results were published for the first time in the New York Medical Record of October, 1920. We called these structures tissue thrombin because with the establishment of the immunity they produced abnormal tissues as carcinoma underwent, during absorption, a preliminary coagulation like digesting casein, and the coagulating blood protein, which must be interpreted as its first step in digestion for removal. A very fundamental physiological process was thus revealed as the first visible step in the cure of a deepseated constitutional disease, and as a sign of an immunity which is a natural protective process which we have since found to be general against a wide field of disease changes and interferences. This has been demonstrated in our various publications.**

** ("Cancer and Its Allied Diseases").

"Natural Immunity", Vols. I, II, III, IV, 1934, 1935, 1936, 1937. Journal of Medico Physical Research, May, June, July, August, September, 1925. ")

Not only do animal tissues yield metabolism intermediaries, but plant tissues do also, and those that are especially active in glycolysis, such as yeasts and certain molds, are most interesting. They yield much the same products as animal tissues besides lactic acid and alcohol, and the process of anaerobic glycolysis they employ is not very different from that of animal tissues. But it is the aerobic glycolysis that is the fundamental source of energy of essential importance. From it the anaerobic debt process does its borrowing. Since heart and brain tissues contract little oxygen debt and depend mostly upon aerobic glycolysis, they yield immunogenic products. Though studied intensively, no satisfactory explanation of the process has been developed except the one which I offer here and which is important both because it

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is correctly constituted chemically and because it secures lasting recovery and immunity against otherwise incurable disease, neoplastic, infectious, and allergic.

The methods of extraction of the metabolites from tissues, animal or plant, was described in the first four editions of NATURAL IMMUNITY *** issued in 1934, 1935, and 1936. The general process employed in the synthesis of the metabolites by pure chemical methods have been indicated both as to materials and procedure in these books also. The present discussion is given to clarify more fully the points they bring out and to serve as the introduction to the laboratory guide we employ in teaching the details of the synthesis of these immunity bodies.

*** (Natural Immunity is available on this web site.)

Ultimately, immunity depends upon a vigorous oxidation mechanism. Where there is a full oxidation of sugar, not only fats and protein products, but disease producing toxins, are also fully burned. Full normal tissue growth and full normal tissue function depend on this process. We believe, too, that the surface energy of normally dispersed colloids and of the agglutinins, precipitins, and lysins of immunology is obtained from the oxidation mechanism. The various steps in the oxidation of sugar are each of importance to the continuity of the process, since they serve as links in the chain. The immunity they accomplish protects from infection to the point that infection is absent from healing areas and, therefore, scar tissue does not take part in the healing process. Moreover, where scars have been retained for many years at the site of old infections, the catalysts secure immunity of a degree that abolishes the old encapsulated infectious remnants and the scar tissue then disappears. In the same way allergenic toxins and the viruses of cancer and poliomyelitis are quickly destroyed so that a return to normal functional structure of the injured parts take place in a major way.

Aerobic Glycolysis

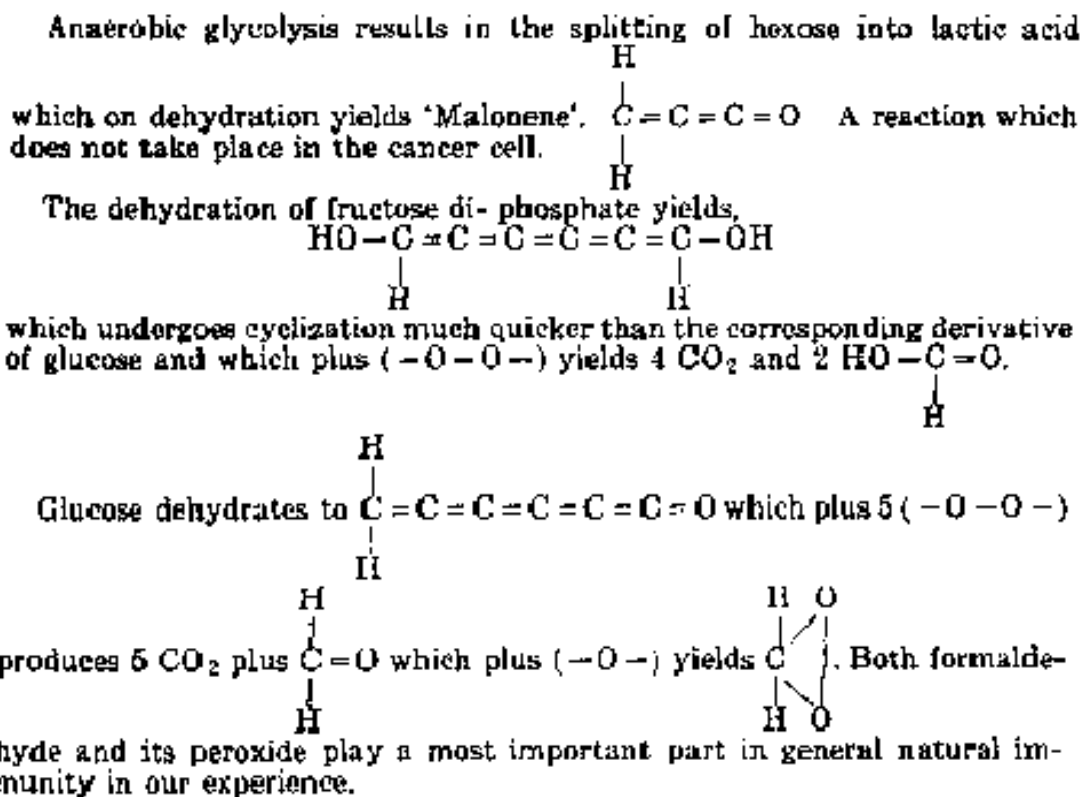
Twentyeight years ago when starting to investigate the oxidation mechanism as a possible key to immunity, the data at hand was meager indeed. Practically all we knew was that lactic acid was an intermediary in sugar oxidation. The factors of anaerobic glycolysis as we understand them today were not known and the first suggestion of the position of guanidine as an important metabolite was made in my reports on the parathyroid glands in 1912. In order to identify the catalysts essential to the oxidation process a provisional system of oxidation was worked out. It is the system we follow, with slight modification, in this work today, and will be described here. That it is possibly the correct interpretation of aerobic glycolysis and of immunity seems well indicated by the results obtained in the cure of such severe and otherwise incurable disease as advanced fully proven cancer, tuberculosis, advanced endocrine disease, poliomyelitis, severe vascular disease, coronary thrombosis, the various allergies and infections, and often inhibited development of certain organs. Results obtained twenty years ago, and permanent even today, point to a fundamental position of the chemistry here introduced.

The part played by phosphoric acid and the coenzymes that mediate its reactions in anaerobic glycolysis is well understood. The mechanism of normal aerobic sugar oxidation is not known at all. For our purposes, which require the employment of the dynamic factors operative in normal aerobic glycolysis, there is no guide, and the following scheme was, therefore, employed because it fits the needs of the present situation and because it appears more efficient than any other method that could be proposed. The pentose of the nucleotide is not combusted unless in dire emergency, as possibly the late phases of parathyroprivic tetany when tissue disintegration is marked. Fructose and glucose di and tri phosphates are probably burned in the surfaces of the nuclear granules or genes, which, with the help of phosphoric acid carriers like creatine, mediate the necessary unions with hexose for dehydration purposes. It appears to me that there is special transportation of fructose di phosphate, or its dehydrated forms, by the lymphocytes from the liver

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to the tissues and there may be involved some nucleotide type of union for every hexose molecule undergoing transportation, dehydration, and combustion. Be that as it may, it is necessary to assume four grades or stages of dehydrated and peroxidized products. Firstly, a chain of six carbon atoms, straight or cyclic, joined by unsaturated unions which take up peroxide oxygen and burn directly to carbon dioxide. One of the straight chains possesses a dihydroxy structure which, upon combustion, yields four molecules of carbon dioxide plus two of formic acid. The other has "ketene" structure and yields one molecule of formaldehyde and five of carbon dioxide. The cyclic form, which is derived from them both, burns completely to carbon dioxide. We call them Hexylenes to designate their origin and de-saturation as a group. This whole procedure is exothermic and efficient.

Secondly, dehydrations between the second and third and between the fourth and fifth carbon atoms, followed by peroxidation of the unsaturated unions, results in the separation of the molecule at these places into three chains of two carbon atoms each; likewise, dehydration between the third and fourth carbon atoms of the hexose followed by oxidation and separation of the molecule into two chains of three carbon atoms each. The units thus produced are one molecule of glycolic aldehyde and two of glyoxylic acid and a molecule each of glyceric aldehyde and of the aldehyde of glyceric acid. They dehydrate further to ketene, Glyoxylide, Malonene, (Lactene) and Malonide as shown below. Moreover, ketene and Malonene add oxygen and decompose to carbon dioxide and formaldehyde and its peroxide, which is one of the most important metabolites of all. These reactions are represented below.

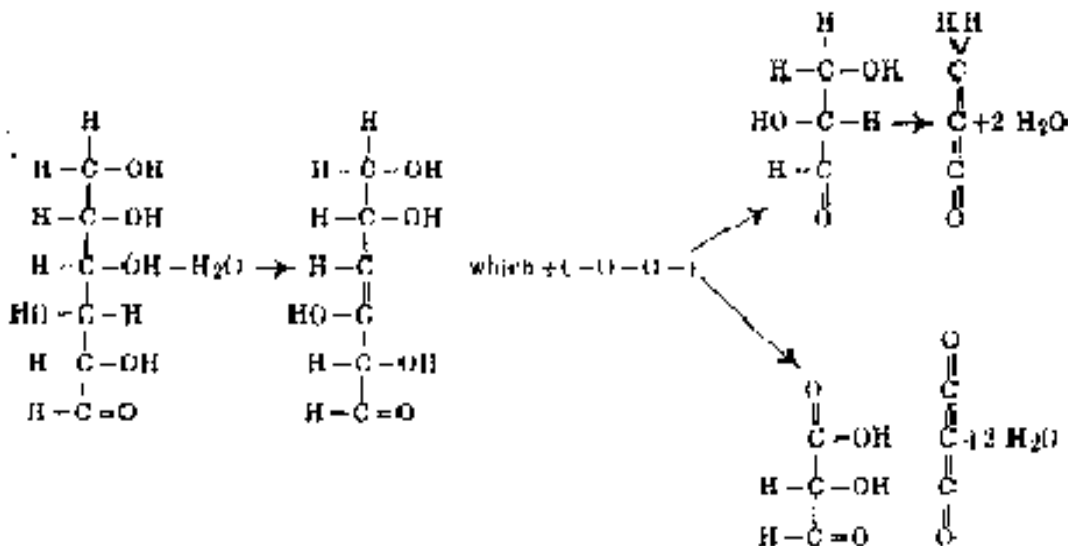


Glucose and fructose di-phosphate may undergo cyclization directly to inositol and then dehydrate forming the unsaturated cyclic "Hexylene," which on adding peroxide oxygen burns completely to carbon dioxide or they may undergo dehydration first and then cyclization to form the cyclic Hexylene and on adding peroxide oxygen burn completely to carbon dioxide. It is possible that the derivatives of inositol

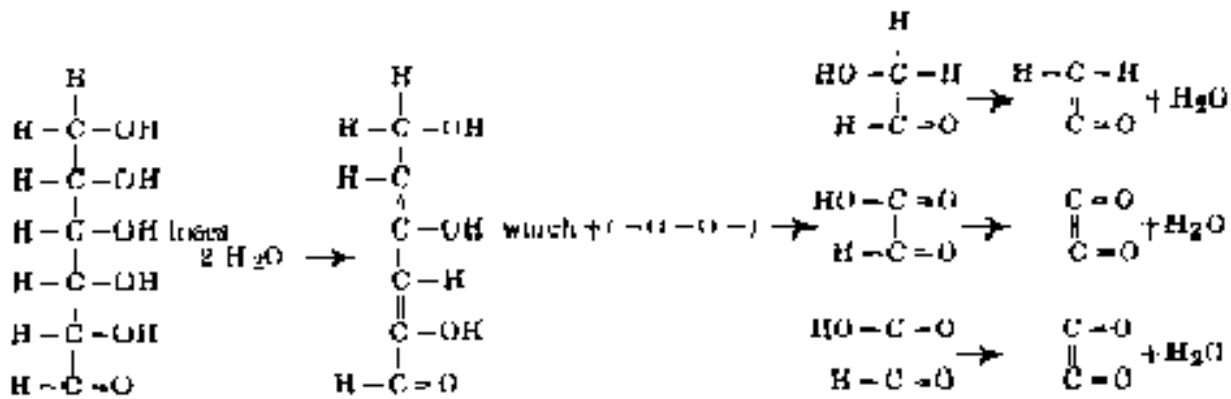
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found in muscle are produced by the reaction just mentioned. Each step in the process is exothermic and I believe this is the most efficient mechanism possible.

Hexose is converted to glyceric aldehyde and the aldehyde of glyceric acid, which yield lactene and Malonide, thus:



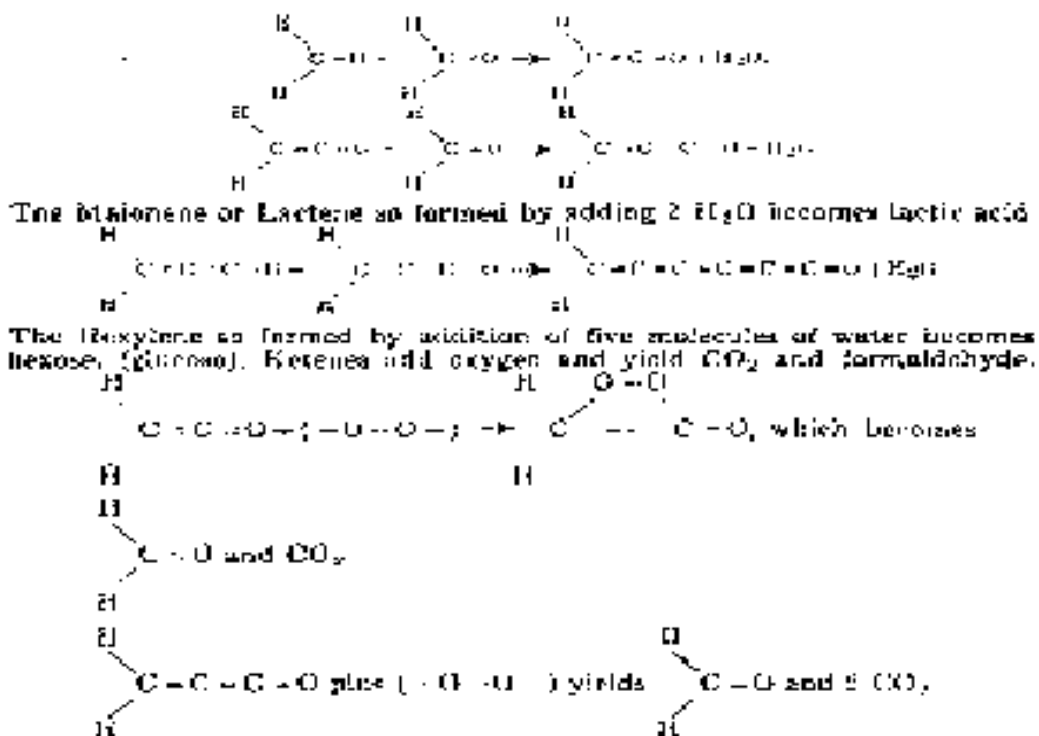
Hexose is converted to ketene and Glyoxylide, thus:



The four dehydrated ketenes thus produced serve with formaldehyde, produced from ketene and Malonene, (Lactene) as carriers of the chain reactions of aerobic oxidations and in the condensations that yield sugar and ultimately glycogen.

THE REACTIONS OF FORMALDEHYDE

Formaldehyde might be grouped with the ketenes in our scheme of the oxidations in spite of its possession of but one carbon atom. It serves as the carrier of a chain reaction which any of the ketenes may mediate, and it also serves as the starting point for the syntheses of ketene, and lactic acid, and even of hexose and glycogen. This is possible because of the ease of union of two molecules by dehydration that forms double bonds between carbon atoms, able to take up oxygen and burn to formaldehyde and carbon dioxide on the one hand, or on the other, to take up water as the condensations are made and thus to produce the hydrated molecules mentioned, thus:

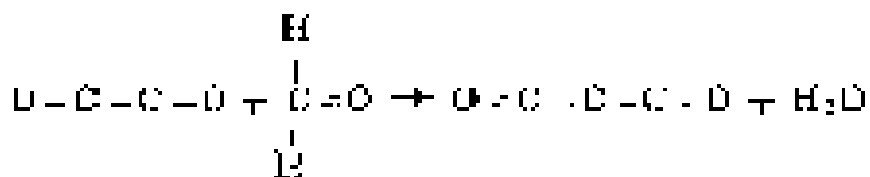


Thus formaldehyde is reformed with each cycle and is able to start another. So it serves as a carrier of a chain reaction. In the aerobic glycolysis of hexose the 'Hexylenes', and the dehydrated products of lactic acid we call 'Lactene' or 'Malonene' offer the structures that add oxygen to become carbon dioxide and formaldehyde. Formaldehyde may burn also by taking up oxygen to become the peroxide and then by isorrhopesis, change to formic acid which on becoming the peroxide burns to carbon dioxide and water.

THE REACTIONS OF GLYOXYLIDE, MALONIDE, AND THE KETENES

Glyoxylide by combining with formaldehyde yields Malonide and water,

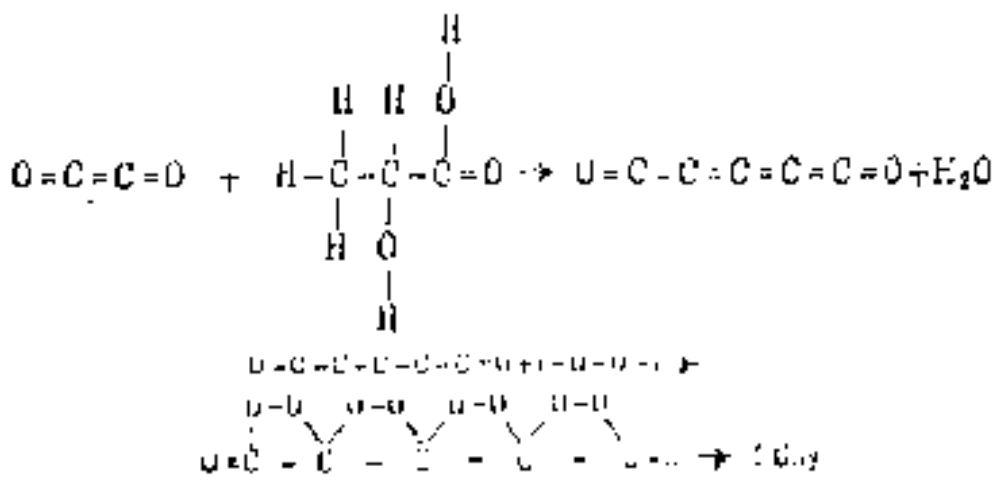
thus:



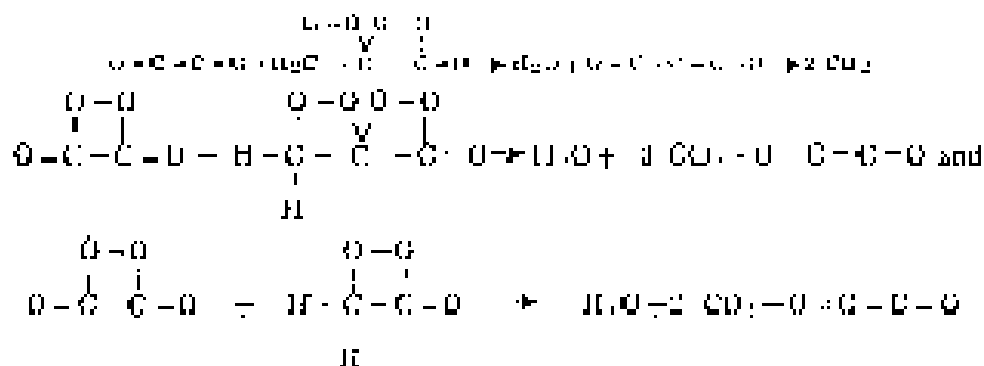
Further condensations of the same type may go on and the dehydrated bodies thus formed by addition of peroxide oxygen yield carbon dioxide.

Glyoxylide or Malonide may condense with lactic acid and after dehydration and peroxidation of the unsaturated valences yield carbon dioxide and water, thus:

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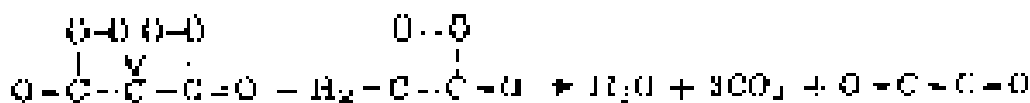


When excess oxygen is present condensation of Glyoxylide with dehydrated lactic acid (Lactene or Malonene) that has taken up peroxide oxygen yields water, carbon dioxide, and the Glyoxylide or Malonide is regenerated, to serve as carrier of another cycle or it may be oxidized in the process and burned to carbon dioxide, depending upon the amount of oxygen added, thus:



Thus the carrier $\text{O} = \text{C} = \text{C} = \text{O}$ is regenerated with each cycle and the products are water and carbon dioxide, the reactants being fully burned.

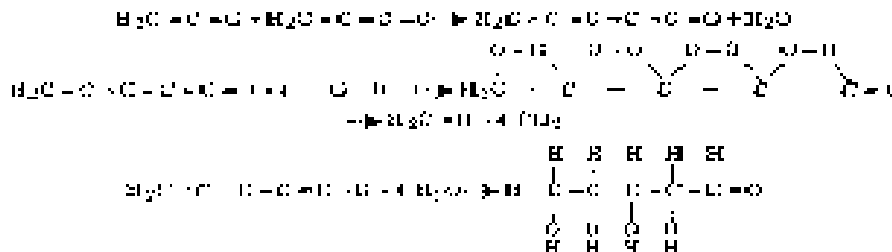
In like manner the internal anhydride of malonic acid $\text{O} = \text{C} = \text{C} = \text{C} = \text{O}$ mediates the same combustions forming the carrier Glyoxylide and the same resultants, carbon dioxide and water.



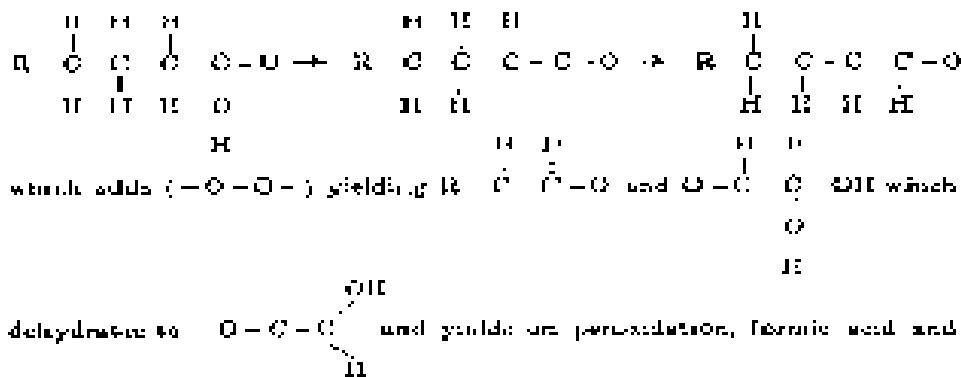
By following the above types of reactions Glyoxylide or Malonide may mediate the combustion of such fatty acid as acetoacetic acid and thus remove the acidosis of diabetes. This has been accomplished practically.

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Ketene or Lactene by condensing with lactic acid either before or after dehydration and peroxidation leads to the production of formaldehyde, water, and carbon dioxide. The dehydrated product of condensation on the other hand may add water to become a pentose or hexose.



Thus energy may be yielded or utilized by the unsaturated carbon chains by oxidation or hydration, and carbon dioxide or sugar produced. The formaldehyde or ketene formed in the first reaction may also be burned or carry another cycle as the conditions determine. Fatty acid may dehydrate and then undergo hydrogen shift yielding double bonds between the alpha and beta carbon atoms which may add peroxide oxygen and split off a two carbon atom chain glyoxal leaving the long chain with a carbonyl group at which oxidation commences the same series of events.



carbon dioxide. Thus the chemical basis for oxidation of fats is provided by this system.

The procedure outlined gains probability because the intermediaries in aerobic glycolysis have never been isolated and thus must share instability of the order of the substances belonging to the scheme here presented. Hence the peroxides have not been found even though active peroxidase is well distributed in the tissues. Furthermore, oxidations of the substances here described are paralyzable by such substances as the quinones and aromatic dihydroxy compounds. Exactly such anti-oxidation influence is produced by the aromatic carcinogenic bodies, both in the body and experimentally in pure chemistry. The experiments leading to this conclusion will be published with others as a group. The production of a prolonged sensory allergy by means of dermal application of halogen derivatives of the caffeic acid, aesculin coumarin series of substances, and the production of cold light by means of fluorescent materials in the presence of chemical reactions yielding exothermic energy helped direct our line of research at its beginning. The production of allergy and the maintenance, destruction and restoration of immunity required study, therefore, from the standpoint of photochemistry for their common solution.

Clinical Significance of the Carbonyl Group

Another not to be forgotten circumstance is the importance of iodine to the oxidation mechanism, for iodine favors the production of the ethylene linkage between the alpha and beta carbon atoms adjacent to a carbonyl group as occurs in fatty acid. We may thus picture the production of a double linkage which adds peroxide oxygen whereby two carbon atoms are removed, leaving carbonyl groups as terminals at which further oxidation proceeds. Here, also, exists the link that couples the conversion of fats to sugar and sugar to fats. It offers the explanation of the degradation of fatty acids, two carbon atoms at a time. The function of the carbonyl group in disposing its containing carbon chain to such peculiarities as that just mentioned and its ability to mediate chain reactions as those here described, and the tendency to the hydrogen shift it facilitates between three carbon atoms, where a double linkage is involved, supplies the chemical phenomena required for the necessary changes. Incidentally, the importance of iodine compounds as they are offered by the thyroid function is here evident in a mechanism of fat oxidation.

The carbonyl group present in such large molecules as anthraquinone, the sex hormones, and oxidized carcinogenic materials, may serve as carrier to a chain reaction such as we ascribe to formaldehyde and the ketenes, whereby energy is liberated so long as oxygen and substrate are supplied, and the foundation of both neoplasia and the allergies is thus laid.

The ethylene group, because it can add peroxide oxygen and split with separation of the molecule yielding a carbonyl group, supplies not only energy but also a substance able to be oxidized further and also able to carry the chain of oxidation still further. We, therefore, claim that these groupings present in appropriate molecules are the essentials of oxidation catalysis and of immunity to disease and that their depletion or exhaustion breaks immunity. Peroxides are not efficient in this way simply because of their great explosiveness. They must yield preferably to complete combustion by their contained oxygen. They must be of the order of the metabolites produced in sugar degradation, and they should yield free carbonyl groups able to unite to form the unsaturated di-carbonyl we call Glyoxylide or that which we call Malonide. The corresponding ketenes, where a terminal oxygen is replaced by two hydrogen atoms, be the substance as simple as formaldehyde or be the chain one which carries six unsaturated carbon atoms, as pictured above, also occupy their place in the oxidation mechanisms and immunity.

The essential catalytic activity must reside in an influence carried through inter or intra molecular space, an electro magnetic affair perhaps resulting from the movement of electrons within the molecule and between molecules. In each instance two atoms are involved and changed. Experiment shows that where certain such movements take place between two atoms the ease with which the same movements can take place between similar atoms under the same circumstances is greatly increased and thus we may explain catalytic activities of certain orders. The oxidation of benzaldehyde to the peracid is one of this type and there are many others.

The catalysis of oxidation that constitutes the immunity against infection, against allergy and against neoplasia in all their various forms, is fundamentally, therefore, an electromagnetic vibration, a rhythmic affair. Likewise, the negative catalysis basic to the disease activity is rhythmic. In both the primary waves are compoundable into larger periods so that ultimately a periodicity is expressed in an accentuation of the symptoms of the disease, or of the rate of recovery which is observable clinically. Even before a neoplasm shows up, there are often definite toxic symptoms running in waves of intensity covering many years. When the neoplasm comes it may only last a short time and an interval of healing may then show itself, after which the growth returns to stay a longer time and to grow larger than the first time. It may remain, or may again disappear more or less completely, and then return to stay, developing with periods of greater and lesser activity.

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The history of the individual himself, both with respect to the pre-growth toxic state, its psoriasis, neuritis, gastric ulcer, neurosis or what not, and with respect to the mode of development of the malignancy, its rhythmicity, and its relation to the pre-growth changes, will tell much that is useful in the conduct of treatment. We might differentiate two factors in the rhythmicity, the essential rhythmicity, which is a genetic affair that is well illustrated in the case of a two and a half year old girl with malignant gliomata of both eyes that had become well metastasized to the lungs and other organs. This child demonstrated mounting aggravations each day of the last quarter of the moon. This was the mother's usual menstrual period. With the next change of the moon, the subjective symptoms improved somewhat, but the progress of the growths made during the bad period would remain stationary until the next last quarter, when another advance in the disease was made. This change was sharp and invariable whether the mother menstruated or not. I do not consider this characteristic an environmental affair, well recognizing the fact that light reflected from large surfaces, like the moon and the ocean, is circularly polarized and can affect photochemic responsiveness. The rhythmicity is probably a part of the larger order of things which takes in the moon changes as one of the concomitants. However, environmental affairs have their significance and diet, elimination, toxic exposures, as to terpenes, anesthetics, narcotics, fatigue, and the like, may set up variations of irregular rhythm. The victim of cancer is a poor oxidizer and susceptible to any form of allergy. In some, the neuroses that Freud bases upon sex behaviors are quite prominent, as they are also in tubercular patients. We regard such departures which might be aggravated rhythmically with moon changes as essentially allergic phenomena in which the impulse generative fibrillae of a certain group of neurones associated in some sex concept have absorbed the allergenic agent which forces the passage of impulses through the neurone circuits of the group. Though such impulses may be sent out in some instances quite continuously, they may not be able to jump the synapses except under the rhythmic help of cyclic events as accompany the moon changes or various environmental influences, diet, toxins, suggestions, etc. We also regard all insane manifestations as similarly caused.

It is important to study the patient's daily habits and to choose the time of giving the injection of the particular oxidation catalyst chosen at a time when the aggravation first shows up. A close study of the history will reveal the most favorable time. In the case of the baby with glioma here, mentioned we could not wait until the last quarter of the moon to institute treatment because she was so far gone that she would not live that long and her suffering was too intense; so the treatment was given at once, two days after the end of the last quarter. Reactions were quite strong, therefore, with fever of one hundred and one and over for about seven days, when improvement set in and progressed splendidly. On the other hand, had the treatment been given at the time of the beginning of strongly increasing aggravation, a rapid subsidence of the aggravation would be expected. Nevertheless, the oxidation catalysts employed removed the essential rhythmicity, and throughout the following last quarter of the moon only improvement was observable.

It is true that the incubation period of cancer may be very long and the infection may attack the parent producing cancer in the child and the grandchildren, in a very peculiar type of transmission, as occurs regularly in malignant glioma of the eye demonstrating its action through the genes. Moreover the infectious origin of allergenic toxins is neither impossible nor devoid of other examples. The tubercle bacillus produces such a toxin and the allergy may be expressed not only in an increased susceptibility to the products of the tubercle bacillus itself by an allergic necrosis in skin, lung, and joint tissue, but there may be terrific and prolonged allergic migraine, multiple arthritis of advanced degree, and even a coronary thrombosis, as well, occurring in the same patient. Recovery takes place from all four conditions on the one treatment and the rate of disappearance of the various allergic changes follows the clearing of the system from tubercular lesions, scars, and their debris, and the reestablishment of healthy lung tissue

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to take their places. Even in these secondary allergies an essential rhythm belonging to the original disease may show through.

The Treatment Method

A definite treatment regime has been followed for many years with changes from time to time of a minor nature only. We employ a vegetarian diet, raw as much as possible, well masticated, and leisurely eaten. Rest and exercise must be of reasonable extent, fresh air only is breathed, and plenty of pure water is drunk. A thorough colon hygiene is enforced, both as to the use of plenty of pure drinking water and to the use of the enema with common salt, to assure a clean colon. One should drink three or more large glasses of warm water an hour or longer before breakfast, and do some exercise if able and then drink some more. An hour later breakfast should be eaten. This procedure often washes the intestines well. Plenty of water should be taken during the day also.

Other sources of poisoning than the colon often exist, and the teeth are frequent offenders. All dead teeth should preferably be removed before the treatment is given. Toxic elements in the diet are to be avoided too, coffee and tea, pepper and other spices, the terpene derivatives of some fruits like oranges, lemons, grapefruit and mangoes and all green fruits should be eliminated. Turpentine and perfumes should not be breathed; nail enamels, and cosmetics as a rule should be dropped from the environment. Certain vegetables like tomatoes are not advisable, and no canned foods should be used. On the other hand the dried fruits and vegetables, to which no preservative has been added are found very serviceable. Whole grain cereals should be used freely, and honey is a valuable food. The watchword all the time should be "close to nature"! Among the poisons of civilized life that one must avoid are the tars of tobacco and chimney smoke of industries and highways, the exhaust fumes of motors and furnaces and most factory odors and solvents. Medicines as a rule are contrary, especially coal tar products, anesthetics and narcotics. It is preferable to live in California and Florida during the winter months, or even all year around, for Florida will be found to have a lower and less extreme summer temperature than the north. The absence of hustle and worry of such a climate and the excellent pure restful air are advantages that one should make use of, particularly for the treatment of tuberculosis and cancer, and any other serious allergy or infection. Quicker and more certain recovery should be expected. The country offers other excellent localities, but these two are not difficult to find.

The foods we recommend are:

CLASSIFIED DIET

What to Eat

Fruits (Ripe Only)
Apples Muskmelon
Bananas Ripe oranges
Dates Pears
Cantaloupe Pineapple
Figs Peaches

Fresh blackberries Strawberries (Picked
Fresh raspberries ripe)
Fresh blueberries Raisins
Fresh huckleberries Watermelon
Loganberries Prunes (sun dried)

Grains and Cereals

Barley Pettyjohn
Bran Post Toasties

Cornmeal Puffed Rice
Wheat Corn Flakes

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Rice Cracked Wheat
Rolled Oats
Cream of Wheat
Grape Nuts
Spaghetti'
Hominy
Shredded Wheat

Macaroni
Vermicelli
Noodles
Wheatena
Oatmeal
Whole Wheat

Soups

Barley Cream
Bean Pea (new or dried)

Celery Rice (unpolished) Corn
Vegetable

NOTE: Do not use any spices, tomatoes, or cubes in making soup. Must not use any canned soup. Salt may be used for seasoning.

Vegetables

Artichokes (Jerusalem)
Peas, fresh
BeetsBeet tops
Peas, dried
Brussels sprouts
Potatoes, baked, boiled or
Butter beans mashed (sparingly)
Shelled new beans
Pumpkin
Cabbage
Salsify
Cauliflower
Squash
Carrots

String beans
Celery (raw or stewed)
Sweet potatoes (baked or
Corn (new) boiled)
Cucumbers
Turnips (white)
Kale
Turnip tops
Kolrabi Lentils Radishes
Lettuce Swiss chard
Dried Lima beans Wax beans
Greens (all kinds except Watercress, Spinach)
Pure olive oil for salad
Onions (for flavoring) dressings

Dairy Foods

Butter
Whole Milk

Sweet Cream

Bread

Bran
Pancakes (if no sour milk is used)
Bran muffins
Biscuit (whole wheat)
Rye Bread
Corn bread

Rye Krisp
Whole wheat bread
Graham bread
Whole wheat wafers
Graham wafers
Whole wheat toast

Beverages

Apple juice (made fresh)
Pear juice (made fresh)
Cereal Coffee as: Moko Coffee,

Postum Cereal Coffee
Cream, one half water
Distilled water, all you can drink

Desserts

Whole Wheat bread pudding
Prune whip with vegetable gelatine
Rice Pudding
Vanilla Ice Cream
Whole wheat plain cake
Fruit Ices
Brown Sugar

Jellies of allowable fruits
Pure Honey
Preserves
Pure Maple Syrup
Sherbets
Ice Cream with fruits allowable, frozen

Where fresh vegetables are unobtainable, dried vegetables or vegetables which have been put up in glass containers (cold packed) are permissible.

Condiments

Dilute hydrochloric acid diluted with water to taste, may be used as a vinegar substitute for those desiring such. Salt may be used sparingly.

The Pathogenesis and Correction of Allergy, Neoplasia, and Lost Resistance to Infection

The recovery process is rhythmic, and the essential rhythmicity of the disease should be considered in selecting the time for making the injection. After it has been given, the periodicity of amelioration and aggravation of the symptoms should be noted, so that should a second or third injection be given, it will be given at a time when an aggravation is on or should be on. The dose is never repeated when recovery is going on, whether this recovery is seen in an improvement of the local condition or in constitutional improvement. Often a period of sixty weeks must pass before repetition is made because of favorable progress all this time. Indeed recovery can complete itself quite often on one dose in much less time.

The recovery cycles are of three and a-half-day periods and of multiple of three-and-a-half-days. Generally the third week, the sixth, ninth and twelfth weeks exhibit definite reactions, and the twenty-fourth and thirty-sixth weeks are important periods when recovery is quite evident or another dose is called for. A little experience will decide how each case should be managed, and our organization is always ready to serve any physician with all the information the treatment of any case may require.

The usual complications of cancer such as hemorrhage and ascites, do not trouble much after the treatment, but rather tend to disappear. Improvement in heart and kidney function is to be expected as a rule, but where these functions are very badly exhausted and a large amount of cancer tissue is to be absorbed and much healing to be done, and especially where the system is generally and greatly exhausted, the work of recovery may be too much and a failure of a vital function may spell death, that would have come anyway. However, in such cases, the diminution of pain, and odor, the improvement in mentality, and lessening of narcotic requirement, are causes of gratitude. Embolism may of course take place as in any healing process, but we see very little of it.

The pathogenesis exhibits the same chemical behaviors as the immunity mechanism, but in a modified way, and is based upon the free valency activities of both the ethylene linkage and the keto group, particularly as they are expressed by the benzene ring and its quinones of large, quite stable aromatic

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molecules. The chain reactions that can be conducted by the quinone group provide an evolution of energy in any tissue structure that happens to adsorb such a substance of proper makeup even if the adsorbing mechanism is normally a functional mechanism under the control of the nervous system, after it adsorbs the appropriate quinone, its function is forced beyond physiological control so long as substrate to act upon and oxygen are available. The mechanism is illustrated thus with RR representing the aromatic residue.

In much the same way the ethylene linkage of an appropriate fluorescent molecule absorbed into a cell's functional mechanism, can take up the energy of exothermic reactions going on in its containing medium and pass it on to the functional mechanism thus forcing its activity. Of course the ranges of radiation absorption and emission of both the fluorescent substance and the functional mechanism must be of appropriate order for the transfer of the energy, and so specificity characteristic of the allergies is required. Thus the mechanism is provided for specifically forcing a functional activity beyond physiological control.****

****(Natural Immunity. Fourth Edition, Supplement (1937). The Journal of the American College of Proctology, Vol. X. No. 3. Nov. 1937, pp. 7483.)

The oxidation mechanism of normal vigorous metabolism is all that is required to saturate both the free valences of the fluorescent pathogenic groups and of the quinone group with oxygen and thus accomplish their destruction. In this way the pathogenesis is both prevented and terminated.

When there is lack of the metabolites or of the oxidation catalysts described above, the absorption and misdirection of the energy of glycolysis, or of any other step of the oxidation mechanism, prevents the normal production of the next step in the process and hence there is lack of the catalysts formed for carrying the oxidation process further. Should this lack of catalysts weaken the oxidation process to the point where allergenic toxins and germ poisons are not destroyed, disease gets its start. When the allergenic agent is absorbed into the mitotic mechanism, allergic cell division or neoplasia is produced. When a contractile mechanism is the absorber of the fluorescent agent or of the quinone and the acceptor of the energy, then spasms such as those of asthma result. The same facts hold for all functional mechanisms, be they secretory, or impulse generative, as we find in the central nervous system. In this way all allergies may be accounted for, from hay fever to cancer and the various insanities, epilepsy, endocrine disorders, and abnormal developments. The very misdirection of the energy from any stage of glycolysis into a functional mechanism interrupts further progress in the oxidation chain concerned, and so lowers the vitality and resistance to infection of the tissue affected. Toxic developments resulting in vascular disease and especially in coronary thrombosis is accounted for in the same way.

Restoration of a vigorous normal oxidation catalysis is the corrective measure. It is nature's oldtime preventive and curative protection. That it is efficient will be seen from the following case histories. The unsaturated ketones used were prepared from sulphuric acid and phosphoric acid derivatives of ethyl ether, glucose, fructose and their oxidation products by our original and patented process.

CASE HISTORIES

Cancer of Uterus

Mrs. T. Age 31

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Squamous cell carcinoma of cervix uteri. Biopsy confirmed by three different pathologists. Report reads: "Sections show an atypical proliferation of squamous epithelial cells which have markedly infiltrated the underlying tissues. Diagnosis Squamous cell carcinoma (Epithelioma)." Surgically inoperable, invading body of uterus and adnexia. Severe hemorrhages and pain, cachexia, no children, one miscarriage. Treated with two doses of Glyoxylide solution, one cc. each, two weeks apart, August, 1923. Recovery followed with complete restoration of uterus in one year. Four healthy children born since. Perfect health remains.

Cancer of Testis

Mr. T. Age 38.

Medullary carcinoma of testis, recurrent after two operative attempts at removal. Biopsies done at these operations confirmed diagnosis each time. The last biopsy report reads: "Carcinoma probably secondary to previous carcinoma of testis as the cells were histologically similar." Recurrences involved scrotum, abdominal wall and structures of lower abdomen. Patient weak, cachetic. Treated once, June 10, 1925. Recovery complete in six months and has remained well ever since. Is very hardy and strong.

Cancer of Larynx

Mr. M. Age 58.

Treated once, November, 1928. Diagnosis confirmed microscopically by two different pathologists. "Squamous cell carcinoma of larynx showing many epithelial pearls." Involvement, vocal cords and cervical glands extensively. Voice and breathing impaired. Recovery complete within six months. Remains well. The peroxide of formaldehyde was the source of the Glyoxylide in this case.

Cancer of Stomach

Mrs. P. Age 61.

Treated twice, two-week interval, November, 1919. Massive carcinoma of stomach widely infiltrated and metastasized causing complete obstruction of pylorus. Diagnosis confirmed at laparotomy. No biopsy made, or needed. Patient emaciated, bedfast. Two weeks after treatment growth considerably absorbed and pylorus opened up permitting passage of food. Thereafter recovery rapid. Patient remains well to date. Excellent health. Cephaline fraction of heart muscle extract was used as source of Glyoxylide in this case. Reported in Medical Record, October, 1920.

Cancer of Stomach

Mr. R. Age 69.

Treated once, August, 1926. Medullary carcinoma of stomach. After gastroenterostomy, to relieve pyloric obstruction, the neoplasms spread extensively, completely closing the new opening. Diagnosis confirmed by biopsy. Biopsy report:

"Microscopic Examination: Small alveoli combined with a diffuse growth of atypical proliferating epithelium form the structural picture of this neoplasm. The epithelial cells are generally polyhedral or round in shape, with large hyperchromatic nuclei. One portion is necrotica superficial ulceration. This may be classified as the diffuse type of gastric carcinoma. I am unable to determine this point exactly as it

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is necessary to know something of the gross appearance. If there were extensive involvement of the wall, this would be the correct interpretation. If the growth were sharply defined, rounded and ulcerating, it would be placed with the circumscribed types of carcinoma simplex. "This type is always infiltrating and early invades the lymph nodes with widespread metastases. "Diagnosis: Carcinoma of the stomach. (Type dependent upon the gross pathological anatomy.)" Bulging mass fist size when treated with one cc. of Glyoxylyde solution August, 1926. Recovery complete in six months. Natural opening at pylorus now functioning, but gastroenterostomy healed shut. Remains well and vigorous.

Cancer of Rectum

Mr. M. Age 44.

Terminal case of adenocarcinoma of rectum. Biopsy before surgery and radiation reads: "Polypoid adenocarcinoma. It is of course impossible to state how deeply this is infiltrating or how extensive it is."

Biopsy after failure of these methods reports:

"The specimen represents a fungoid type of growth which is soft in consistency. Two sections are saved.

"The tissue in all part of the fields examined exhibits an actual diminution of the supporting tissue and an increase of the epithelial structures. The gland epithelium as well as the gland morphology are abnormal, a marked productive change has occurred. The new growth material is distinctly anaplastic and differentiation is not good for rectal tissue. The stroma is infiltrated with small round cells, the tissue resistance is poor and the growth activity is marked.

"Adenocarcinoma of the rectum, Active."

When treated with Glyoxylyde, October, 1922, patient practically bedfast, cachetic, edematous. Blood picture twenty percent of normal. Rectovesicular fistula. Feces pass through penis. Considerable bowel obstruction. Putrid drainage, bleeding. Incontinence, massive metastasis in abdomen and liver. Two treatments of Glyoxylyde at twoweeks interval resulted in complete recovery. In very good health in one year and remains in very good health today.

Cancer of Breast

Mrs. S. Age 51.

Sister died of cancer of the breast. Present illness started as a tumor under right arm when seventeen years old. Did not trouble until 1927, when it started to grow and pain her. Radical removal of breast was made in November, 1927. Recurrence about operation incision and in the axilla and above the clavicle was well advanced as numerous growths ranging from pea size over the chest wall to egg size axillary growths when presenting herself in September, 1929. There was also a metastasis in the lower end of the right femur. Treatment, Malonide solution was injected in upper arm; and recovery followed steadily and was completed within nine months. Reports at present confirm completeness of recovery.

Malignant Glioma of Brain

Mrs. R. Age 35.

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Treated July, 1922. One dose Glyoxylide. Paralysis of right arm and leg hemianopsia. Trephine four inches in diameter through which bulged hard mass size of large orange. Cachexia extreme, projectile vomiting. Progressively getting worse since onset of disease in summer of 1921. Large liver metastasis and metastasis to spine. One dose Glyoxylide was followed by steady recovery. Masses and symptoms no longer present in November, 1922. Weight 200 pounds and perfectly restored. No recurrence of trouble to date.

Primary Cancer of Bronchus

Mr. W. Age 46.

Treated in March, 1931. Diagnosis by bronchoscopy, far advanced dyspnoeic emaciated. Unable to walk at time of treatment. Lungs and liver greatly involved. One treatment of Glyoxylide was followed by complete recovery within one year. Perfect health ever since. Doing hard labor.

Cancer of Prostate

Mr. B. Age 68.

Enormous cancer of prostate and urinary bladder with groin and abdominal metastasis. Diagnosis confirmed by biopsy by two different pathologists. Treatment given October, 1927 and June, 1928. Recovery complete within six months after second treatment. Remains well. No more pathology, good strength, normal function, and reconstruction.

Cancer of Stomach

Mrs. H. Age 47.

Duration two years. Symptoms of vomiting and hemorrhage, rapid growth of tumor to a large hard bulging mass filling the region above umbilicus. Hemoglobin 30 percent. Jaundice, marked cachexia. Radiograph demonstrates involvement of lesser and greater curvatures from pylorus to cardiac portion. One cc. of solution of Glyoxylide injected sub-cutaneously in arm October, 1934. Recovery with several reactions at three week periods was completed in a year. Normal in every respect. No pathology at present. Peroxide of formaldehyde was source of Glyoxylide in this case.

Cancer of Palate

Mr. J. Age 60.

Cancer of hard and soft palate. Recurrent after removal surgically. Biopsy confirmed squamous cell carcinoma. Nine small growths up to a lima bean in size. Glands under jaw enlarged and infiltrated. One cc. Glyoxylide solution given December 3, 1932 was followed by steady recovery within six months.

Malignant Glioma of the Eye

Baby R. L. Age three years and six months.

First observed by me November 21, 1935. Right eye was removed May, 1933 for rapidly developing glioma. In November, 1935 the other eye was found to be similarly affected. Surgeon advised that its

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removal would be useless and patient was referred for a dose of Glyoxylide. At this time pains were a prominent feature, eye was red, pupil dilated and apparently paralyzed. Visual field was diminished by one quarter its area, and the neoplasm was visible as a mass about the size of a bean. Glyoxylide was given November 25, 1935 and August 18, 1936. Recovery was completed within a year. During the reactions mild muscle twitching in the legs took place at the twelfth to the twenty-fourth week period. This we interpret as evidence of reaction in multiple gliomata distributed in parts of the central nervous system. The results are a return to normalcy of the eye in every respect, and a very good condition of her health in general.

X-Ray Cancer

Dr. B. Age 71.

X-ray cancer developed between the first finger and thumb over an area the size of a quarter following the use of x-rays for years in dental radiography. Radium and escharotics had been used unsuccessfully and at time of the Glyoxylide treatment it had been advancing steadily for some six months. Biopsy had confirmed the diagnosis, and amputation of part of the hand was being considered. However, one dose of Glyoxylide under recommendation of Dr. D. was made on March 26, 1934. Recovery was steady and was completed in about eight months. There was also a great improvement in the general health. He remains well.

X-Ray Cancer

Dr. R. Age 65.

Had employed xray for a period of twenty years, following which, during the last five years x-ray cancer developed on the first and second fingers of the left hand; some malignant change showing on the thumb. The first finger was amputated after the pain had become so severe that it could not be stood and it proved to be x-ray cancer under the microscope. The second finger was under consideration for amputation too, because of the severity of the pain and the progress of the lesion when the Glyoxylide was tried in November, 1935. One dose proved sufficient and before the year was up recovery was complete with restoration of normal skin. The pain subsided rather rapidly. General health improved in many particulars also. He remains well.

Cancer of Breast

Mrs. C. N. Age 43. Housewife.

History taken September, 1926, when Glyoxylide was administered.

Past history Abscess of right breast following injury in childhood. Rheumatism at 13. Appendectomy in 1914. Gall bladder explored in 1920. Also tonsillectomy. Since 1920, enlargement of finger joints, helped by colchicum.

Present Complaint A hard mass above the nipple, egg size, first noticed in 1921, as a soft swelling which recently grew rapidly, large and hard causing retraction of the nipple. In January, 1925, right breast was radically removed with "axillary glands and pectoral muscle, carrying the dissection to the midline over the sternum upward to the clavicle and outward to the latissimus dorsi muscle, and downward including the upper part of the rectus fascia. The pectoralis major and minor were included. The microscopic

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examination made is reported thus: 1. Sections from tumor proper show larger and smaller gland alveoli lined with many rows of epithelium or entirely filled by epithelium. These cells are of moderate size and have relatively large deeply staining nucleus and many of them are undergoing mitosis. In addition to these large gland alveoli the fibrous stroma of the breast is infiltrated in all directions by compressed alveoli of the same type of cell. 2. Sections some distance from the tumor show hypertrophic gland alveoli and also large atypical alveoli like those seen in the tumor proper. 3. Other areas some distance from the tumor show no invasion, but alveoli containing large clear epithelial cells of the type designated "hyperplastic number 2" by McCarty. 4. Sections from nipple show no invasion. 5. Sections from axillary glands show large tumor alveoli in those from the midaxilla only. Diagnosis adenocarcinoma of breast." She left the hospital, February 12, 1925. The hospital reports their examination made, June 2, 1925 after a series of radiations from February 9, 1925 to May 3, 1925, to show no evidence of recurrence. Likewise in July, 1925, no recurrence was noted. However, patient returned to the hospital in September with pains in the right subcostal region, nausea and vomiting. Examinations were reported also in November and December, 1925, and no recurrence mentioned except the possibility of liver involvement. In late 1926, the right arm began to swell, which her surgeons account for as due to lymphatic obstruction.

Examination On applying to me in September, 1926, examination revealed a mass above the right clavicle a little larger than an English walnut. In the right axilla two tumors were found, one the size of a hickory nut and one the size of an almond kernel. The operation area showed some malignant induration as three small tumefactions in the line of suture. The liver was enlarged by three fingerwidths below the right ribs as a definite hard mass attached to the liver. She was somewhat icteric in color. Very thin and toxic.

Treatment One cc. of Glyoxylide was given September 21, 1926. There was some definite reaction of grippiness, slight chills and fever several days later and during the third week. The metastasis absorbed completely before the end of the twelfth week. The large one above the clavicle disappearing first of all, namely, during the fourth week. In the meantime the gastric symptoms also cleared up and the liver involvement was no longer detectable after the sixth week. Her health improved steadily and her weight increased from about 87 to 103 pounds. Examination made in February, 1937, ten years after treatment shows no involvement by cancer whatever and general good health.

Discussion This case of very malignant cancer of the breast that recurred vigorously during the year following operation of the most radical sort, and deep xray therapy, made a prompt complete recovery on the Glyoxylide even though the recurrences were so widespread as to involve the liver as well as the glands and tissues of the operation area and above the clavicle.

Cancer of Oesophagus and Cardia

Mrs. W. Age 52.

Family History Suggestive of malignancy.

Past Illnesses Gastric ulcer for over twenty years with hemorrhages.

Present Illness Started as rapidly increasing difficulty in swallowing and a bad gastric attack of vomiting and pains which did not cease day or night until laparotomy was done on November 7, 1936 after the pain had become especially severe. Laparotomy revealed a carcinoma occupying the whole lesser curvature of the stomach more than an inch in thickness; nodular, extending up through the diaphragm and reaching to the pylorus, and encircling the cardiac end where it caused constriction and obstruction. The width over the lesser curvature amounted to about five inches; length six inches. Radiographs previously and

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subsequently made showed two and one-half inches of esophageal constriction and evolvment. During the two weeks attack she lost fifteen pounds, and some ten pounds in the preceding few weeks because of difficulty in swallowing which reached the stage when even water would not pass. Her weight dropped to about ninety pounds by December 7.

Treatment of one dose of Glyoxylide given December 7, 1936 was followed by a few days of achiness and Migt fever and chills. Thereafter, improvement was rapid with gain of weight and complete return to normal, functionally, radio graphically, and by physical examination with gain of weight to 145 pounds. Splendid general health is fully restored.

Cancer of Rectum and Liver

Mrs. M. G. Age 67.

Housewife. History taken June 5, 1933.

DiagnosisBy history, physical examination, by exploratory laparotomy and biopsy, cancer of rectum.

Family History Sister died of stroke at age 79. Mother died at 87. Father died at 77.

Previous Illnesses Rheumatism of knees and ankles for the last four or five years. Thirty years ago had 18 pound fibroid tumor removed with the uterus. Good health since until two years ago when obstipation asserted itself and she concluded that she had a growth in the bowel. Examination by a good surgeon found a growth in the sigmoid in December, 1932. Obstruction became complete by April 27, 1933, when a "window" colostomy was performed, and a biopsy was made that demonstrated that carcinoma of high grade malignancy was present. The patient so informed me but a search of the hospital records by the surgeon showed the biopsy report missing. A prognosis was made at the time of about a month to live.

Physical Examination Examination June 5, 1933, revealed an enormous mass occupying and completely filling the lower bowel, palpable through the abdominal wall to be the size of a large cantaloupe. The liver was enlarged by a fist sized mass, hard and lumpy and bulging. Fortunately the colostomy was a lateral opening without severing the bowel. The patient was extremely cachectic and weak. A copious drainage of foul bloody fluid and regular vomiting of food and decayed material was noted. The pain was very distressing.

Treatment One cc. Glyoxylide solution was given on June 7, 1933.

ResultsA reaction took place in three days, with some achiness. Thereafter there was improvement in her general health and less toxicity. The vomiting stopped. Soon she was relishing food and the pain left.

By the end of three months some feces were passed per rectum and in a year the colostomy healed spontaneously and all movements were discharged per rectum. She came to something approaching normalcy. Yet there was always some growth remaining and some discharge from the bowel. On July 30, 1934, a dose of Glyoxylide was given and thereafter a strong reaction took place, on the fourth day and during the ninth and twelfth weeks, fever, achiness, pains in the abdomen and diarrhea for a whole week. True recovery followed quite rapidly and she is in perfect health now, strong, free from cancer symptoms, and without any growth traceable in bowel or liver. Her bowels move normally.

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Lymphosarcoma

Mrs. A. G. Age 40.

Family History Mother died of cancer of the uterus at age of 62.

Past History Appendectomy at 35. Had small lump back of neck size of pea from childhood.

Present Illness Eight weeks ago lump began to increase to hickory nut size very rapidly and after five weeks had it removed surgically. Microscopic study revealed it to be "lymphoblastoma of lymphosarcoma type" as reported by pathologist of good standing. Rapid recurrence took place so that in three weeks the operated area became a tumefaction somewhat reddened and occupying the middle third of the Sterno-C-Mastoid muscle about an inch in diameter. Area below contained several masses the size of a pea and hard. There was rather rapidly developing toxicity and failure in general health. Loss of weight from 108 to 101 pounds in last few weeks.

Treatment of one dose of Glyoxylide was given on May 19, 1937 and recovery took place rapidly. In three weeks all tumors were completely absorbed and the weight gained to 102Y2 pounds. Inspection, August 31, 1937, confirmed the recovery. Rapid recoveries take place in cases where the growth develops rapidly and where the patient is not overwhelmed with the disease very uniformly, as this case illustrates.

Fibroid of Uterus

Mrs. B. M. Age 39. Colored.

Family history does not show cancer or tuberculosis.

Previous Illnesses No children. Never sick since childhood. Allergic to milk and corn.

Present Illness During last few years noticed hard lumpy swelling in abdomen. Free flowing for six to eight days at periods, always regular otherwise.

Examination Reveals lumpy enlargement of uterus by multiple fibroids causing uterus to extend above umbilicus and bulge like six or seven month pregnancy. Cervix not infiltrated. Uterus moveable. Compression of bladder causes frequent urination of small quantity. Compression of bowel estimated by examination. Growth rests against sacrum, causes pain and constipation. Glyoxylide was given January 10, 1930. Recovery took nearly two years from this one dose. The allergy to milk and corn have also left. Uterus now normal and general health very good. Correction of allergy of a ductless gland is well illustrated in the following case.

Fibroid of Uterus

Mrs. W. Age 58.

Several years of nervousness. Tendency to perspire easily. The gradual development of extreme exophthalmus, tremor, dyspnoea, and bronzing of the skin. There was vomiting with loss of weight from 150 to 108 pounds in one year. Examination revealed also an oedema of feet and legs and the presence of a hard fixed mass bulging from and filling the epigastrium. One dose of Glyoxylide was given, September

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28, 1929. Recovery was complete in about sixty weeks. She remains in perfect health to date. Normal in weight and all respects.

Fibroid of Uterus

Mrs. N. L. Age: 50 years.

Date of examination: June 25, 1934. Diagnosis confirmed by biopsy.

No cancer heredity. Mother and sister died of tuberculosis.

Patient states that 13 years ago a small sore first appeared behind the ear, which developed into a deep fissure and became gradually larger until it reached the size of a quarter in a period of three years. It was then burned out with an electric needle and subsequently she received three or four applications of three hours each of radium. July, 1932, she was given a plaster treatment and the condition grew steadily worse. Some small portions were excised and three radium needles inserted for three hours each. January, 1932, she had three more radium treatments and in March, 1933, so that altogether she had three applications of radium.

Physical findings: There is an ulcerated area anterior to the left external ear extending posteriorly through the ear and below the ear to a deeply ulcerated cavity. The lower portion of the lobe of the ear is detached from the cranium. Her present weight is 105 pounds.

Patient received treatment on June 26, 1934. The second day following this treatment she experienced chills and fever, which continued over a period of ten days and patient was confined to bed. On December 20, 1934, a second injection of the Koch treatment was given and by February 4 her health had shown definite improvement. She had gained in weight to 114 pounds. On March 18, 1935, the excretion had ceased to form on the ulcer, the edges showed a puckered, healthy appearance and her weight had increased to 118 1/2 pounds. July 20 healing was complete and she weighed 132 pounds. She continued to hold this weight and there has been no evidence up to this time, March 2, 1938, of any recurrence.

Fibroid of Uterus

Mrs. I. H. Age 29 years.

Date of examination: May 10, 1937. Mother died of carcinoma.

Patient's present illness began a year ago, when she was operated upon for a uterine tumor and had a subtotal hysterectomy. On November 1 she developed a fecal fistula and in February had a severe hemorrhage and on the 7th of May had a severe vaginal hemorrhage. Diagnosis of a section sent to Owen Laboratory of Detroit, December, 1936, showed carcinoma. In December she had one deep therapy Xray treatment, one course of deep therapy X-ray of four sittings, and one treatment of radium for 48 hours. In December, 1936, four more deep therapy treatments were given and likewise in February, 1937. There was no improvement in the symptoms following these treatments and on May 7, three days prior to presenting herself here for treatment, she had had a very severe hemorrhage.

On bimanual examination of the pelvis a large mass was outlined more than 4 inches in diameter and of very irregular contour, hard consistency, immovable, and tender on pressure. There was no bleeding, however, following the manipulation.

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Treatment was given on May 13, 1937, with no change in the course of the symptoms until June 9, 1937. At the time she received her treatment she weighed 108 pounds as compared to 198 pounds a year previous. June 9 she weighed 98½ pounds and another treatment was given on this date. The patient continued to lose weight until the 12th week, at which time she weighed 92½ pounds. After the 12th week she began to improve rapidly, the mass grew smaller, and on September 22, 1937, she weighed 110 pounds, when no mass could be outlined on examination although the rectovaginal fistula present at the time of the initial treatment was still present. On January 26, 1938, the patient weighed 143½ pounds, was doing her own work, and was entirely free from symptoms.

Dementia Praecox

Mrs. D. Age 50.

Treated January, 1923. Dementia praecox with delusions of persecution lasting some six years following six years of anxiety neurosis, ten years of gastric ulcer, symptoms followed in the last two years by steady development of a massive carcinoma of the stomach palpably about the size of a grapefruit at time of treatment. Delusions that "needles and pins were put in food and drink to kill her;" could see them. Feeding forced at times. Bedfast. Recovery was complete in two years after two injections of Glyoxylyde solution. After recovery patient was asked about delusions, she stated, "She knew they were not true, but nevertheless could not help believing them, head was very woozy anyway.

Therefore, in spite of her physiological judgment the delusion held sway allergically, dominating the mind. She remains well in all respects. Abdomen normal.

Dementia Praecox

Miss W. Age 44.

Colitis for twenty years. During last twelve years dementia praecox and recently spells of pain in abdomen without palpable pathology, delusions, and compulsion neuroses. Prolonged periods of violent dementia. Ten doses of potassium glyoxylate in the course of the last three years established an apparent recovery.

Shingles (infective neuritis)

Miss J. K. Age 12.

Showed lesions of Herpes Foster which had been present three days. Pain had kept her awake for four nights. Treatment was given at noon July 23rd and was followed by relief. She slept well that night and the pain never returned. The red base upon which the blisters rested had given place to normal color when seen twenty hours after the treatment was administered. With the exception of two small superficial scabs and the loss of the suntan over the affected part, all physical signs had disappeared in another week.

Acute Neuritis of Shoulder Girdle

Mrs. G. W. Age 40.

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Pain in shoulder girdle very severe for two weeks, kept her awake most of each night and suffered severely during the day as well. Twelve hours after one dose of Glyoxylide, pain was permanently gone, recovery complete.

Epilepsy

Miss B.

Age 17.

School girl. Epileptic fits for over three years, occurring at night after retiring. Most often when observed, Aura centered about stomach. Not more than three fits a day, sometimes but once a week. One dose of Glyoxylide solution given August 12, 1929 was followed by a gradual recession of the disease, so that by the twelfth week only a few petit mal were observed and thereafter recovery has remained complete.

Psoriasis

Miss N. Age 32.

Brother has psoriasis. Patient had tonsillitis one and onehalf years ago. Tachycardia on changing posture soon followed and one month later psoriasis started on thigh and spread rapidly in spite of expert concentrated attention. At the time of Glyoxylide injection body was generally covered, hair and nails affected. Ears almost separated from scalp. Recovery completed and heart returned to normal fourteen weeks after one injection of Glyoxylide given, April 2, 1926. Recovery is permanent to date.

The Infections

The following common serious infections have been quickly overcome in animals and in men by restoring vigorous oxidation through the catalytic activity of Glyoxylide: distemper, pneumonia, severe Staphylococcus pyogenes aureus meningitis, acne, common colds, arthritis, sinusitis, Vincent's infection, acute anterior poliomyelitis, malaria, and a case of rabies in a man. Depending upon the chronicity, syphilis, leprosy, and tuberculosis have recovered rapidly or slowly. Our own experience in malaria has not been extensive but the recoveries are prompt.

Acute Anterior Poliomyelitis

Only two cases need to be reported here, one a child of two years, presenting characteristic symptoms prodromally and paralysis of both legs, feet, and thighs for forty-eight hours before treatment of one dose of Glyoxylide. Recovery was complete with normal return of muscle control within twenty-four hours. The other case was a boy of seventeen. All muscles of torso, legs, thighs, arms, neck, the internal rectus of right eye, the swallowing muscles, the diaphragm, intestines, are paralyzed. When treated with Glyoxylide paralysis of whole right leg was already established for four days, and paralysis of the other muscle groups took place within that time, until respiratory paralysis was just about complete, and cyanosis deep, patient unconscious. Recovery started to show within ten minutes after the first injection, noticed in the straightening of the right eye, slightly better breathing and diminution of the bloated abdomen, and the return of swallowing within a day. He required catheterization for four weeks. Satisfactory restoration of muscle development and control required about two years with reconstruction of right rectus abdominalis muscle and right rectus femoris still going on.

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Tuberculosis

Miss A. Age 16.

Advanced tuberculosis of both lungs. Spontaneous pneumothorax, left chest. Heart shifted to the right side. Massive tuberculosis left kidney. Evident tubercular meningitis. Projectile vomiting every few minutes for three weeks, cyanotic. Fever 105. Pulse very weak and rapid. Bedfast. Treated one dose of Glyoxylide, July, 1922. Recovery took two years. Whole left lung regenerated. No more pathology traceable. Heart restored to left side. Married, has healthy twins who are very resistant to colds. Health is still perfect.

Syphilis

Mr. K. Age 32.

Treated, November, 1923. Syphilis of throat. Resistant to vigorous usual antiluetic treatment. Throat badly swollen and ulcerated. Voice lost. Skin lesions generalized. Blood Wassermann persistently positive. Condition growing worse over a year. One dose Glyoxylide was followed by complete recovery in three months. Blood Wassermann negative thereafter. Remains well.

Arthritis

Resembling the allergic lesions of lues, tuberculosis, leprosy and malignancy, in both rheumatoid arthritis, and in Osteoarthritis advancing hyperplasia followed by necrosis is the rule. The picture is that of an unsuccessful response to infection. The restoration of a vigorous oxidation catalysis even in advanced stages with extensive ankylosis and much pain and necrosis has brought about a recovery to about ninety percent of normal. The following cases illustrate.

Rheumatoid Arthritis

Mrs. T. Age 74.

Rheumatoid arthritis for nearly thirty years, progressive until all joints including the jaw articulations had become firmly ankylosed, and terrifically painful on touch or tension. Most joints were distorted, fusiform in shape, enclosing hypertrophic inflammatory deposits and covered with shiny skin. One dose of Glyoxylide was given in December, 1927, pain was soon better and in three months she was able to walk a few steps. In one year recovery had become about ninety per cent of normal and has so remained.

Rheumatoid Arthritis

Mr. A. Age 60.

Poker spine with rheumatoid arthritis. Painful hypertrophic and atrophic ankylosis of practically all joints including jaw articulations progressing for the last two years with occasional exacerbations. Tonsils had been badly infected for a long time; pyorrhea, sinusitis, and myocarditis present. Treatment of one dose of Glyoxylide given in January, 1937; started a rapid subsidence of pain, with absorption of hypertrophic deposits and restoration of ability to walk and open mouth. During the twelfth and fifteenth week reactions, exquisite tenderness accompanied a healing restoration of joint tissues after which perhaps a 95 percent return to normal was established with improvement still going on.

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Tubercular Arthritis and Osteomyelitis

Miss S. Age 20.

Tuberculosis of left knee joint for fourteen years. Three operations between ages of six and twelve to relieve acute flareup of osteomyelitis in lower half of femur shaft. Distortion of bone progressive with increasing ankylosis and deformity. Motion angle ten degrees. The fourth flareup took place in July, 1934, with swelling and intense pain of the knee joint. Rapidly progressive. Could not walk. Radiographic study revealed irregular structure and contour of lower third of shaft of femur, with defective calcification and bone absorption, clouding of articular surfaces narrowing of joint space, extensive proliferation around periosteal border. One dose of Glyoxylide given July 23, 1934, was followed by rapid decrease in the pain and a steady restoration of joint and bone to normal, functionally and structurally, with perfect use of leg and full motion within nine months. General health has become excellent.

Coronary Thrombosis

Dr. B. Age 58.

In January, 1926 at time of treatment with Glyoxylide.

In this case the Coronary thrombosis was complicated with marked arterial and coronary sclerosis. He had been a busy country practitioner until 1917 when angina pectoris pains shut down on his work. They came on exertion or after eating. Finally, pains were unbearable and he had to stop practice. He could walk a hundred feet very slowly before pains put a halt to the effort. Often pain was severe without exertion. Electrocardiogram confirmed the condition of thrombosis, and the sclerosis was verified. In January of 1926, I gave him one injection. Recovery was rather steady and I think rapid, for in three months he was again at his practice and in a year was as vigorous as ever, pretty close to normal if not entirely normal and remains so. The systemic blood vessels show no more sclerosis.

Advanced Arterial Sclerosis and Senile Dementia Paresis

Mr. P. Age 93.

Quite well most of his life, was a painter by trade. High blood pressure, with usual symptoms increasing with the years. Very feeble during last two years. In the winter of 1932, when this history was taken, he had several "strokes" and a complete spastic paralysis followed, making him perfectly helpless and speechless. I saw him in April, 1933, and gave him an injection in a muscle. At this time the man was as stiff as a board and entirely helpless. The vessels were densely sclerosed, nodular and tortuous. Improvement was evident within a month. I saw him again in July and he could walk about more or less relaxed and full control of bowels and bladder had returned. He discussed things very intelligently. I saw him again the following summer, when he was making a new cement sidewalk in front of his house and was working actively. At this time the blood vessels were elastic and smooth, but still a little tortuous, and the blood pressure was not over 160. I was able to follow him for three years, during which he remained well and active.

Discussion

Two things are to be noted, first, that the cause of the pain is removed by removing the pathogenic toxin through the restored oxidation mechanism. This is promptly accomplished. Secondly, the pain is not a

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result of the arterial sclerosis, which is consequent to the causative factor like the pain. Since the sclerosis is a stubborn structural change, it takes a longer time to be removed and corrected. Both the pain and the sclerosis are removed by the same mechanism that restores the normal function, for the dilated heart returns to good tone again, though not as quickly as the pain goes. In other chronic toxic states, like tuberculosis with dilated heart, a good tone is restored more rapidly than lung is restored or the body becomes completely free from germs. We may say, then, that the paincausing factor is the toxic factor that causes the myocardial weakness and lowers the resistance to infection and causes the sclerosis. This applies also in malignancy, even though the direct cause here may be an incompletely combusted metabolite consequent to the inhibited oxidation produced by a negative oxidation catalyst of quinone, aromatic di-hydroxyl, or ethylene fluorescent structure. The oxidation of these substances is followed by reduction of pain and, therefore, lessening of pain is one of the early signs of recovery where the pain is not produced by pressure.

It is found that acetyl choline produced at the parasympathetic nerve endings during their function, prevents the accumulation of fat in the liver on heavy fat and cholesterol feeding, when injected into the body in such minute dosage as one to ten million. One is inclined to look upon an exhaustion or fatigue and insufficiency in its production as a cause of cholesterol deposition and of the changes that regularly follow in the degeneration of the vessel wall; whereas an overproduction, with consequent vessel spasm and impoverished circulation in the wall, accounts for the coronary spasm and ultimately occlusion with the changes that are consequent. Since the excess acetyl choline is normally burned and destroyed by a normal oxidation mechanism, no harm can come in the presence of good oxidation catalysis, which burns up the acetyl choline not used.

Acetyl choline cannot be held to be the only, or even the major factor in vascular disease, however, for the injured oxidation catalysis that permits cholesterol excess and deposition in the absence of normal acetyl choline production, is also responsible for the failure to burn other toxic agents that injure the tissues. The failure of sufficient oxidation catalysis may be of the degree that does not supply the energy for acetyl choline production, on the one hand, and thus be fundamental to atheromatous change; or, on the other hand, it may be insufficient to destroy toxic agents actively producing lesions in the vessel wall that result in thrombosis and occlusion.

Even though acetyl choline spasm may prove injurious to the coronary vessels, it is not the only substance that behaves so, nor is its action nearly as destructive as the Benzopyrene type of compounds or the dihydroxybenzenes and quinones that have allergenic and carcinogenic action. These substances are destroyed by the oxidation catalysts we have introduced quite like the toxic structures that cause coronary lesions and occlusion. The etiology of both types of vascular disease may thus be regarded as producible by one type of poison. The same structural type causes cancer and the other allergies, and the same structural arrangement is essential to the curative substance.

In the one instance the anti-catalytic structure is aromatic and absorbs the energy of the catalyst, nullifying it; in the other it is aliphatic and supplies a vigorous positive oxidation catalysis of sufficient activity to oxidize the negative catalyst and thus removes the etiologic factor.

**The Writings of
Dr. William F. Koch,
Ph. D., M.D.
Publications 1940-1949**

The Basic Chemistry Of Our Diet

By Dr. William F. Koch, Ph.D. M.D.

Abstract: The Basic Chemistry of Our Diet: Dr. Koch states, "Cancer like other allergies is a deficiency disease." Stating there are 2 factors that serve as agents in carcinogenesis, Dr. Koch explores how physical and/or chemical injury to the functional mechanism of cell tissue brings about an inability to conduct oxidation chains to burn sugar in order to produce energy. Injured cells lose oxidative resistance to the mitogenic factor! Koch gives a detailed chemical analysis of the foods we eat and how they either retard or enhance the disease process. Dr. Koch explains how terpenes, insecticides, deficiencies in trace elements, smoked/charred foods, and food additives play a fundamental role in our health. This book gives insight into the reasons behind the Koch Protocol. (1940)

While the purpose of this Treatment is to help the body combat allergies and infections, it has been used from its very inception in the treatment of cancer. This is because our working Hypothesis has always based cancer primarily upon infection, and pictures the neoplastic process as an allergy to the toxin of that infection. (1) There are two other factors that serve as agents in the carcinogenesis. They are physical and chemical injury to the functional mechanism of the tissue cells that become malignant. Since such injury destroys the ability of the cell to initiate or to conduct oxidation chain reactions to burn sugar in order to produce energy for function, the catalysts necessary to initiate and to carry the oxidation chains are not produced and the oxidation of toxins is necessarily hindered or prevented. The result is that the toxins produced from viruses, germs, or from industrial origin, which act as oxidation inhibitors and possess the specific fluorescence needed to photosynthesize mitosis, are now able to exist unhindered in such injured cells and activate continuous cell division. Cancer like other allergies is thus a deficiency disease. (2) In the class of injured cells, we place the anaplastic embryonic cell nests, which according to the Virchow Theory are the material that becomes malignant. Such cells are without protective functional oxidation mechanisms; also cells that are injured by crushing and tearing may lose their oxidation mechanisms too, and thus be unable to resist the toxins of bacteria and viruses, which exhibit the carcinogenic properties we have announced. The importance of the physical carcinogenic injury is demonstrated from the fact that metastases of cancer cells to various organs do not convert the cells of these tissues to cancer cells. The causative virus is present in the metastasizing cells and this virus has access to the cells of their new host, yet they do not alter the normal behavior of the cells of the organ involved. The time element must, of course, be considered and the injury of instrumentation of injecting a virus is eliminated too. Thus the beginning of the cancer growth need only start in a cell or two that have been chemically or physically injured enough to lose oxidative resistance to the mitogenic factor.

(1) Bulletin, Koch Cancer Foundation, 1926-7, P. Med.-Phys. Bac. 1926-7-8.

(2) Medical Record, Koch. Oct. 20, 1920

THE RECOVERY PROCESS

Before we can consider the diet and environment, we must also have in mind the factors that are at work in the recovery process. They comprise the restored oxidation mechanisms contributed by the Treatment on the one hand, and on the other, the various influences that hinder the Treatment material from doing its work. These may be substances that combine and alter the Treatment material or which combine or inactivate the catalysts that carry the oxidation chains we desire to restore. Since the basis of infection, allergy and cancer is the same in our conception, we eliminate all substances or influences that hinder the

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oxidation of biological or carcinogenic toxins, or that favor the development of cancer, allergy or infections, so far as we can see. To do this logically, we must consider the chemical structure of carcinogenic toxins of various origins.

The simplest carcinogens are the metallic elements, principally radium, nickel, chromium, arsenic, and such aliphatic substances as carbon tetrachloride. These substances must have access to the tissues over a prolonged period, five to 30 years for example, and so they do not influence our diet too much. However, as these substances with the exception of arsenic and the chloride compounds, are important oxidation initiators in the high homeopathic dosages, and are oxidation inhibitors in the higher concentrations, they should not be employed in lower potencies or as industrial exposures over long periods. We use them in connection with our Treatment as will soon be seen, but this is for their dynamic effect only. The allopathic physician is not informed on such subjects and while it is not our purpose nor our ability even to teach homeopathy, we must call attention to the biological fact that such low concentration of cobalt, as one part to ten to the thirtieth power of water, is what makes the Saratoga Springs mineral water a useful agent in the treatment of disease, and this same cobalt in the low concentration of one part to ten of the twelfth power of water is needed to make vitamin twelve click. Vitamin twelve, it must be remembered, works best in very high dilutions too, such as one part of the vitamin to a trillion parts or more of water. Thus the cobalt it contains acts in exceedingly high dilutions. It acts as an oxidation chain initiator essential to good health, according to our conception. Cooper is likewise an important agent and so is zinc for pancreatic function and tin for leukocytic activity in our view. All of these metals have their important position in securing electron transfers in the initiation of specific functional oxidations and must be protected against displacement by such elements as aluminum, or must not be inactivated by sulfides in the food, water or in the air we breathe. Sulfides should be prevented from being generated in the intestinal tract also. Besides, a good mucous secretion on the part of the intestinal wall is to be desired in order to hold back the sulfides from passing into the lymph and blood streams of the portal circulation. When efficient mucous is lacking, some non-metallic substitute is required, such as METHYL CELLULOSE, psyllium seed products, the slimy product of the Aloe plant, okra, and others. These materials offer large absorption surfaces that take up toxins and wall off the mucosa surface of the intestine from its toxic contents.

Foods that support sulfide production are principally the proteins of animal origin. Beans have this reputation but it will be found that they offer little or no sulfide production, if the rest of the diet is free from animal proteins. Peas and lentils may be a source of sulfides and they also offer materials that support the tubercle bacillus luxuriantly in artificial culture media. Hence they to are to be eliminated like various flesh products and eggs. When the natural metallic catalysts that must be present in high dilution in the foods are protected by not using meats and aluminum cooking utensils, the advantage is obvious.

TRACE METALS MORE NEEDED IN LYMPHATIC NEOPLASMS

It is my conclusion, that the form of malignancy where the trace metals are more particularly in need of dietary consideration and protection are the neoplasms of lymphatic tissue origin, as Hodgkin's disease and Lymphosarcoma. This is our general experience. The functional efficacy of the white blood cells appears to us to depend upon the electron transfers that the metals are able to accomplish as well as upon good Carbonyl oxidation initiation. We know of no confirmation of this Thesis by others however.

We do not credit hydrogen acceptors such as the Glutathione of Hopkins as being sufficiently high in potency to require time here. Between the years 1912 and 1914 we made some observations on cystine and cysteine as obtainable from human hair in connection with liver and thyroid function. This type of oxidation initiation appears to be more concerned with tissue construction than with the burning of sugar

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for energy work. The dehydrogenated diamino acid cysteine may serve as an oxidation initiator, useful in correcting the basal cell slow developing cancers of the skin that are so removed with escharotics. Many more cases will have to be treated than those we have observed before a conclusion can be reached on this point. However, oxidation initiators of this type are of no use in our hands in the violent types of cancer we are called upon to treat.

CARBONYL CATALYSTS

This brings us down to the Carbonyl catalysts which we credit with serving the tissue oxidations for work energy production, and which arise in the oxidation of sugar. The Carbonyl group is always more or less of a hydrogen acceptor, but when it is especially activated as by conjugation with ethylene or acetylene or in series with other Carbonyl groups, it is then that this activity is most pronounced and useful. The most active of such arrangements are, of course, the union of two Carbonyl groups with double bonds. But this is a special subject. The protection of Carbonyl in conjugation with ethylene must again take into consideration the sulfydryl group as present in hydrogen sulfide particularly, and so the use of animal proteins of all types comes up as an offense against good recovery chemistry. A patient may “get by” while eating animal proteins. In fact, the stuffing of patients with animal proteins in hospitals to “give them strength” as they say can be credited with many failures in the ordinary infections like pneumonia and tuberculosis. In cancer it is simply fatal and rapidly so in the whole field of observations that we have made. We have recommended bone broth for its calcium content in the past, and it has been used safely in some patients. But we soon learned that all patients could not take even this, and we saw too many develop indole and skatol in the urine after its use. We therefore discontinued this effort to supply useful food materials in a way that satisfies the cravings for meat of a good part of our patients. Not only are the metallic catalysts endangered by the sulfides, but additions are made to Carbonyl-ethylene conjugates which inactivate them. They also liberate highly active hydrogen that makes additions to free radical oxidation carriers. Of course, when Nature has her most important tools rendered useless in this way, she supplied her second line of agents to do what they can to keep the system going, but this is not what we want. To combat serious disease we must have the best that Nature can offer, and indeed we must add to this even more active oxidation agents than Nature regularly uses, so far as we know. It is to supply such Carbonyl compounds that we have built up our initiators of oxidation chains as we have. But since they are more active than any we know in Nature, they are all the more reactable with the sulfide and amine or the aromatic inhibitors produced by meat putrefaction within the intestinal tract. Thus the pure vegetarian, fruit diet is all the more necessary, while our Treatment is used.

INDIVIDUAL DIGESTIVE CAPACITIES

One must give thought, however, to the digestive capacities of the individual under treatment. It will not alter the rule, but while we have the facts on this subject we may review them. We may use extreme variations as examples, the dog and the cow.

The dog is essentially carnivorous with a protein digestive capacity of high caliber. They may masticate or swallow the meat chunks whole and thrive nutritionally. Yet they often die of cancer. On a pure meat diet, however, they form fewer sulfides than on a mixed diet.

The cow also is subject to cancer, generally located in the face and started by injury to the tissue. Cancer is not frequent, however, and rarely found in any other part of the body. The diet is ideally vegetarian, moreover, and the recovery from cancer on our Treatment is prompt in such cases, as we have seen treated so far. But the dog too may thrive very well indeed on the vegetarian die, and his response is better on the pure vegetarian diet or on the pure meat diet than on a mixed regime. We can give statistics

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on this response when both types are diseased by their most frequent type of virus infection. These are Hoof and Mouth disease in the cow and Distemper in the dog. Where complete elimination of interfering factors is attained the recovery percentage on one dose of Carbonyl catalysts is above 95% when all stages of Hoof and Mouth disease are treated in cows and pigs. The same percentage of cure is obtained in dogs with Distemper when they are either on a pure meat diet or on a pure vegetarian diet, but on a mixed diet the recovery percentage dropped and the process took longer. In some cases two doses were needed. We attribute the poorer results on the mixed diet in dogs to the interference with digestion of the meat in the stomach and upper intestine, and its subsequent putrefaction in the large intestine. On the pure vegetable diet the meat putrefaction is largely eliminated. Hence putrefaction amines act as inhibitors also.

WHY ANIMAL PROTEINS SHOULD BE AVOIDED

The inhibiting influence of the highly mobile hydrogen atom of the putrefactive amines on the Remedy itself is well illustrated in an experiment that resulted from accident. Three syringes well wrapped in sterile cotton but otherwise not protected from substances in the air were kept in a refrigerator in which some meat was stored and became putrid over a period of several days. Although the amines were easily smelled, the syringes were used to give injections to three dogs with Distemper. The dogs died as if not treated. We attribute this failure to the volatile putrefaction amines that diffused into the cavity of the syringes between the barrel and plunger and absorbed into the glass surfaces. This experiment lowered the cure percentage in the first series of one hundred cases fully three percent. In another series, 59 cases, where every precaution was followed there were no failures and only one dog required two doses. In these cases all interference was avoided. Thus it is seen that putrefactive amines inhibit oxidation initiation. The lesson to be taken from these observations is that the digestion of the food in the stomach and upper intestine must be as complete as possible, and that the development of putrefactive amines must, and can be, prevented by the diet. It is best, therefore, not to use any animal proteins at all. In this way, the most obvious inhibitors to the oxidations of function that depend upon Carbonyl activity and the Treatment catalysts can be reduced to a minimum.

TERPENES ALSO INHIBITORS

Another class of inhibitors are substances of terpene structure, or substances that present a hydrogen atom in alpha position to an ethylene linkage or other double bond. Hydrogen atoms in this position are exceptionally active and can reduce the Carbonyl initiators as well as the free radical carriers of the oxidation chains. We, therefore, avoid tomatoes, cocktails, citrus fruit oils, paint polishes, wax solvents, etc., mangoes, and other foods containing substances of this order, as the diet outline shows. * It is of interest to note that the synthetic carcinogens possess several hydrogen atoms of high mobility in alpha position to their respective ethylene linkages. Thus they are able to hinder oxidation chain initiation and conduction that protects the cell. The carcinogens thus have the upper hand once they become established in a cell. Their double bonds exhibit the specific fluorescence required for transferring energy from glycolytic processes into the chemical processes to mitosis. Thus it is easy to understand the persistence of the neoplastic process as we pointed out in our "Chemistry to Natural Immunity" 1936, 1937, and 1939. These very double bonds and the active hydrogen atom alpha thereto offer the means of destruction of the carcinogen by an effective Carbonyl oxidation initiator.

(* Koch Cookbook included on web site.)

OTHER CARCINOGENS

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Carcinogens as present in some tar products and lotions used by dermatologists, have, to my knowledge, produced generalized cancer of the skin on the areas where it was applied. Gasoline motor and Diesel exhaust fumes carry good quota of carcinogens in spite of what the gasoline agents say. Much of the cancer of the lung of late is now recognized as due to this factor. The tar road dust is another carrier of carcinogens. Patients under our Treatment for any disease whatsoever should, therefore, avoid the exhaust fumes of internal combustion engines and the dust from tar roads that is if they can. They should at least do their best to avoid them. We have observed the late but persistent effects of the exhaust from farm tractors on a patient who was under treatment for cancer of the stomach. After recovery had gone far enough so the patient could go back to work and run his tractor, the disease recurred more violently than ever, and proved fatal. In such cases the exhaust fumes are poured out right into the workman's face or were brought there by the wind. But the farmer had to do his planting, and no amount of warning was heeded. Carbon monoxide is a deadly oxidation inhibitor like cyanide. Pure air is essential.

While referring to the unsaturated compounds that offer a hazard to health, one should mention the acrolein produced by heating animal fats as in roasting meats or frying potatoes. These acrolein polymers produced by dehydrating the glycerin fraction of the fat give the food a welcome flavor, but they are exceedingly injurious to cancer patients. The poly-acrylic aldehydes are now known to step up the action of the well-known carcinogens a million fold even when used in very minute amounts. Boiling fats in water does not produce this change. Fried foods and roasted meats are, therefore, to be avoided for this additional reason.

As the conveniences of modern civilization pile up, the increase in the incidence of cancer is also more evident. Fly killing sprays made in a petroleum base, "Canned heat" burners for cooking are among the group which when used by cancer patients make the disease definitely worse. The less civilized people do not and did not show the allergies we do. They were not subjected to the exhaust vapors from automobiles, or cooking gas stoves, and hence their oxidation mechanisms were running on the schedule the Creator had planned, to a better extent than ours. They burned their foods or air contaminates to completion or at least far enough so they could no longer inhibit the normal oxidation process and present an energy shifting fluorescence.

It is evident too that when the natural immunity oxidations are too weak to destroy one allergic agent they will be too weak, very likely, to destroy another as the condition is generally progressive; the trend is toward a broadening of the allergic state. Therefore, when a person is found allergic to one substance, he is likely to be allergic to another substance also. All allergies do not show up as plainly as the running nose of hay fever or the struggles of asthma. The foods that cause them can be easily recognized and eliminated. It is much more difficult to recognize the substances causing the neoplastic response. Here the allergy lies in the mitotic mechanism and the process may go on for quite some time before it is recognized. The patient does not recognize its first cause nor what substances give it impetus. Carcinogens cannot be studied with reference to other allergies than cancer, for obvious reasons. It may be taken as a safe rule then to avoid all foods, perfumes or exposure, which call forth an allergic response of any type. For any of them may aid in the development of the neoplastic state. This is the rule we have long followed. We have for this reason eliminated over heated fats of fried foods or roasted foods. The acrolein formed being a serious offender. It may precipitate an asthmatic attack in some persons, and I have seen it speed up the action of a carcinogen in another.

The value of the lipoids in metabolism is well known now. The natural unsaturated, fatty acids aid in the auto-induced oxidation of toxic materials as the carcinogens. (1) People who use a diet of natural fats have the benefit of the protection they offer. It might be stated that the very first confirmation by scientists outside our group to our Hypothesis that the natural immunity is a matter of auto-induced oxidations,

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came with a demonstration that the fatty unsaturated acids, such as linoleic acids, when undergoing auto-oxidation could induce the destructive oxidation of carcinogens. We have shown for many years that the unsaturated derivatives of sugar metabolism did this very thing, and that the ordinary fatty acids, by possessing a hydrogen atom of high activity alpha to a Carbonyl group, subjected the carbon chain to desaturation alpha-beta to this Carbonyl group and hence, the breakdown of fatty acids to a two carbon withdrawal at each step. Thus even the saturated fatty acids became unsaturated in their oxidation and the burning there of for function aided the natural immunity. (2) In this way we pointed out that the unsaturated products of sugar oxidation and the fruit acids of apples aided the oxidations of function and that the colder the winter where the apples grew, the better acceleration was expressed. The citrus fruits, on the other hand, tend to lower the body temperature no matter what the interpretations of citric acid behavior may be. This is largely due to the terpenes they offer. Ascorbic acid present in such fruits tends to oxidize the terpenes, however, and here again Nature presents the first recognized product of sugar oxidation which scientists outside our group have found to undergo auto-oxidation which induces destructive oxidations in carcinogens. (3) The fruits of the North and of the Tropics both serve the oxidation mechanism in a protective way. So, while the Eskimo obtained their protective fat acids from the fish oils, the temperate and tropical zone inhabitants are offered protection in their fruits and vegetables, as well as the fats of animal origin. It is not surprising, therefore, that the members of the family that develop tuberculosis are for the most part those who eat the lean meats only, while those who escape, eat the fats as well. This is an observation we made as early as 1925 and have verified ever since.

(1) Lipman, Summer, Bergman (1940-1943).

(2) Natural Immunity, Koch, 1936.

(3) Warren, 1943.

BEST FATS

The Eskimos rarely develop cancer. The largest part of their diet is fat and this contains full quantity of unsaturated fatty acid. The lesson to be taken from these facts is that the fats sold for the kitchen and table today, that do not become rancid, are of no help to the health of the body. The preparation of a fat so it will not become rancid is to saturate the unsaturated groups with hydrogen. Generally a nickel catalyst is used. But that makes no difference, perhaps. The destruction of the double bonds in the fatty acid greatly lowers its chance to undergo autoxidation and thus to induce the oxidation of toxins or aid its own oxidation for the production of energy. Everyone should pay particular attention to this, for when the fat is reduced so as to not be able to form peroxides and no longer tastes rancid in consequence, it is difficult to burn in the body and will pile on in undesired places. But worst of all, it is bad for the complexion. Since the auto-oxidations that natural un-saturated fatty acids are intended to produce in germ toxins are no longer possible in Spry and Crisco, so the germs that injure the skin have no such health factor to contend with and can mar the complexion with a much freer hand. Adding oxygen to become the peroxide makes the fat rancid. Therefore, one must buy fats that are not rancid yet, but can come so on exposure to air. It is the process of becoming rancid that is the change that is helpful; not the rancid fat. Thus in the body, the taking up of oxygen to become a peroxide induces other unsaturated atomic groups that are unable to do so themselves to take up oxygen and to become burned also. So it is not only the fat you buy that we are considering, but fats in other foods as well as germ and metabolic toxins that un-saturated fats help to get rid of and con-vert into energy. But man was originally a fructiverous animal. The primitive mother placed the baby in the grass in the shade of the tree. The ripe fruit fell and rolled by and the baby took after it. The next position of the fruit was at the baby's mouth where it was sucked upon or bit into as its mellowness permitted. Nature went from the breast to tree ripened fruit. The habit of the baby to

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chase a ball probably is instinctive from such origin. The lesson to be taken from the observations is that, if meat is to be eaten as food, the fat should also be used. However, fruits offer a still better protective mechanism with less chance to block oxidations through the action of the intestinal flora.

USE OF FRUITS

All dicarboxylic fruit acids as malic and succinic, offer a readily dissociated hydrogen atom and can be dehydrogenated to form free neutral radicals and thus aid in the oxidation mechanism. Nature entices us to eat fruits through the fine flavors she offers and she does this so we will obtain from her the protective principles that maintain life. When eating fruits in these days, however, we have to contend with the poisonous effects of bug killers. The arsenical insecticides are the most dangerous of these. Therefore, the fruit must be washed first with soap and water and a good brush until it is clean, and the cavitations where the stem and butt present should be excised as well and discarded. The whole fruit should be eaten; skin and all when dealing with pears and apples or peaches and plums, but the skins of the citrus fruits and the oils they shed should be carefully avoided because of their terpene content. Wild, unripe mangoes are deadly poison because of their terpenes. They protect the fruit from pests, and are a lesson again that the tree ripened fruit is the product Nature wishes us to use. But for cancer patients' mangoes and other terpene fruits must be avoided.

Oxalic acid may be regarded as a near end product of metabolism to be gotten rid of. However, it has certain good effect in high dilution. It helps maintain the coagulability of the blood, for example. But in larger amounts it tends to rob the body of calcium and lower the blood coagulability. Tartaric acid not being readily oxidized in the body likewise tends to carry off valuable salts into the urine. Wines from grapes, and grapes themselves, too often, contain too much tartaric acid for use in large quantities. For our patients it is best to use them sparingly. If further research was done, it may be discovered that in the ripe matured grape, other substances could be present that would aid in the oxidation of tartaric acid. But so far as our observations on wines are concerned, such substances do not appear to exist in detectable amounts. Too much grape juice and too much wine can damage the metabolism without any of the alcohol action. Moderation or the moderate use or avoidance of food materials as common sense dictates, is the lesson to be learned from the grape. You will remember that the Lord Jesus taught moderation or ultra moderation in this matter too. Victims of the total grape diet fads have been found to present serious injuries.

DIET MUST HAVE GOOD NUTRITION

The purpose of diet is not only to escape contrary effects to health and to the action of our Treatment, but also to secure good nutrition. Our desire is to provide all of the building units for tissue reconstruction as well as the dynamic materials needed for activation of the vital processes. These come from the soil and are modified by plants so as to be ready for use in the animal tissues. We include, as part of the characteristics of the soil, the minerals carried in subterranean water. The water should not carry the volcanic or putrefactive sulphides, selenium, or other metals in toxic quantities; yet the trace metals should be present in adequate quantities that are in the homeopathic dosage Nature intended. Cobalt we just spoke of is a fair example. Certain soils are richer in trace amounts than others and many are entirely barren of any such materials. The famous Deaf Smith County Texas has become a popular example of this. However, the newspapers did not get any further than the fluorine content of the soil. It must be emphasized that there are other elements present in healthy amounts in this soil too, and hence, its products and water are good nutrition.

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One of the most important precautions in diet is not to stimulate the reproduction of the cancer cells, or of the organisms that force their neoplastic activity, with food materials.

The effects of coffee were reported as carcinogenic by Russo in 1942. The roasting or burning produced the carcinogenic tars, in his opinion. This is, no doubt, true but there is an additional factor. It is the presence of Trigonillic acid and other sulphides, which give it the flavor people like. These in the intestinal tract are converted by the flora into more vicious substances since the flora of different individuals differs, as does the prolonged dangerous effects of coffee on the different individuals. However, the flavor giving sulphides act as oxidation inhibitors and protect the vicious intestinal flora. This in itself is good reason not to use it. Dr. Wm. Hale of the Dow Chemical Co. has contrived a neat way of destroying the injurious sulphides by oxidation with Chlorophyll. This takes the pleasing flavor away and the stimulating effects are felt only. Those who have used his coffee extract reported this to me. The old fashion rye coffee may still present the carcinogenic tars, or may not, experiment only can tell, but it does not carry the injurious sulphides, which may after all be the most important toxin coffee.

It was demonstrated by Gilroy- J. Biol. Chem. 24, p. 1384, 1695, (1930), and the Japanese Suzuki and Eiyas in 1933, that arginine (alpha-amino-delta-guanidine-valeric acid) simulated the growth of malignant tumors in experimental animals. It is known also that the animal body does not synthesize this amino acid rapidly but must depend upon the food for a sufficient supply to support rapid cell reproduction. It is an essential constituent of all proteins and its concentration varies in the different proteins, being most abundant in sperm protamine (87%) and in fish, and almonds and vegetables. It is also twice as abundant in tumor cells than in normal cells. (2) Irons, March 1950, repeated and extended the experiments of Gilroy and Suzuki and found that the growth rate of tissues in situ in culture, or in the body generally and in tumors transplanted into the body or in culture media, was very much greater than the normal rate when Arginine was fed to them or injected. He performed the corollary to this experiment by the injection of Arginase into the tumor bearing animals and into the tumors themselves as well as into normal animals. The reverse effect was definitely observed. Normal tissue underwent necrosis, and malignant tumors were made to undergo the changes we described in the New York Medical Record of October 30th 1920 which are calcification, liquifaction, absorption, invasion with angioblastic tissue, fibroblastic tissue and capillary loops which removed the digested tissue replacing it with fibrosis. The microphotographs we reported in this Journal illustrate the process. In our observations on humans, the absorption of the neoplasms followed to completion on just one dose of the Carbonyl compounds that we isolated from the beef heart, liver, brain and spleen. It appears that all tissues contain the same antagonists to neoplastic growth, but that the heart offers the best source. Iron does not report complete absorption of the neoplasms, but about 30% absorption with change of the rest to the benign state. These also were not followed through, however, to see if further progress would be noted after the tenth day or if the original malignant state would return. There is no identity between Arginase and the Carbonyl compounds that we worked with, as our substances were used in exceedingly high dilution and generally with only one dose while the Arginase must be used in large dosages near the tolerance point of the animal to secure the changes noted.

(1) Karrar. Org. Chem. p., 299, (1947)

(2) B. A. Kocher. J. Biol. Chem. 22, p.285, (1916)

However, it is demonstrated by the fine observations of Irons that Arginine, as such, is essential to neoplastic growth and can force the rate of growth when the supply is increased. He shows too, that Arginase re-verses the process. We may thus conclude, that the guanidine part of the Arginine molecule is essential to the reproduction process and development of cancer cells. This was also an early feature of

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our Hypothesis for nucleic acid production. Whether or not the carboxyl group at the other end of the carbon chain plays a part, is not known. We mention this possibility because of decarboxylase in the tissues and since decarboxylation changes the physiological effects of the molecule greatly. We isolated this decarboxylated substance from the urines of parathyroidectomized dogs nearly forty years ago (Jour. Biol. Chem. 15, p. 43, (1913). It is a highly toxic guanido-valerio amine. Together with it we isolated methyl guanidine, guanidine, and histamine in toxic amounts.

SPECIAL DIET NOTES FOR CANCER CASES

Whether the virus of cancer or the cancer cells require all of the Arginine, as such, to incorporate into their structure as essential amino acid units, or whether they decarboxylate the Arginine, in part, and thus produce an oxidation inhibitor which destroys the protective powers of the host, has not been studied as yet. This is very probable, however, as an energy source for the virus. The lesson to be taken is that peas, lentils, fish, meat, eggs, almonds, nuts and any other source of excessive amounts of Arginine should be eliminated from the diet, as we have been doing for the past third of a century. It is reassuring indeed that our chemical study of the diet, as supported by the clinical observations covering a long period of years, is now being confirmed by the most recent scientific studies. The rule in this type of therapy should be to follow the diet as we have developed it and forget the hash and ham and eggs.

The position of calcium as an essential in the consideration of the diet in every disease, and especially in cancer, cannot be doubted. The cell bodies of cancer cells do not stain well in hemotoxylin, and other specific stains for calcium show that the protoplasm is very poor in calcium.

It is practically absent in fact. This should be true since the action of the synthetic carcinogenic agents is first of all marked by a loss of 50% of the calcium and iron content in the cells acted upon even before they have become fully malignant. When they have become malignant, the rest of the calcium, iron and lipid are lost. Calcium is certainly necessary to cellular oxidation, and cancer cells have lost their functional oxidation mechanism together with the calcium, in becoming anaplastic. One can see that the two factors work together. But calcium is necessary in another sense, just as it is needed for the coagulation of blood or the digestive clotting of milk, where it forms respectively fibrin and calcium caseinate. This, however, is a passive use of calcium and is due to the acids formed in the digestive process which combine the calcium as to form complex salts. In our October 30, 1920 article in the New York Medical Record, we demonstrated this use of calcium as essential to the process of removing effect material as dead cancer cells or coagulated blood, which of course must be digested and absorbed by organization. This is seen as the in-growth of fine capillaries in the microphotographs. The fact that Arginase will bring about similar calcification changes as reported by Irons, shows that the cancer cells are undergoing a physiological absorption and thus that so far as the process had progressed, a physiological involution was induced. Loss of an essential amino acid, in this way, could certainly be lethal. These observations again emphasize the essential role of calcium in the oxidation mechanism.

CALCIUM IMPORTANT

The cleavage of Arginine to guanidine and ornithin by Arginase brings up the action of the guanidin that is liberated within the cells themselves. We reported in the same paper that the blood underwent anti-mortem coagulation when guanidin was present in toxic quantities. Thus the coagulation of the cancer cells could be a lethal result of guanidine activity. The liver extract carrying the Arginase also contains the "Tissue Thrombin" we have reported as an impurity. The calcium deposition would again be the very necessary part of the first phase of digestion of the effected tissue; therefore, in any event, the place of calcium in the diet is therefore demonstrated here again. However, the action of any ferment introduced

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into the system or into a tissue in more than normal amounts, calls for the production of an anti-ferment. So as a treatment proposition, the end results of Arginase would be worse than if it had never been used.

This is especially true since the recovery process only removes a minor part of the tumor cells; the others having a chance to develop antiarginase soon prevent any action of the ferment. The many experimental means of destroying cancer in mice or rats have never proved valuable clinically for this reason. It must be concluded; therefore, that the calcium is needed to keep the tissues from going malignant and to eliminate cancer cells as fast as they die. When it is not supplied, the autolytic process is held up and over growths of angioblastic tissue for the purpose of removing the dead cancer cells will continue being formed, producing tumors as large as, or maybe larger than the original growth but all in vain. The production of such vascular tumors is very depleting to nutrient material. The patient shows loss of strength and weight, together with the increase in the size of the tumor, and an interference to function may be serious through pressure. This gives the picture of progress of the disease when the real situation is basically a deficiency in calcium, while the disease cause has actually been removed, and if calcium were supplied properly, all would go well.

CALCIUM PROTECTS AGAINST ACTION OF TOXINS

There is another function of calcium besides playing a part in the oxidation mechanism of function and in the digestion of dead tissue material for its elimination. This other function is the protection against the action of the tox-ins. It is of two types. In the first place, the calcium tends to preserve a state of dispersion of water in the lipid phase within the cell protoplasm. Water-soluble substances of toxic nature do not readily enter through the lipid membrane that has formed by diffusion of fat to the surface of the cell. The lipoids form a wall of protection. Through the action of carcinogens, the tissue cells while becoming cancer cells, demonstrate a lipid in water phase and lose their lipid content and hence, whatever lipid traces may remain are also found in a water phase. Thus water-soluble substances, be they food or toxins, find easy entrance and the cell is readily stimulated or further poisoned. For this reason, cancer cells are more readily killed than normal cells, and likewise, they multiply more rapidly and are more dangerous to the rest of the body. The supply of calcium in good quantity offers them something they cannot use, but may help them anchor lipid material and reverse their dispersion to a water in lipid phase. The monovalent cations of sodium antagonize this protective action of calcium. Hence, the diet should take this fact into consideration by feeding less sodium while giving more calcium. Hydrochloric acid is needed to fix the calcium and should be prescribed regularly in the usual way.

IMPORTANCE OF SILICON

In connection with the utilization of calcium, silicon is important. It is my duty to emphasize the value of whole grain cereals, and especially whole rye, for this reason. Rye is generally grown in a soft sandy soil that does not support much else. This was easily tilled with the crude farming implements of the ancients. It naturally became the principle grain until the large plows or tractors could be put to work on the heavy clay soils. Then wheat became the grain of predominance. Commercial rather than nutritional considerations brought on this change. However, there are still some localities where rye is the principle product and food. Russia and the Balkans, in general, grow and eat much rye. Compare their health with that of the rest of the world. In the small country Belgium, I had the opportunity to look into this matter. The peasants ate rye bread. It was the whole grain well ground. The bread tasted delicious and one could eat and eat this black bread and butter to one's fill without wanting anything also on the menu. The peasants were a hardy example of physical health. Cancer and tuberculosis were rare among them. In the same country are the middle class of commercial and professional society and the upper social classes who ate white bread, wheat of course. They were the most unhealthy cancer laden people I have ever

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seen. The great variable between the peasant and the rest of the populace was the diet and chief of this was the rye bread. The long life of the ancients and of the Balkan races today is attributable, in my opinion, to the whole rye rather than the sour milk and garlic they are supposed to eat.

The factor in rye, one at least, which is of utmost importance in my mind is the fact that the roots take up pure silicon compounds from the soil, which are brought to the surface of the grain where the sun does its miracle and produces oxysilicon catalysts which are comparable to our carbonyl compounds and serve as oxidation chain initiators. You will recall from your chemistry, that carbon and silicon belong to the same group of elements in the Periodic System, and in some respects can be interchanged.

The hydrosilicons are well known as comparable to the hydrocarbons as lubricating oils. In the crude way then there is interchangeability. But in the more refined sense also we have the siloxin compounds, which are used to sensitize photographic plates to the red and longer rays of light. The carbon compound photosensitizers have competition here. In nutrition, however, carbon is far superior in so many ways as a builder of living objects that there can be no displacement except in certain particulars and the one outstanding case is that of the silicon compounds in the surface of the rye, altered by the sun's rays to serve in oxidation catalysis. It is my opinion, that the locality for their service is within the intestinal tract in an important way for they may not be too well absorbed from the intestine, and here they can aid the oxidations in germs to keep them from being toxic and correct the pathogenic trend in viruses. However, silicon is essential to the tissues. Oxidation catalysts of this order should hold specific positions in the tissues too. At any rate the grand total of observations points to their importance in the body as a whole. In the face of the importance of whole rye products the struggle to obtain them is increasing with each year. Deceptive advertisements for denuded white flour does a large part in keeping people from healthful diet and their added vitamins is worse than a joke. When we wish to lower the resistance of rats to make infecting them easy, we just feed them white bread for a short time. The millers know that placing some whole wheat or rye about their factory will keep the rats from eating into the white flour sacks looking for food.

NEED OF FURTHER STUDY

There are many factors in diet that have not been explored. The antibiotic power of honey, of dandelion and of many homeopathic remedies should be further studied. The active agents that we ourselves have identified are the Quinonoid structures that serve as oxidation initiators. I have observed some very interesting plants in the tropics, which prove, out our whole Thesis. They must be studied further. The need for such a study, especially in a team-organized form, has appealed to some of the men of our group and they are asking for an organized study of the basic chemistry of our Theory, as it gleams forth from the research done by this clinic.

A society could function as a study club of Pan-American proportions for here we have much to contribute. It is here that viruses play a prominent place in disease production in man and animals. The virulence of their toxicity is definitely associated with the nutritional value of the soil. The sum total of defective nutrition as we see it here is expressed in a weakness of the tissue oxidation mechanism. The material needed to build oxidation machinery is simply lacking. It is easy to bruise fruit so it will be attacked by parasites and show decay. Even plants illustrate the incapacitation of the oxidation mechanisms produced by mechanical injury to the cell structure. This in animal cells is also evident in the production of cancer. The physical injury blots out the oxidation mechanism that should destroy the carcinogenic toxin. Poor nutrition lowers the tissue resistance so that lesser injury is able to bring forth disease in this way. These forces must be studied quantitatively and any group that assembles for the study of the natural immunity of animals, plants and humans will give great aid to the work we are doing.

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At present, I am engaged in the study of serious virus diseases in animals and man. The animals are for the most part quite costly. Crude experimentation is not possible for this reason but close study such as is possible in humans is followed. Each animal is treated as a costly individual. Large numbers of animals in different sections of the country are available for study and treatment, and the statements here are emphatically supported. Where the nutrition is good as in the South of Brazil and Argentina, Hoof and Mouth disease is mild and rarely kills in the acute attack, but it soon runs a chronic course that is fatal in three or four years by way of myocarditis and malnutrition through which infections take hold and prove fatal. The virus is a great oxidation inhibitor. It itself appears to be suffering for correction of this defect, so it multiplies for survival at top speed, grabbing off every oxidation agent it can take from the tissue cells it invades. We are good to it and supply it with its heart's desire. A good carbonyl oxidation catalyst is introduced and its metabolism corrects and mutates back to a harmless part of creation doing the work the Creator intended it should do. Where the soil is poor, virus infections are most deadly. In many instances, the Hoof and Mouth disease virus multiples so rapidly in the blood stream that its toxin proves fatal even before lesions can be produced in the hoof or mouth.

I have seen these animals drop dead, dropping dead, and getting ready to drop dead. We have had the opportunity to give one injection to such animals that were unable to keep on their feet or even as they lay on the ground, unable to raise their heads or feet. Following the one injection in many instances the animals made prompt recoveries. In some large herds the recoveries ran well over 90% in cows and in pigs. This is interesting since in pigs the disease once showing up in a herd, goes right through the herd killing all. In such herds that were heavily affected and the fazendeiro fully expected to lose the whole herd, we have been able to see 94% of the sick animals cured and the rest prevented from developing the disease. Thus the oxidation mechanism in viruses that are pathogenic is what needs to be healed and the same holds for the host. Although we generally think of these things turned about.

In animals, the meat eating and the vege-tarian suffer about the same as the defect is ultimately traceable to the soil. And the virul-ence of Cinemosa in dogs bares a relation to the nutritional geography, but this is not so evident as in cows with Aftosa. This disease, Distemper, is 100% fatal, taking longer to prove so where the nutrition is best. After our Treatment the recoveries that follow run about the same percentage. That is over 90% where interfering factors are eliminated. Thus it is evident that our knowledge of the therapeutic chemistry of virus diseases is fairly complete. This applies also to cancer.

Before the electronic microscope was in-vented no one could say for sure that a virus caused cancer. That it was caused by the toxin of infection we always held, and we described this infection as ultramicroscopic and anaerobic in nature, much like the toxic factor of Syphilis. The Bulletins of the Koch Cancer Foundation (1925-27) stated in each issue on the back of the cover page a group of fundamental principles of this Therapy. This description in-cluded the statement on the infectious nature of the cause. Now that the virus can be seen in cancer cells of all kinds, even undergoing cell division, there is no doubt as to the fact. We had no electronic microscope with which to detect the virus, but we studied its toxin and from its chemistry we worked out the manner of its action and the means of destroying it or rather changing it from a vicious agent to a harmless form of life. The nutrition problem carries as much importance in cancer as in the animal diseases.

Here the importance of special foods and their chemistry will command interest, and demand further investigation. The hindering action of the terpene like substances in citrus fruit, mangoes, and the like, the effects of arsenic insecticides, artificial soil fertilization, deficiency in trace elements, must be investigated with many other features of our modern civilization. Smoked foods, industrial hazards, automobile exhaust fumes could be added to the list. Much has been written accurately on these subjects, and needs only to be abstracted and assembled for our general use. But most of all we must gather data

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from our case histories and discuss this data without reserve. If we do this frankly as we must, we will learn much as a group that many of us know only personally. We must pool our knowledge!

W. F. Koch, Ph.D. M.D.

Rio de Janeiro, Brazil, September 1950.

GLOSSARY

Anaplastic, adjective of noun anaplasty which refers to a reversion of cells to a more primitive and undifferentiated form; a change in a cell by which it becomes incapable of attaining perfect structure and function.

Autoxidation, self-oxidation from within so that no outside oxidation factor is necessary. See oxidation.

Carcinogen, an agent which brings about or helps bring about a malignancy, a cancer.

Carcinogenesis, refers to the beginning stages of the malignancy or cancer.

Catalyst, a stepping-up agent, something which causes or speeds up a chemical action.

Lipoid, resembling fat.

Metastasize, to spread, as when cancer spreads from one part of the body to another.

Mitosis, the division of cells in the body, thus multiplying many times their original number.

Neoplasm, an abnormal new growth of tissue, a tumor.

Oxidation, the operation of converting into an oxide, referred to in here as the burning off or elimination of poisonous material in the system.

Oxidation Inhibitor, any agent which cuts down or prevents the oxidation system from functioning normally.

Oxidation Initiator, any agent which helps to bring about the natural oxidation or burning off of the poisonous material in the body.

Toxin, a poison.

RELATION OF FOCAL INFECTION TO CANCER AND ALLERGY

In CAUSATION AND RECOVERY

Given Before the American Association MedicoPhysical
Research. September 16, 1940

By Wm. F. Koch, Ph.D., M.D.

Reprinted from the American Association for Medico-Physical Research, April, 1941

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Abstract: Relation of Focal Infection to Cancer and Allergy in Causation and Recovery: Published in April 1941, Dr. Koch goes to great lengths to explain why he classifies neoplastic disease as an allergic hyperactivity of the cell's reproductive mechanism. This report also discusses the reaction sequence witnessed in the recovery process, and why this is further evidence of a cell's allergic hyperactivity.

The evidence at hand now makes it very if difficult to classify neoplastic disease as anything else than an allergic hyperactivity of the cell productive mechanism. Herein the surgeon finds both comfort and challenge: comfort since the group of cells that have undergone change are at first a localized island. The challenge is the more serious, however, since the source of the poison that has excited the allergic response is practically always some distant focus of chronic infection that is neither recognized nor accessible to successful surgical attack.

The best surgical meaning of a recovery from cancer, then, can only be that one area of allergic response has been more or less fully removed and that the cure will last only until another group of cells is excited into uncontrolled reproductive activity. Therefore, so long as the focus of infection that broadcasts its allergenic poisons is in existence, a real cure for cancer is out of the question, no matter how much mutilation is attempted. It is, therefore, the duty of surgical procedure to search out the guilty focus and remove it as early as, or even before, the malignant is touched.

This holds good for the treatment of all allergic diseases. The causative focus of intoxication must be rooted out and eliminated. But we must go deeper than that. We must remove the lack of resistance that permits and supports focal infection and this is the most important procedure that can and must be accomplished to secure a real cure. Indeed it is well established right now that this is the only method that brings true success whether or not surgery is employed at all.

It is the purpose of this paper to show that a recovery from any allergy, including cancer secured by restoring the natural immunity by boosting the oxidation catalysis is truly complete since it wipes out the primary focus of residual infection as well.

In the course of a true recovery from cancer of the breast for instance, it is our experience to observe a reversal of the disease progress in which the recovery changes take place in reverse order to the sequence in which these changes came. Thus the first pathological change to disappear is the latest neoplastic metastasis, then the rest of the neoplasms. Last of all; after all malignant tissue is digested and absorbed, there occurs a rather sharp congestion and small round cell infiltration of the old focus of infection that was responsible for the trouble. This focus is, in breast cases, usually the tonsil on the same side as the

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diseased breast. The inflammatory reaction may require three and a half days, seven days, or ten and a half days to accomplish its working of cleansing out this old focus of infection. Thereafter, a new epoch of health greets the patient; for the immunity of such high degree as is now possessed, successfully burns up other poisons that would ordinarily hamper the metabolism and body functions. Real health is enjoyed for the first time since the focus of residual infection was established. Yes, we can go back further than that, for real health was first lost when the natural immunity mechanism sank low enough to permit an invading germ to take hold and retreat to a position where it defied all efforts at dislodgment and from which it constantly poisoned the blood. The same experience is recorded in other allergic affairs and, since the course of recovery follows the reverse sequence to the development of the disease and the last event is the clearing out of an old focal infection, we conclude that this focus of systemic poisoning was the first change and a primary causative factor in the pathogenesis.

The natural immunity we speak of, like all other natural cell functions, has its basis in the most primary of all chemical processes, namely the oxidation mechanism; and where this fails, not only deficient energy liberation functional purposes but the power to burn toxic germ products and also certain food elements is lost and in consequence allergy and infections are able to take place.

The same events are observed in the recovery from other allergies. A severe case of psoriasis becomes clear of all lesions in a few months after treatment and then an acute inflammation of an area long infected, as for instance the mastoid cells of one side, quickly sets in for a few hours or days and quickly disappears.

I will briefly describe the mechanism of allergy production for in it we see the key to successful therapeutic attack and also the solution of a most important physiological process, the catalysis of aerobic oxidations in the normal cell.

In the first place, all allergenic poisons are anaerobic in their chemistry, that is they produce energy changes without using oxygen and besides this they serve as negative catalysts to the normal oxidation processes. They do this by virtue of their free valencies between carbon atoms and between C and O, and C and N, for these valencies are set up in large clumsy molecules that activate oxygen but partially and just sufficiently to produce stable peroxides that tend to induce polymerization of the similar free valencies in the medium where they are dissolved and thus a negative oxidation catalysis is exercised.

The production of allergy depends also upon the same free valencies; for they have fluorescent properties whereby they mediate an energy transfer from the ordinary exothermic reaction going on in the cell, that has absorbed them, to that chemical system which possesses a range of energy absorption of similar wave length to that of the emission range of the fluorescent substance, thus serving as an energy acceptor.

Energy transferred this way to any physiological mechanism passes into the chemical processes of the acceptor functional element and forces its function beyond physiological control. Thus when the contractile elements of the cells of a tissue are affected, spasms as of asthma take place. When the secreting elements are affected, hypersecretion as of hay fever results. When the reproduction elements of cells are so affected they uncontrollably are forced to undergo cell division as in neoplasia. More over when the conductile elements of a system of neurones associated in some concept are likewise affected, fixed ideas of insanity or neurotic reflexes, and contractions are brought about.

The very fact that such pathogenic, fluorescent molecules are able to exist in the body and escape destruction by oxidation is sure proof that the oxidation catalysis is faltering and needs a boost.

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The proper therapeutic procedure is therefore, very selfevident. What we must do is simply saturate with oxygen those free valencies that are causing the threefold mischief.

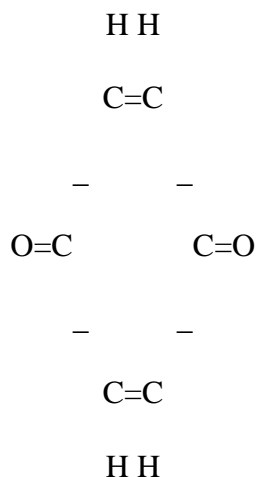
We do this by employing a positive catalyst carrying the same active groups as the poison itself. And this procedure has proven eminently successful. The molecular structures we use conform to the rule of chemical structure we have formulated many years ago. Thus to depend upon the activities of ethylene and carbonyl groups arranged according, to the chemical basis of immunity may be stated, as three rules:

First, that amino groups are not present in the carbon chains possessing the carbonyl group.

Second, that the carbonyl group forms a part of an ethylene linkage.

Third, as an alternative, that it be joined to a carbon atom united with hydroxyl which can be removed to yield an ethylene linkage shared by the carbonyl group. Most efficiently these rules are fulfilled in the following structures.

The molecules $O=C=C=O$ $H_2C=C=O$ $O=C=C=C=O$



are proven most useful in the order given here. The first, Glyoxylide, and the third, Malonide, are oxidation products of the fourth, 1:4 Benzoquinone. These, plus the ketene, conform to the rules of structure that give immunogenic properties, that I have outlined above. They have given us good, service for many years.

The clinical management of all allergy uses including cancer is conducted along the same lines. The diet should be vegetarian to avoid production of toxic amines and imides by bacterial activity in the colon. The diet should be rich in vitamins and essential minerals. Substances with quinone and terpene structures should be avoided; therefore, citrus fruits, coffee, tea, chocolate, and perfumes, also tobacco and alcohol and spices are not to be used.

The system should be cleared of focal infection surgically wherever feasible before treatment is given in order to simplify the recovery program. However, the immunity generated by the treatment has shown its ability to clean out these foci spontaneously and thus to establish a complete recovery.

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The cases here presented illustrate the sequence of the recovery changes in reverse order to their production in the pathogenesis. The last major reaction is the mopping up and routing of the focus of infection standing in casual relation to the allergic response made.

A typical history of malignancy in which focal infection played its etiological role is exemplified by the following case.

Mrs. C. A., age 50.

Past HistoryShe had been well all her life except for frequent tonsillitis. The tonsils were imbedded and frequently acutely infected in the winter months and occasionally off and on throughout the year. They were removed in 1913 and thereafter the throat was badly inflamed for over a week with loss of voice for three weeks.

Three years before the tonsils were removed several small lumps appeared on the arms. They were diagnosed to be lipomata, but the later history identified them as neurofibromata for they spread in great numbers over the body and limbs with typical characteristics.

In 1915, two years after the tonsils were removed, a lump appeared in the right breast. It was removed, and two years later another lump came in the same breast. It was, promptly removed, but recurrence was well established in December 1939, when I first examined her:

Early in 1939, because of abdominal distress, an exploratory operation was made and an adenocarcinoma of the fundus uteri was found. It had spread widely through the abdomen and several metastases were observed in the liver. A biopsy was made which revealed the high grade of its malignancy which, of course, was confirmed by the subsequent history of wide spread metastases, the hemolysis, and the large dimensions of the tumefaction which in size exceeded the volume of a man's head and were firmly fixed in the abdomen. She had received some xray treatments which had no beneficial effect, but rather stimulated the growth and therefore, discontinued and the patient given up as hopeless.

Physical FindingsThe general appearance of the patient was good except that hemolysis, was intense and the tissues waterlogged and fatty. There was some cyanosis and dyspnoea and easy fatigue. Many small neurofibromata covered the body, arms, and legs, ranging in size from that of a pea to a lima bean. The right breast showed malignant infiltration in moderate amount. The abdomen bulged especially on the right side because of enlargement by the growth.

Palpitation showed two-thirds of the abdomen well involved with the tumefaction.

The neck and throat region showed nothing extraordinary except slight induration of the right tonsillar fossa.

Recovery ProcessOne injection of two cc. of our Ketenones was given in the upper arm and steady recovery followed. Negative phases showed up regularly every three weeks and after each such reaction recovery hurried along more quickly. First of all the color improved and she felt "more natural."

The masses in the abdomen were digested and absorbed most quickly so that by the tenth week nothing definite could be felt by careful moderate pressure. By the twelfth week the right breast was clear and during the twelfth week a sudden and severe sore throat set in first on the right side spreading to the left and disappearing, completely in seven days. This twelfth week reaction gave a fever of 102 degrees for a

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few hours and general achiness for a week. Thereafter, her recovery was hastened and one could observe slight improvement in the neurofibromata.

Every third week thereafter showed some reaction, achiness principally, but the more prominent reactions came at twelve week intervals. Even the sixtieth week gave a little achiness and some headache from which she had suffered considerably in early life. By the sixtieth week most of the neurofibromata had been absorbed and her health was excellent. Thorough examination of the abdomen and breast revealed normalcy only and no pathology whatsoever. The throat region is also free from induration. She has gained nearly thirty pounds in weight.

It will be noted that after the malignant cells had been absorbed, very promptly during, the first twelfth week reaction, an acute inflammation of the region of an old infection took place. This was the tonsillar area and was more severe on the right side where some induration existed and where no doubt the old infection, that caused her frequent tonsillitis, was still imprisoned.

The congestion and small cell infiltration that accomplished the cleaning up of this focus and restored normalcy, removing both infection and scar tissue, took place after the malignant cells were disposed of and so it followed the reverse sequence of the pathogenesis, like the clearing up of the breast and the abdomen. This is our universal experience and we, therefore, conclude that the focal infection is the first step in the pathogenesis, except one, namely the loss of protective oxidations which permitted the infection to invade and localize.

By therapeutically wiping out this first departure from the normal, that is by restoring an immunizing oxidation catalysis, the basis for the disease is removed and normalcy returns pressing the disease back through the door where it entered and out from the system. This is the rule of true recovery, the first to come is the last to go and the last to come is the first to go.

I will give another case of a structural allergy, psoriasis, that exemplifies the same principles.

Miss N., age 32.

History taken April 2, 1926.

Family History Negative to cancer, brother has psoriasis.

Past History Tonsillitis one and one-half years ago (March, 1925), and an antrum infection at the same time.

Pre-growth Symptoms Tachycardia on changing position from sitting to standing posture, constipation all her life.

Present Illness The psoriasis started one month after tonsillitis in April 1925, at a spot, on the left thigh about the size of a dime when first noticed. In a week, it had grown to the size of a quarter piece, and at the same time another spot was found on the left side of the abdomen. Then in rapid succession spots developed on the left forearm and below the left knee and on the right arm and leg. They each grew to about the size of a half-dollar. The various known treatments were used without benefit. Her condition remained stationary until March 1926, when a sudden flareup occurred and the lesions rapidly spread all over the body including the scalp. The face and hands were somewhat spared but the lesions became confluent over the rest of the body. She took a series of ultraviolet treatments twice a week for a

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month that burned so intensely that the suffering became unbearable, and without improvement. Body weight, 98 pounds.

Treatment One .cc. of Glyoxylide was give' April 5, 1926.

Results No reaction followed for a week when chills for three night and mornings occurred. Temperature was not taken. Appetite improved felt better and started gaining weight, lesions started to improve during the second week, itching and burning grew less, and entirely disappeared by the fourteenth week. During the twelfth week, as in cancer cases, there was a fever and general achiness, and for about three hours, very intense pain in the left side of head through the left temporal bone and mastoid region. The muscles of the back and left side of the neck were spastic for about a day. The left tonsilar region was intensely inflamed. This condition eased away in about two days. During the last six weeks of the reaction period, she gained 11 pounds in body weight and after the twelfth week reaction; her gain was more rapid until her weight reached 121 pounds. She is in the best health she ever enjoyed and no trace of the lesions are observable. Luxuriant ingrowth of hair had taken place and the skin is perfectly healthy.

Functional allergies follow the same course in pathogenesis and recovery too.

Mr. P., age 60.

Past History Asthma quite steadily for the last twenty years came following very intensive work and much sustained fatigue. He had been subject to colds all his life and the right antrum was frequently in trouble and had to be drained. Every winter brought several severe colds with nearly continuous sinusitis. Ten years ago all the teeth were extracted because of pyorrhea, and apical infection. After the asthma appeared the colds were less troublesome but there was greater physical deterioration. The exciting cause for the asthma was most everything that can arouse allergic response, even the smell of the grease when donuts were cooked.

Treatment- Two c.c. of 1:4 Benzoquinone solution was given in February 1936.

Results- Recovery was rapid, for in twelve hours there was definite improvement. This improvement went on steadily for six months during which he was symptom free except for the ninth, twelfth, eighteenth, and twenty-first weeks when slight attacks were had. After the twenty-fourth week, which was marked by a terrific sinusitis and aching of the jaws, recovery was complete. Thus here too, the infection focus was the first to come and the last to be cleared out.

Other cases can be studied in the report reproducing the Proceedings of the Cancer Commission appointed by the government of the Province of Ontario, Canada, regarding the Koch treatment.* It presents a wealth of clinical data in cases of fully proven hopeless cancer that recovered under this treatment.

*(A copy is available on this web site)

These few histories, like many others, show that ordinary surgical removal of the infected focus is not sufficient to rid the body of the infection since the area becomes invaded with scar tissue that imprisons the germ but does not eliminate it. Therefore, the surgeon has the additional responsibility of removing the scar remaining as a constant offender, but there is no proof that further scar will not form to entrap the germs set free by the surgical manipulations and repeat the mischief.

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It is much more logical to correct the fundamental chemistry which is at fault and bring up the immunity to that pitch that disease germs and their poisons are no longer able to survive, and thus bring the patient back to real health.

A Brief History of The Development of The Koch Synthetic Antitoxins

By

Wm. F. Koch, Ph. D. M. D.

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Reprinted in part from the Journal of the American Association for Medico-Physical Research.

Abstract: A Brief History of the Koch Synthetic Antitoxins: A reprint from an article published in the Journal of the American Association for Medico-Physical Research. This article includes Dr. Mitchell's, president of the Board of Trustees of the American Medical Association, letter to Dr. Koch. (1941)

This therapy started as an investigation of the toxins that cause convulsions after parathyroidectomy and in eclampsia. The purpose was to devise a means of destroying poisons that contained the guanidine and imidazole groups. Since the poisons of these types developed while the oxidations were seriously impaired, we immediately set to work investigating methods of harmlessly oxidizing them within the body. We chose to use the normal oxidation mechanism, but first had to master it.

It might be stated in outline that the important steps cover some cardinal contributions to physiology. They also reduce the clinical features and the essential pathologies of the broad field of dis-ease to a single basic fault in tissue chemistry. They include the application of this system of direct oxidation of sugar and fat to the burning of pathogenic poisons whose structure we identified and whose origin we located in residual focal infection. These poisons we credited also with producing the various allergies, degenerative diseases, and cancer. They are identical with the products of the same germs active in acute infections.

It must be acknowledged at the start that the burning of sugar, and especially aerobic glycolysis, is still regarded as a mystery. Back in 1914, when we began this research, practically no pertinent facts were known and, besides, the science of photochemistry that deals with the catalysis of such processes was in its early infancy. However, we formulated a system of aerobic glycolysis that worked out perfectly on paper and, to our extreme satisfaction, it served as a guide to the chemistry of immunity. As photochemistry developed and various laws controlling catalytic activities were earned, the correctness of our working scheme has been amply verified. It checked up physiologically, too, and so it stands a good chance of being the correct interpretation.

In order to bring the oxidations involved within the field of photochemistry, we outlined the break-down of glucose and fructose as accomplished by dehydrations with the formation of double bonds between carbon atoms. This provided free valencies able to activate oxygen as well as activate ethylene and carbonyl groups to take up the activated oxygen. Several important highly unsaturated structures with powerful catalytic properties were thus produced.

At first the simplest procedure of glycolysis imaginable was tested out. Thus glucose, by a single dehydration, makes a cyclic molecule, "Inosite," which, as pictured below, may undergo full dehydration into the hypothetical substance I call Hexylene. And this can either fully saturate with peroxide oxygen

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and break up directly into six molecules of carbon dioxide or it may take up either two or three molecules of peroxide oxygen and split into two molecules of Malonide or three molecules of Glyoxylide, as depicted below.

Since the hypothetical Hexylene is not practical experimentally, we went back to the next most unsaturated structure that could be produced syn-thetically and that could also yield the Hexylene under proper conditions. The substance we worked with is 1:4 Benzoquinone. Let us call it BQ for short. This substance conforms to the rules of structure requisite to immunogenesis as I have formulated them. So it was put to work to see how much it could boost the oxidations of surviving tissues before and after they were poisoned by the pathogenic negative oxidation catalysts. It proved out very satisfactorily and without delay it was used to treat the sick in catalytic dilutions. We used one or two cc. of a dilution of 1×10^{-2} to 1×10^{-36} to find the most active solution. Thus BQ was our first synthetic antitoxin.

We next employed the two transition forms, Malonide and Glyoxylide and its closely related Ketene, since these bodies are also intermediaries in the other two schemes of aerobic glycolysis, which we outlined. They were all found to act similarly in many respects both physiologically and therapeutically. With these four compounds we studied the recovery processes in the serious acute and chronic infections and in the so-called incurable diseases like coronary thrombosis, Berger's disease, multiple sclerosis, progressive muscular atrophy epilepsy, cancer, and certain forms of insanity. In these conditions and also in the gumma stage of syphilis, in tuberculosis, and leprosy, the recovery processes were found to be essentially similar, both in regard to their periodicities and in the order of correction of the symptoms and structural changes.

The first observations were made in 1917 in cancer and lues associated with sarcoma. Considering our great ignorance the patients did remark-ably well. Thereafter, the most thorough investigations possible were made on every incurable that came for help at our Detroit Clinic.

The mechanism of allergy production had to be formulated also. It too, is still regarded a mystery, but we outlined a process of allergenesis along photochemical lines that meets all the facts, including the specificity and the failure of physiological control of the hyperactivity that constitute the disease. Most important of all, when the catalysts were employed clinically, they worked very efficiently and the recoveries followed the same program as the recoveries secured in all other diseases. It seemed that we could best explain allergenesis as a matter of energy transfer accomplished by the fluorescence of the allergenic substance. The energy of the exothermic reactions going on in the cells was thus transferred into the chemical processes of such functional units as were able to accept such energy. The specificity of energy acceptance resides in the similarity of energy emission range and energy absorption range of the fluorescent substance and the functional unit. The energy accepted passes into and boosts its chemical processes and functional activity; and so the contractile, secretory, reproductive, or conductive units are forced to function-ate beyond physiological control, producing the bronchial spasms and hyper-secretion of asthma, the cell multiplication of cancer, the spasms, inhibitions and fixed ideas of insanity.

An examination of the chemical structures, which we identified as the intermediaries that catalyze aerobic glycolysis, yields several characteristics which may be stated as the rules of structure that determine immunity. These are the following: The molecule shall be as small as possible. There shall be no amino-nitrogen present in the molecule. A carbon atom shall be present which shares two ethylene linkages or forms a part of ethylene and a carbonyl group or it shall be attached to hydrogen or to a hydroxyl group that can be removed so as to form either of the above structures. We checked up on a series of compounds that possessed these qualities and found that they served the tissue oxidations in vitro. When given in catalytic doses to patients suffering from acute infections, the response was rapid. The chronic infections,

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allergies, and malignancy responded with a rapidity inversely proportionate to the length of time the condition had been established in the patient and his ancestry.

With recovery the general vitality and nutrition improved very impressively. In order to ascertain if or not, only such molecules as may play a part in aerobic glycolysis possessed these curative powers, we prepared and tested propargylic aldehyde. It possesses an acetylene group which undergoes change yielding a carbon atom possessing two sets of double bonds and thus it conforms with our rules of chemical structure that provide protection against disease poisons. This substance shows splendid curative powers in disease showing rapid tissue necrosis. We concluded, therefore, as early as 1930, when this substance was tested out, that the oxidation catalyzing power resided in the free valencies of carbon and oxygen atoms when arranged according to these rules, yet the general structure of the molecule influences the efficacy in important respects.

After the therapy was thus reduced to something like an exact science, we instructed favorable European cancer institutions in our work. In 1935 the Cancer Institute of Louvain University, under the direction of Professor Maisin, adopted it for scientific research and clinical use and they have made some splendid contributions in the mean-time many American physicians have done nobly in the service of the afflicted and in accumulating data of great value. So today, not only in our hands, but also in the personal experience of many astute observers, the great field of incurable disease has been attacked successfully by a single therapeutic principle and thus the singleness of the basic cause of disease in general has become evident.

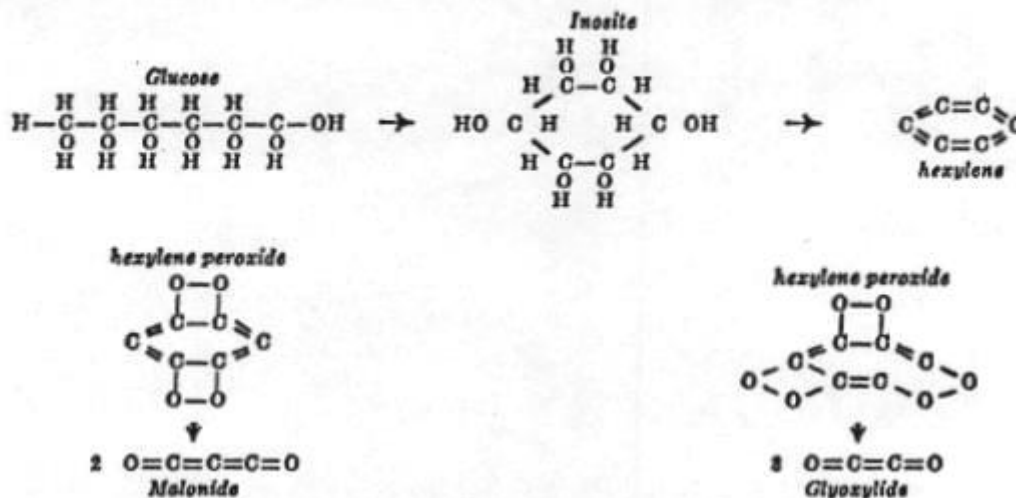
We described the periodicity of the recovery process as early as 1920. It seems that this feature had escaped detection hitherto. Likewise the pre-growth toxic period, which we described about that time, had also escaped detection. It also manifests its symptoms with the same periodicity as the recovery process. These observations aroused very little interest except in Dr. Douglas Webster, Radiologist of the Middlesex Hospital, London, who investigated the periodicity of the recurrence of cancer, and found that his periodicity ran very close to ours. They most likely are identical, for the time lost in recognizing metastases after they become located would require a period of three weeks, or even nine weeks. Furthermore, we have shown that the recovery process is the reversal of the pathogenesis and so the same periodicity should be expected. This is an extremely important matter in a study of many thousands of case histories covering many years. Webster found that cancer invariably returned after operation or irradiation, either at a periodicity of thirty-three weeks or half thirty-three weeks. So accurate is this phenomenon that he could predict the death of patients very closely. In the same way we have been predicting the recovery of patients quite closely under our treatment for the last twenty years. Webster has also been able to predict the time of return of epidemics, influenza, etc., for they follow this periodicity. Thus the periodicity features of disease are cosmic phenomena ultimately. All photochemical phenomena are essentially periodic. They are electronic behaviors that follow definite laws and, although their periodicity comprises very short units, they accumulate in "overtones," so to speak, that constitute the greater cosmic events.

In a little over a quarter of a century, therefore, we have secured and systematized the data that give a fundamental and scientific conception of disease and its processes both with regard to their genesis and correction. At the same time we have demonstrated the correctness of this conception by the only worthwhile test—the true cure of the hitherto incurable.

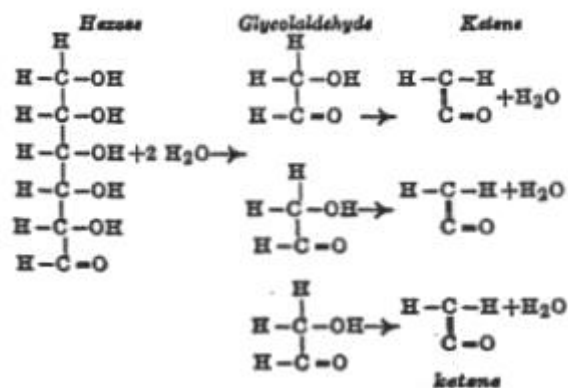
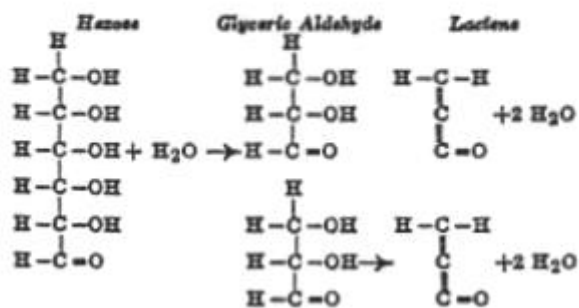
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The aerobic glycolysis processes may be outlined as follows:

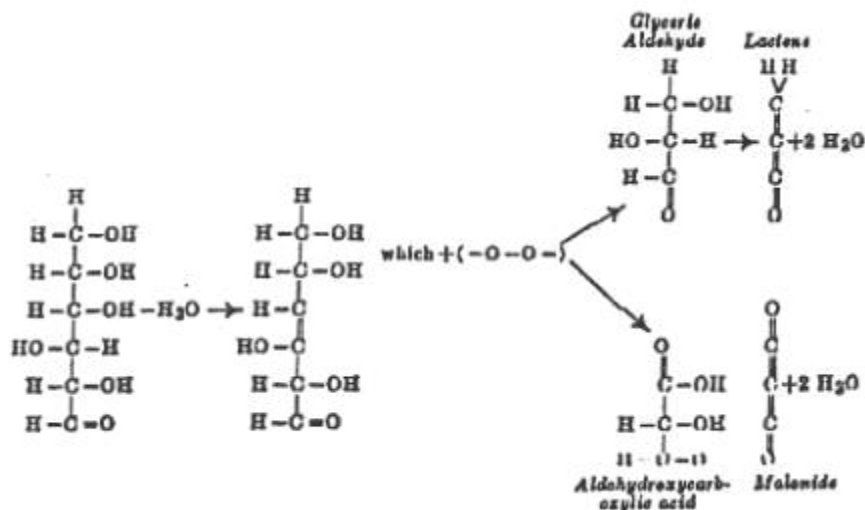
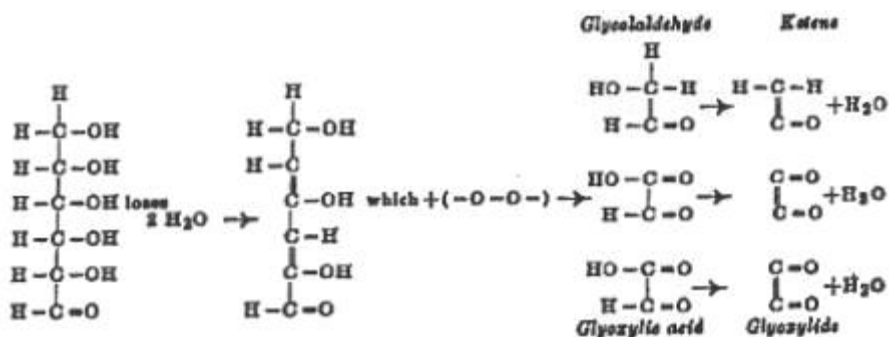
Glucose loses water at the terminal carbon atoms and forms a ring, thus—



The second, third, fourth, and fifth systems proceed as follows:



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The history of the professional aspect of the work is discussed in a separate volume. It might be stated that Dr. Mitchell, one of the country's foremost surgeons, when President of the Board of Trustees of the American Medical Association, understanding that the financial interests that control organized medicine would suffer severely when our treatment undergoes general adoption, wrote the following encouraging message as long ago as 1924:

"I shall be guided by Dr. L. in the use of the material. Have been watching his cases and am convinced that whatever the substance is, it is efficient. I had the pleasure of reading your article in the October number of "Cancer" and it is certainly the most intelligent and enlightening discussion of the subject I have ever read. For years I have been convinced of the utter uselessness of surgery in true cancer cases and have made myself disliked somewhat by my opposition to surgeons going about the country lecturing upon a subject of which they themselves knew nothing. I hope that a little more time will prove that your work is really an epoch making work and that you will ultimately secure the full credit and profit to which your service entitles you."

Dr. Mitchell's hopes will come true, and humanity will have free access to this service only when the profession becomes sufficiently enlightened to properly appreciate the work. This time is very close at hand, for confirmation of the principles we have taught for years are coming from several sides. The most noted Tuberculosis experts are adopting our vegetarian diet. The curative position of activated prothrombin, which we demonstrated conclusively in 1920, is being investigated now at Harvard University. The destruction of carcinogenic poisons by oxidation that we demonstrated so many years

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ago, is just now being observed at the Rockefeller Institute. Even a book entitled, “**The Treatment of Cancer and Its Allied Diseases**,” is now advertised by the American Society for the Control of Cancer.

Thus the constitutional nature of cancer is be-coming recognized even though the proponents of the theory of local treatment as the proper ap-proach do not like to admit it. We published our book, “Cancer and Its Allied Diseases,” in 1929 and demonstrated the success of constitutional treatment for the most part in cases that failed to respond to the local treatments in vogue. This book was published to demonstrate the fundamental constitutional nature of the disease and the period of personal and hereditary toxic changes that precede the appearance of the cancer growth. We showed that this pre-growth toxic phase, which expresses itself as so many diseases entities, classifiable as allergies that can be cured by the same oxidation catalysts that cure cancer. We are happy to find that our efforts have not been in vain and that the common sense view of the matter promises to be adopted eventually.

Chemistry's Victory Over Disease

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Abstract: Chemistry's Victory Over Disease: A 1941 introduction to the theories and chemistry of Dr. Koch. How disease is produced; how the cause of disease is overcome; the nature of the protective action, and the universality of its action are the topics covered in this paper.

The Koch treatment is primarily a treatment for incurables and it has been successful. The facts cannot be denied. This does not mean that every-one can be snatched from the grave. It means that a new advance in the conception of disease processes has been worked out and that the new details have been carefully analyzed and mastered and put to use in securing accurate protection.

With the knowledge that the poisons that cause disease work through their photochemic properties, fluorescence, and negative oxidation catalysis, as Dr. Koch has definitely set forth; the next step was not difficult. It is a matter of turning the trick of the enemy against itself. How this is done is interesting indeed.

HOW DISEASE IS PRODUCED

The complex organic compounds that cause disease are either produced directly by bacteria or exist as hidden complexes in the protein of different species. We may say that all species are chemically poisonous to each other but in the case of pathogenic bacteria, the poisonous principles are free or easily set free within the body of another species; while in the so-called innocent species, be they bacteria or plants or animals eaten as food, the toxic elements are tightly bound and not set free by the digestive processes in the stomach and intestines, but are destroyed thereby. These toxic elements are held "deep" within the protein structure and can be set free by parental digestion, that is, by digestion of the type that goes on within the blood stream or in the tissue cells themselves. This type of digestion is the kind that breaks down the worn out tissue cells to make way for new cells. However, when one's own tissues are digested in this way, no toxic effect of noticeable magnitude is experienced, but when large amounts of one's tissues have to be digested and eliminated, such as after extensive injuries and burns, there may be sufficient toxic material introduced into the blood stream to produce severe sickness or death. One's own tissues contain toxic elements, therefore. Dr. Koch isolated and identified some of them in 1912, 1913, and 1914, and published his findings in numbers of the "*Journal of Biological Chemistry*" and the "*Journal of Laboratory and Clinical Medicine*," published at that time.

Injured blood and tissues are first coagulated before being digested and so the speed of their chemical disintegration and absorption is safely reduced under ordinary circumstances. When a foreign protein from some other species enters the blood stream or is generated within the tissues by bacteria harbored there, this protein is "adsorbed" by the tissues of the host that have first contact and held that way as a part of the protein of the tissue. It may not cause any disturbance, especially if the tissues have had no experience with it or are able to destroy it. But if they have had former contact, or have further contact in ten days to a few weeks later, they learn to digest the foreign protein and tear it down and in so doing set free its toxic elements at a dangerous rate.

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There is a colloidal phase to this affair, which does not involve the breaking down of the foreign protein, but involves a coagulation, or pseudo-coagulation, or precipitation of the foreign protein, or of the host's protein, or both. These proteins may be lysed or split up physically so they are not dispersed in a normal way and gel or flocculate and clog the circulation in a disease or death-producing way. **Fundamentally it is a matter of removing the electric charges from the tissue or blood colloids and paralyzing the production of the energy that supports dispersion.**

No matter in which way the disease-producing effect is accomplished, it would not do so if the toxic elements were destroyed. Here is where Dr. Koch's work includes a major victory, for he identified both the toxic action and the colloidal injury, as the results of the free valency activities of certain unsaturated residues of the toxic molecule. They both are photochemical effects, namely fluorescence of a specific grade and oxidation quenching or negative oxidation catalysis.

HOW THE CAUSE OF DISEASE IS OVERCOME

Dr. Koch decided that the thing to do was to saturate these free valencies in a way that is natural within the body and, therefore, harmless. **By saturating these valencies with oxygen they lose their toxic action and are neither fluorescent any more nor can they interfere with the oxidations of the tissues through which the energy of charging the colloids and the energy of function is produced.**

We said a moment ago that Dr. Koch's Therapy turned the trick of the enemy against itself. This is a simple matter to understand now, but in 1914, when Dr. Koch was struggling with the problem it was shrouded in darkness. Indeed, the science of photochemistry was only being founded and it is still in its infancy. Since this science is the mathematics of chemical energy transmission and has to do with electronic phenomena that are difficult to manipulate even today. We marvel at the fact that Dr. Koch could put into use such phenomena as were misunderstood grossly at that time and whose laws are just becoming accurately formulated today. He has illustrated the extremely interesting phenomena very nicely as follows:

We may look upon the valencies or electric charges that hold atoms together as arms or electric magnets. Each atom has a definite number of them. Carbon has four, oxygen two, hydrogen one etc. in any compound where only two or three of the valencies of carbon are occupied and the others free, the latter are under the influence of the electromagnetic field, and will vibrate in accordance with their ability to do so under the conditions of this electromagnetic field. It is much like the changes in the radio wave under conditions of static. The free valencies can vibrate under influence of energy coming to them and may do so in a way whereby they store up energy. But since they cannot hold it but momentarily, they again send it forth by their own vibrations. In doing so they degrade the energy they receive and issue it at a lower energy value. So they serve as receiving and as broadcasting stations. The shift in energy value can be just enough to make it specific for influencing certain chemical processes going on in the medium where it is held adsorbed or in intimate solution. The energy taken up by the free valencies can be either some radiation of special wavelength or the energy evolved in some chemical reaction. And it is either set free as a lower grade radiation or if some chemical system is present that absorbs energy of the same wavelength as the substance emits, then the energy can be accepted by this chemical system and pass into its chemical reactions giving them added impetus. This is the phenomenon of fluorescence that was so misunderstood when Dr. Koch made efficient use of it and decided that it interfered with normal energy transfer in the tissue cells in two ways.

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The first is the interruption of the normal energy transmission through change to a degraded form, the reduction to a wavelength of lower energy value and vibration rate. The other is the transfer of the degraded energy to the chemical system of some functional unit that is able to accept the energy at the reduced vibration rate and thus receive energy that passes into its chemical processes and keeps them going. Thus the contractions of the muscles in asthma, and the increased secretions of the mucous membranes in asthma and hay fever are maintained. In the same way the mechanism that conducts cell division is kept going so the cells can multiply in a forced way to form cancer growths and other tumors. The phenomena of insanity and neuritis are explainable on the same basis, but here the conductile elements of nerve cells associated in some act or concept carry the impulse continuously and produce fixed ideas, delusions, etc.

Dr. Koch ascertained also that fluorescent structures could quite effectively quench their own activity as well as the activity of other free valencies of similar type. Thus, if the structure of the rest of the molecule was sufficiently large and stable to make the free valency sluggish, they may absorb the energy of other free valency activity very effectively and obliterate it. In other words, **the free valency activity of the catalysts that conduct the cell oxidations can be so absorbed that it is prevented from accomplishing its regular work. Thus the oxidations that are necessary for cell function and for burning disease-producing poisons, themselves, are wiped out or quenched.**

Since similar atoms influence similar atoms and similar atomic groups influence similar atomic groups electromagnetically, the effects produced will depend upon which atom or group possesses the advantage, that is, the effect depends upon which group has the upper hand. In the production of cancer, for instance, the carcinogenic poison's free carbon valencies and oxygen valencies of the ethylene and carbonyl groups and the free nitrogen valencies of the imide group absorb the energy of the oxidation catalyst's valency activity and quench the oxidations as well as shift energy into cell reproduction activities.

In order to reverse the process and hold the upper hand, it appeared necessary to introduce such energetic oxidation activation that the free valencies of the mischief-makers would have to combine with oxygen and be inactivated and burned in decisive fashion and thus be eliminated from the field. This is not difficult, as you will see.

It happens that free valencies have definite habits. They want to combine with or take hold of other free valencies. Carbon atoms like to combine with oxygen, and if they do not have the chance they will combine with other carbon atoms when they can. Thus, they will be oxidized or they will yield to polymerizing activity, which makes their molecules even more effective at oxidation quenching.

In order to set such polymerizing valencies free and to cause them all to vibrate at the rate, which disposes them to take up oxygen, all that is needed is to introduce a very active set of free carbon and oxygen valencies into the field. Dr. Koch has worked out several extremely unstable molecules that serve well in this regard. Each possesses carbon and oxygen in so active a state that when similar atoms and groups of the oxidation quenchers and fluorescers come into their field of influence, they vibrate in unison with these activators and take up oxygen too. Or we may say that the remedial molecules activate oxygen so vigorously that this oxygen combines the free valencies that have been doing the mischief. So indeed the activated free valencies of the mischief-maker also has its influence upon its neighbor of the same kind and activates it too. Thus the field is changed to one in which the vibrations inducing oxidation are propagated from molecule to molecule until each pathogenic unit is burned up and can no longer pervert the tissue chemistry.

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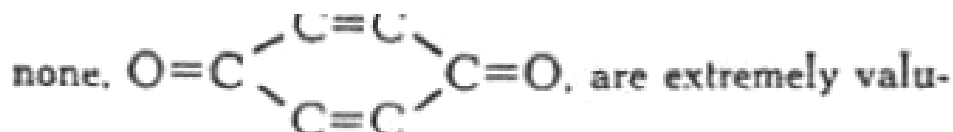
Thus as Dr. Koch stated a quarter of a century ago, the cause of the disease is converted into the cure, in so stating, this reaction he has outlined is a mechanism of immunity which is far more perfect than the vague formulation of the great Ehrlich and indeed, in the light of recent facts, it appears that the Koch Explanation is more in accord with Nature's characteristic efficiency and closer to the truth than the Ehrlich Theory. The Koch philosophy has brought results in the vast field of incurable diseases, where Ehrlich's work had no prospects of results at all.

The scientific factors explained here are not matters of common knowledge among medical men. Probably not more than one percent of the hundred and fifty thousand physicians in North America have ever heard of photochemistry. Much less are they equipped to understand it. This is no discredit to them, however. But they should recognize their limitations and not comment on matters they know nothing about, even if people might expect them to have this knowledge. It is tragic that the editorial services of our chief medical magazines have been so stupid on this score.

NATURE OF THE PROTECTIVE AGENTS

The chemical structures that Dr. Koch has employed to secure the oxidation catalysis requisite for the destruction of pathogenic toxins are very simple indeed, and it is to this simplicity that the liability of their free valencies is due in large measure. The carbonyl group combined with ethylene and shared with ethylene groups present in the molecule, or the potential by virtue of properly placed hydrogen and hydroxyl, confers these powers. So definite is this property, that Dr. Koch has formulated a series of rules of chemical structure that must be met before a substance can exert protective or immunity powers.

The substances used most successfully are: Glyoxylide, $O=C=C=O$. This is the most unstable and the most reactive and beneficial of all. Malonide, $O=C-C-C=O$, and 1:4 Benzoquinone,



able but less active than Glyoxylide. Ketene, $H_2C=C=O$, is also valuable, but comparatively slow in its action and it may not be the victor over some extremely, highly, obstructive pathogenic molecule. Propargylic aldehyde has proven curative in certain cases also.

UNIVERSAL FIELD OF ACTION

Since the action of these structures is fundamental and destroys the very essence of pathogenic activity of disease producing agents, its held of action is wide indeed. **In fact there is no disease theoretically or in practice that does not call for its use. Cancer has been the challenge to medicine ever since the dawn of history. Here is a cure.** This is demonstrated in the "Transactions of the Canadian Cancer Commission" recently appointed by the Ontario Government. Actinomycosis is often incurable and confused with cancer. The gumma stage of syphilis is often associated with cancer and confused with it. They have both been cured by this treatment after failing to respond to the usual methods. **The degenerative diseases** such as progressive muscular atrophy, multiple sclerosis, and the like have also made splendid recoveries.

Then there are the acute infections of fatal import; postoperative Staphylococcus meningitis, Streptococcus sore throat, pneumonia with serious kidney complications, coronary thrombosis, and others

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that bring the patient to death's door. **They too depend upon the molecular structure discussed above to produce their injuries, and they too have been cured by use of a small dose or two of one of these extremely active molecules, after all other methods failed.** The common cold with its sore throat and husky voice responds in a few minutes at times and is well in a few hours.

The common allergies that keep one miserable throughout life, hay fever, asthma, psoriasis, eczema, and so many others are effects of the chronic poisoning of the tissues, by the products of germ life imprisoned within the scars of focal infections. They too are overcome by the same oxidation catalysis. **Since the life of such germs depends upon the poisons they liberate, they must die when these poisons are destroyed quicker than they can be produced. Thus, the destruction of focal infections and their poisons rids the body completely of the cause of the allergy. It is not simple alleviation, but true cure. The clinical evidence indicate that the virus and protozoan infections depend upon toxins possessing similar atomic arrangements within their active groups to those produced by pathogenic bacteria, indeed the rapid recoveries from shingles, infantile paralysis, measles and mumps, demonstrate that they are even more vulnerable to the Koch Reagents than ordinary pathogenic germs. This seems to be true in cases of advanced syphilis and malaria also, and so the generalization is definitely warranted. To be able to place the toxins of the different pathogenic species in the same category of molecular arrangement, and to prove out one particular molecular arrangement that is specifically anti-toxic to each, is definitely an epochal advance in medicine. ***

*** AS A HUMANITARIAN SERVICE.**

One should not be surprised that the Koch system is not the usual method of treatment of any disease in vogue today. It is the Therapy of the future and will come into general use as rapidly as public and professional education creates a proper appreciation of its mechanism and merits.

Any physician of ordinary training who is in earnest in following the procedure conscientiously can use the method successfully.

It is now being used to save the lives of the incurables, after other methods fail. Soon it will be used to cure the sick before becoming 'incurable' and finally it will be used to prevent disease from successfully attacking the body at all. **Whereas physicians employing the method have been persecuted like the first users of diphtheria antitoxin, the day is close when it will be illegal not to use it; as is true of diphtheria antitoxin today. Progress in epochal movements has always been slow. The debris of entrenched greed is never easily or quickly dug out and destroyed. Still in this instance, as ever in the past, time is replacing failure with success of the most practical kind, a victor over disease that is infinitely compatible with normal body chemistry. Indeed, the defect that invites disease can now be corrected. The missing protective principle can be restored. The problem is solved!**

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Principles of The Koch Introduced In 1918 Pathogenesis

Abstract: Principles of the Koch Therapy Introduced in 1918: A 1941 tract published by Koch Labs. outlining the principles of pathogenesis, therapy and the recovery process demonstrated in the Koch treatment. (1941)

Primary, general, and residual focal infections take place and persist only where there is deficiency in the tissue oxidation catalysis.

Germ poisons absorbed from infection foci may circulate in the blood and adsorb into tissues and produce their specific effects only when the oxidation catalysis of blood and tissues is deficient.

Germ poisons are negative oxidation catalysts. They secure "anaerobic" environment necessary to the life of germ chemistry and unfavorable to the progress of tissue oxidation chemistry, by (a) totally quenching it and producing tissue necrosis, by (b) absorbing the energy of cell oxidations and under specific conditions transferring it to the chemical process of some functional unit in the cell, thus forcing uncontrolled, continuous allergic activity of that functional unit. (The specific condition that determines this energy transfer and acceptance action is the similarity in emission range of fluorescence of the toxin to the energy absorption range of the functional unit;) by (c) quenching the oxidation of ethylene or quinone groups of fluorescent substances in foods or tars or certain germ poisons so they remain to disturb function, producing allergic action of the reproductive elements, or of the contractile, secreting, or conductile elements of the cell, thus producing cancer, asthma, hay fever, contractures, or fixed ideas, etc., respectively.

The atomic groups concerned in all germ poisonings and allergenic action are the unsaturated valencies between carbon atoms, between carbon and oxygen, and between carbon and nitrogen, which confer photochemic properties. They are destructible by vigorous oxidation brought about through appropriate oxidation catalysis.

The severity of any allergic change follows certain definite conditions. Thus the degree of malignancy is proportionate to, (1) the degree of oxidation deficiency present (2) the amount of toxin circulating, (3) the closeness of the source of toxin to the malignant cells, as when the neoplasm takes origin in the infection focus itself, (4) the degree of injury to the circulation within the focus of infection and within the neoplasm, as when caused by scar or the effects of traumatism, and finally (5) the degree of malignant expression in the forefathers, especially where each successive generation tends to develop cancer earlier and earlier in life. (Thus the pre-growth toxic period tends to become shorter and shorter with each successive generation until the growth develops and kills before the reproductive age arrives.)

THERAPY

The destruction of toxic action through oxidation is the natural protective process. The catalysts concerned are those that mediate oxidation of sugars and fats for energy production for normal functional purposes. These bodies are Glyoxylide, $O=C=C=O$. Malonide, $O=C=C=C=O$. Ketene, $H_2C=C=O$. Lactene, $H_2C=C=C=O$. and 1:4, Benzoquinone. They activate oxygen and they also activate ethylene and quinone groups of toxic molecules to take up oxygen, thus destroying the free valency that produces

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their toxic photochemic action. This is the ultimate in all immunity chemistry and- even. where obscure chemotherapeutic s have been found helpful this principle will he found operative fundamentally.

For instance, the sulpho compounds in common use are very toxic to the tissues, each must first be oxidized to para amino quinone, which is next oxidized to 1 :4, benzoquinone and then to two molecules of the suboxide of carbon, "Malonide" or three molecules of Glyoxylide before it serves as a protective oxidation catalyst.

When the tissue oxidations are too feeble to accomplish this oxidation, harm instead of benefit is received. There can be no question as to the preference of the harmless directly active agents, over the original toxic sulphonamide molecules.

Glyoxylide is basic to every disease known to man in our experience and is not contraindicated in meningitis or any other condition but can be used with the expectation of doing good and not injuring the patient in any way whatever.

RECOVERY PROCESS

When the pathogenic toxin is removed by this type of oxidation, its intermediaries have catalytic curative action also and so the "cause is turned into the cure," as I have insisted since 1918. The germs depending upon it must die and all secondary toxins are burned; tissues still living resume normal function; injured cells are removed and replaced by normal tissue elements, and not by scar. Hence, normal function is restored. Scars that had been protecting focal infections are now obsolete and are absorbed and replaced by normal tissue elements more or less thoroughly. Focal infection as well as acute germ invasion is routed out and the allergies and degenerative diseases depending upon the old focal poisoning give way to normalcy, even with tissue reconstruction and return of function.

This return to normalcy is a cyclic procedure, the periodicity of which is grossly similar to the periodicity of the genesis of the disease. The periods are made up of positive and negative phases, the shortest unit of which is three hours. This period is multiplied into twelve, twenty-four, thirty-six hour cycles, etc., these are further multiplied into three and a half, seven, ten and a half. and fourteen-day cycles, these into three-week, six-week, nine-week, and twelve-week cycles, and these into six-month, nine-month, twelve-month, and greater cycles. Especially important are the twelfth, twenty-fourth, thirty-sixth, sixtieth and seventy-second week periods.

Recovery is generally secured on one or two doses, but if the dose is to be repeated this is done during a negative phase only and at one of the divisional periods, such as the third, sixth, ninth, twelfth, twenty-fourth, thirty-sixth, fifty-first, sixtieth, or seventy-second week. It is never repeated while recovery is in progress.

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An Efficient Single Dose Treatment For Diabetes, On A Full Carbohydrate Diet Without Insulin

By William F. Koch, Ph.D., M.D.

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Abstract: An Efficient Single Dose Treatment for Diabetes On a Full Carbohydrate Diet Without Insulin: This is a reprint of a report published in Dec. 1941 in J.A.A.M.P.R. on Dr. Koch's antitoxins and their impact on the treatment of diabetes.

The period of observation includes scattered cases treated since 1922 and recent systematic studies. The cases treated cover about every type known, including a few of diabetes insipidus.

The treatment material consists of catalytic dilutions of the carriers of aerobic oxidation which we have described in the past elsewhere. (1) These substances are 1:4 B Benzoquinone and its transition products Glyoxylide, ($O=C=C=O$), and Malonide, ($O=C=C=C=O$), and also Ketene. Their chemical structures conform to the rules we have laid down as requisite to the production of immunity against disease; namely, they possess the smallest molecular weight possible; they possess carbonyl groups that share ethylene linkages or carbonyl groups that are conjugated with ethylene linkages in molecules that can yield carbonyl groups sharing ethylene linkages. (2)

Substances of this type can be extracted from the heart and brain. Such extracts demonstrate the same curative results as the synthetic products and, like them, correct a definite blood coagulation deficiency. Because of this physiological property, I named them "Tissue Thrombin" and showed that they are able to cure cancer, in a paper published in the New York Medical Record in October, 1920. The synthetic products can be used with good control while the tissue extracts are very unreliable and have only academic interests. Vitamin K offers very weak protective properties in addition to its influence on blood coagulation and in its little way confirms what we have been teaching for years with, reference to carbonyl and ethylene groups in the catalysis of the oxidations. There is beginning to be a general appreciation of the significance of these findings. This is important, since it is our mission to demonstrate that the common basis of disease of all kinds; including diabetes mellitus and diabetes insipidus, is a specific defect in the oxidation catalysis.

The clinical data indicate that the cause of diabetes is the prolonged poisoning of the tissues by bacterial products liberated in scars that have scanty circulation. These products are intended to serve the nutrition of the germs that produce them and are originally of fairly small molecular weight, diffusible, and fully oxidizable by the oxidation mechanism of healthy tissues. However, when secreted under the anaerobic conditions prevailing in scars they are not burned, but instead some of their free valencies yield to polymerizations by which the molecular weight increases progressively while the photochemic properties vary also with the different stages in the polymerizations. The different photochemic values have different pathogenic powers, and so as the polymerizations progress, the patient passes through a series of different pathogenic influences that produce different symptomatologies and physical changes.

Diabetes is one of these effects, with a predilection to express itself in certain persons and races. Neuritis, various degenerative diseases, psoriasis and other changes may be exhibited, but the final change in all, if the patient lives long enough to develop it, is cancer. Here too the hereditary factor plays a part, for we

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have observed that successive generations tend to develop malignant growths earlier and earlier in life and the longer the disease has expressed itself in the ancestry the shorter is the pre-growth, toxic period that exhibits diabetes or the other changes. (3)

The oxidation catalysts we use therapeutically are de-polymerizing agents and, while the toxin is being depolymerized to its simple burnable structure, it passes through, the various phases that were active during the pathogenesis, and so fleeting recurrence of these changes come, and disappear in the reversed order while recovery is going on. Thus, when the patient is treated in the cancer stage of the poisoning and retraces the symptomatology of the pathogenesis, the last toxic expression to come is the first to go and the first to come is the last to go. Therefore, an acute inflammation in some old cicatrix that imprisoned the causative infection is the last change to take place. After the germ's nutritional agents have been oxidized the germ dies and the scar which imprisoned it becomes obsolete and is absorbed. Thus, with the destruction of the etiological factor, the disease is completely cured. When some form of diabetes is one of the pre-growth symptoms it is overcome before the scar is cleaned out and, since this happens soon after the cancer growth is absorbed, we conclude that the molecular weight of the toxin at this stage is quite great. Cases of diabetes cured by this treatment, before they can develop cancer, may pass through other expressions of the intoxication producible by greater or lesser molecular weights, thus the neuritis will get well before the diabetes and the obliterative endarteritis will start to heal before the blood sugar is normal. But a psoriasis or other change may show up transiently after the blood sugar has become normal. Therefore, diabetes must be studied as a phase of a systemic intoxication and cure cannot be fully established until the focus of infection has been wiped out. Thus the recovery is not measured alone by the return of the blood sugar to normal.

Polymerizations of pathogenic toxins, therefore, appear to us to account for the different stages of chronic diseases, such as the several stages of syphilis, the different phases of malaria and of the "Fourth Disease," etc. It accounts also for the creation of pathogenic viruses. Certain polymerization phases have-specific pathogenic action, while others have no action at all. The rapidity of the recovery from virus caused disease after one dose of our Benzoquinone, solution or one of the transition forms, Glyoxylide or Malonide, can only be accounted for by this assumption, for recovery from early acute infantile paralysis has taken place in twenty-four, hours and measles recovers regularly in twelve hours. The dreaded tropical pemphigus begins to improve in twenty-four hours and recovers in a few weeks, with ultimate full restoration of the skin. The virus action is probably destroyed in the first three or four days, so far as the "Wild-fire" itself is concerned.

Obliterative endarteritis, which is a specific effect of the poison that causes diabetes, we regard as the lesion that specifically indicates a depression of the oxidation catalysis of the tissues, general or local. Therefore, this lesion is a definite indication that the oxidation catalysts we have contributed to medicine should be employed to remove the basic cause of many diseases, including Buerger's disease, leprosy, tuberculosis, syphilis, cancer, and so many more. There can be little doubt that the endothelial hyperplasia is a compensatory attempt to increase the surface for filtration of oxygen from blood to, the tissues, even though it defeats its own purpose. The demand for activated oxygen on the part of the tissues is also expressed by poor sugar oxidation as observed in diabetes mellitus, cancer, the thyroid diseases, and others. By removing the basic pathology, that is, by restoring the oxidation catalysis to normal or better, all expressions of the intoxication are removed, and the metabolism, the blood pressure, and the tissue functions are again able to run along as they should. The focus of infection is wiped out and the disease is cured in its totality.

After an intramuscular injection of our Benzoquinone solution or one of the other catalysts mentioned is given in diabetes, recovery begins very quickly and its progress can be measured by the decrease in the

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blood sugar. The amount of sugar eaten will affect this reading, but not the recovery mechanism. We feed the patient an ordinary amount of sugar and starches and as he recovers he is more and more able to use them. Where the sugar intake is controlled, however, it is usual to observe a drop of twenty mgms. percent every week until normal is reached. But we have seen both slower and more rapid restoration to normal. Sometimes a severe case is encountered in which the blood sugar is over four hundred mgms. percent and the vital organs have undergone fatty degeneration to a fatal extent. In such cases the blood sugar may come to normal and the gangrene heal, but the patient may, die from heart failure after excessive exertion, either very early or very late after recovery from the diabetes.

In one series of cases, where the patients could be watched closely, the four per cent of failures belonged to this group only, but in each instance the blood sugar came to normal before death. Acidosis is not a serious factor either, because with the restoration of the oxidation of sugar, the fatty acids are also burned. The recovery is not simply the reduction of the blood sugar to normal. It involves the correction of the whole pathology and the removal of its cause. Therefore, the use of insulin is not essential. Indeed, it is better as a rule to do without it from the commencement of treatment so as to avoid a hypoglycemia in cases making rapid recoveries. The few cases of diabetes insipidus treated so far have also recovered.

The treatment procedure is to stop all medication and cleanse the bowels for a few days. Then one dose of one of the oxidation catalysts is injected intramuscularly. Except for the use of plenty of animal fats, the dietary regime is vegetarian entirely. No animal proteins whatever are permitted. Thus the production of nitrogenous negative oxidation catalysts in the intestine is retarded: Colon lavage is helpful. The diet should be reasonable and include plenty of vitamins and tissue salts. Foods containing quinones and terpenes that serve as negative oxidation catalysts must also be eliminated from the diet. Therefore, coffee, tea, mangoes, and citrus fruits are not, used, and exposure to pint solvents, perfumes and automobile or furnace gases is avoided. Food should not be cooked in aluminum. Adequate colon lavage should be employed to assure proper elimination. Alcohol, tobacco, and spices are forbidden. One dose of the remedy is usually sufficient where cure is possible.

After the remedy is injected one should watch for periodic reactions which play their part in the recovery process. These have already been described. (4) They generally come at three and a half day or three-week intervals until recovery is complete: If an interfering factor prevents recovery it should be identified and removed and the dose repeated.

Diabetic Mechanism

To orthodox medicine the mechanism of diabetes still remains a puzzle. It is observed, however, that after a person dies of diabetes, his pancreas can be removed and from it a normal amount of insulin is extractable. (Of, course, syphilitic and malignant destruction of the pancreas belong to different categories.) The difficulties must lie with the function of secreting or transferring the hormone into the blood stream. This is a function which like muscle contraction requires the expenditure of energy. We may say that two possibilities can exist in the production of diabetes, the inability to produce the energy within the secreting fibrillae, and the inhibition of the secretory function through allergic action of the "sugar center" in the brain or an allergic action of the pituitary gland. Both the anergic and allergic suppression of Islet function exist on the same chemical basis and have one means of correction. A few explanatory words are in order.

We have given a thorough description of the allergy mechanism in various writings and lectures in the past. (8) Briefly we may say that in this condition the cell functional elements are made to work "under forced draft" beyond physiological control. They have adsorbed into their colloidal surfaces, a fluorescent

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toxin which transfers the exothermic energy which is constantly evolved in living cells, into the functional element affected. The specificity is determined by the similarity in the spectral absorption range of the functional unit and the emission range of the fluorescent substance. So the energy transferred passes right into the chemical processes of the functional unit and forces its activity to proceed without the usual control. Thus are produced the hyper-secretion of hay fever, the contraction of the bronchial musculature in asthma, the conduction of a constant series of impulses through the neurones associated in some thought complex resulting in the fixed ideas and delusions of insanity and the phenomena of hysteria. Thus also mitotic units are forced into uncontrolled hyperactivity in the cell multiplications of malignancy.

When energy is prevented from being evolved in a cell functional unit, the work of the affected unit cannot be performed. The mechanism of blocking the functional process is very much of the same nature as that of forcing allergic behavior. Both depend upon the free valencies of the offending substance (toxin). In one instance energy is transferred from the cell substance to a functional unit where it does not belong and forces function; in the other, the energy evolved within the cell is absorbed by the fluorescent substance and emitted at a range that does not correspond to the energy absorption range of the colloids of the functional unit, and hence it is dissipated without being used. Thus the functional unit is inactivated. It appears that the polymerization is less advanced in the allergenic than in the anergenic phase. Since the free valencies of the offending molecule in both instances are subject to oxidations and the molecule itself is a polymer of a much simpler oxidizable structure, both effects can be corrected and really completely cured by completely de-polymerizing and oxidizing the fluorescent materials that cause the interferences.

As was stated earlier the origins of these toxins are imprisoned germs living under anaerobic conditions in scar tissue, occluded tonsillar crypts, intestinal diverticula, etc. The toxin is the germ's nutritional agent and its destruction is fatal to the germ.

Whether or not the toxin has polymerized to the very advanced stage where it acts directly upon the secretory filaments of the Islet cells inhibitory, or has polymerized only to the lesser degree where it can act allergically upon the nerve centers that inhibit Islet function, or upon the pituitary to accomplish the same result, is, therefore, of no consequence therapeutically. The same treatment measure is successful, for it removes the pathogenic agent completely and thereby causes the death of the germ that produces and depends, upon the poison. Since the scar prison is no longer needed after the death of the germ, it too is disposed of and recovery is completed. Recovery is complete too for another reason. The lack of oxidation capacity that permitted acute infection to become chronic and produce its poisons in any tissue is corrected by the new vigorous oxidations instituted by the treatment and since they are of the normal type that conduct aerobic glycolysis, it is the normal protective procedure that is re-established. Thus we have overcome a serious disease by a physiological procedure. The same system is used in securing true recoveries in all of the other incurable diseases and lent infections so far encountered for the chemistry of their pathogenesis is the same.

Relation to Other Therapies

The curative agents, 1:4 Benzoquinone, and its transition products, Glyoxylide and Malonide, are the unrecognized active principles of the favorite sulfonamide chemotherapies of the present day. But the active principles themselves are far superior because the sulfo drugs must be changed to 1:4 Benzoquinone first at the expense of the tissue vitality before they can do service. In complicated and serious sickness the vitality may be too depleted to conduct the oxidations required to accomplish this change and then the toxic effects of the drug added to the infection toxins have a good chance to prove fatal. This situation is eliminated and direct curative action only is had by the use of 1:4 Benzoquinone or

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Glyoxylide or Malonide. (6) It is thus evident that in diabetes and malignancy, sulfa drugs offer certain dangers.

Vitamins B, C, and K and some other useful agents depend primarily upon the carbonyl group for their specific action. In each instance the rest of the molecular structure determines the specific position at which the carbonyl activity fits into the body chemistry and what its intensity should be. The free valency of the carbonyl group exerts a photochemic action that influences the formation of oxidizable ethylene groups and activates oxygen and other carbonyl groups. (10) Therefore these vitamins, and some others are special oxidation agents that play a part in the recovery from diabetes and cancer. Their forced feeding gives a good boost to the oxidations, enough even to produce temporary approximate recoveries in a few instances.

However, for true curative efficiency their structures would have to be changed to conform to the laws of chemical structure we have announced.

The very infrequent good results from irradiation we attribute to the accidental dehydration of tissue inosite to "Hexylene" (9) and its further oxidation to Glyoxylide and Malonide with 1:4 Benzoquinone as a possible intermediary. The carcinogenic action of irradiation is far better known than its curative action in cancer which critical investigation shows to be nearly nonexistent. We, therefore, suspect that irradiation produces a reduction of the normal catalysts of sugar oxidation, Hexylene, Glyoxylide, and Malonide, to 1:4 Benzoquinone, for in fairly concentrated solution 1:4 Benzoquinone has proved to be carcinogenic. We have attributed all carcinogenic action to the quinone group. (7)

The ultimate of all curative therapies are Glyoxylide, Malonide, Hexylene, and their relative 1:4 Benzoquinone because of their critical physiological positions. Benzoquinone is indicated in the acute infections and lighter allergies, while Glyoxylide serves best in the more chronic infections, the deeper allergies like cancer, and the degenerative diseases.

Case Histories

One interesting observation is that of a physician of about fifty years of age whose mother we cured of an enormous cancer of the breast in 1920. She was about eighty years of age. The son, about fifty years old, came in 1926 with profound diabetes of two years' standing. His diet was carefully managed and, insulin was used regularly. Still in the last ix months he developed a general multiple neuritis that affected both legs and hips most severely so that he was nearly bedfast and needed crutches to move about. The Glyoxylide solution we were using at that time was given intramuscularly. The neuritis and general nutrition improved very quickly. It was much better in a week and in seven weeks it had disappeared entirely. Still the blood sugar had only dropped from 190 to 160 in that time and he still took some insulin. Recovery was not completed until after the twelfth week. Here we see the changes disappear in reverse order to their coming, and it appears that the stage of polymerization of the toxin causing the neuritis was farther along than that which affected the pancreas islets.

A case of diabetes with considerable obliterative endarteritis throws some light on the subject. This patient, age 50, was first seen by us in July 1928. For about a year the obliterative endarteritis in both legs and feet increased in severity so that walking became difficult. One of our best hospitals found the blood sugar to be 380; gave insulin, morphine to control the pain, and advised him to prepare for amputation of both legs at the knees. He took our treatment instead and made a full recovery. In twelve weeks the legs were normal and at the sixth month the blood sugar was again estimated at the same hospital and found to be 90 mgms. percent. No insulin was used after the injection of Glyoxylide and he ate all he wished. He

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was a fatty type and suffered from dyspnoea on slight exertion. The, heart muscle sounds were weak and its action flabby. A fatty degeneration of the myocardium was suspected therefore. Six years later after prolonged exertion he died from acute cardiac dilatation. Evidently better care and a longer time were required to permit the heart muscle to be repaired with good healthy muscle tissue.

A simple case of diabetes which illustrates the vast majority one encounters is illustrated by the woman of 73 who was discovered by her grandson, a diabetes expert, to be carrying a blood sugar of 220 mgms. percent. He did not give insulin, but our 1:4 Benzoquinone solution instead. After one injection the blood sugar steadily decreased by about twenty mgms. percent per week until normal was reached. Thus it took her about six weeks to recover. Her diet was not arranged to restrict carbohydrates rigorously. She simply ate carefully as a woman her age should, but all animal proteins were forbidden.

We have encountered diabetes complicated with rapidly advancing tuberculosis. Such cases do as well as though no tuberculosis were present and the tuberculosis undergoes recovery just as rapidly as though no diabetes were present, whereas, before treatment the two conditions definitely aggravated each other or rather were both aggravated by the basic crippling of the oxidation mechanism.

The time relations may be obscured sometimes as in a case of diabetes where cancer is present, if for instance the size of the growth is very large. Such a case is that of a woman of 57 whom we treated in 1927. The diabetes was mild, the blood sugar rarely exceeding 200 mgms. percent. This condition was known for a year before a growth was found in the left breast. The growth developed rapidly producing large metastases in the axilla, and was found inoperable at the first examination. At her first visit to me the volume of the growth was about a liter and a half, the axillary growths included. Two injections of Glyoxylyde were given, but recovery was very slow, which is contrary to the rule, for the greater the growth rate, the greater the autolysis rate. Recovery from the growth was not completed until seventy-two weeks had passed. However, the diabetes started to improve after the thirty-sixth week and the blood sugar became normal before the sixtieth week. Thus the time required for the organization, autolysis, and absorption of the growth exceeded the time required to get rid of the pathogenic toxin by something like nine months.

The whole profession is invited to make observations with the four remedies we have been using most effectively, especially Benzoquinone and Glyoxylyde. We prepare each dose as carefully as possible for every patient that is chosen for treatment and at the most reasonable cost possible. Case discussion is welcomed, and advice is offered whenever desired; and all progress reports are of the utmost interest to us.

That the earliest possible overwhelming statistical support to this thesis is highly desirable is certainly evident, and we ask for your cooperation.

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Clinical Demonstration Of The Laws Of Chemical Structure That Determine Immunity To Disease*

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Adapted from a Paper given before the College of Physicians and Surgeons of the Province of Quebec, June 29, 1939.

The reproduction of the Natural Immunity Mechanism by synthetic procedures, and its successful application in the true cure of the various forms of disease known to man, is presented in this volume. It is the result of over a quarter of a century of extremely interesting work, and introduces a new era in medicine.

Abstract: Clinical; Demonstration...That Determines Immunity to Disease: A chemical and clinical explanation of the cause, function and solution to cancer and its allied diseases given by Dr. Koch before the College of Physicians and Surgeons of Quebec, June '39. Percentage of results discussed in conjunction with a series of case histories. (1942)

GENERAL SURVEY

The investigations covered by these lectures were started in 1910 as a study of the parathyroid glands, in which the attempt was made to identify the poisons that cause the convulsions following parathyroidectomy. It was found that several of the guanidines, histamine, and some other bases containing the imide group were responsible. It seemed evident that these substances were tissue elements liberated by the rapid and extreme tissue disintegration that follows the loss of the parathyroid function. One might expect that if these bases were burned to urea, they could not be present to act toxically.

A study of the oxidation mechanism was, therefore, attempted for the purpose of finding some conveyor of tissue oxidation that could burn the imide group. It was hoped that when this was accomplished, the toxic elements following parathyroidectomy having been removed, it would then be possible to study the intricacies of the parathyroid function without interruption by the factors involved in the convulsions and the early death of the animals.

However, at that time nothing helpful was known about the physiological aspects of the oxidation mechanism. Furthermore, the science of photochemistry, which deals with the mathematics of catalytic matters, was not developed to the point where it could be of much service. And yet, it was evident that all catalytic activities were dependent upon the free valencies in the reaction field, and so several procedures of glucose and fructose oxidation were outlined so as to provide free valencies in all of the intermediaries throughout the process until full oxidation to carbon dioxide took place. Thus several very labile unsaturated molecules offering catalytic properties were devised.

The hexoses provide perfect opportunity for this procedure because the hydrogen and hydroxyl groups are correctly placed to produce the free valencies desired through dehydrations. Thus we were led to

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synthesize a number of oxidation activators of immense physiological interest. It was not long before it became evident also that they possessed the greatest therapeutic value, and occupy a basic position in the chemistry of immunity.

* Given before the College of Physicians and Surgeons of Quebec, June 29, 1939, enlarged with clinical data.

Naturally our interest was immediately directed to eclampsia, and the first cases treated with the unsaturated molecules became detoxicated so rapidly and recovered so completely that we felt obliged to ascertain the total scope of their beneficial action. Cancer was investigated next because it is the deepest disease known to man; and besides it offers opportunities for microscopic check-up. In due time every other disease available was studied and it was found that the pathogenic trend was reversed as soon as a good oxidation catalysis was established. The methemoglobin is soon changed to useful oxyhemoglobin, and the respiratory agents in the tissues and blood function better, so that hemolysis, cyanosis, and dyspnoea disappear and muscle and tissue function becomes more efficient. The reticulo-endothelial system recovers its ability to perform its functions again; the patient feels better; pain disappears and the invading organisms die and are eliminated. **Benign and malignant growths undergo coagulation, become organized like blood clots and involute. And the invaded areas are healed by replacement with normal tissue elements, so they can function again. In short, the normal physiology is restored.**

Oxygen want is expressed by the tissues in more than one-way. Obliterative endarteritis takes part in the lesions of many dis-eases and appears to be an indication that active oxygen is wanted by the tissues. The endothelial cells become hyperplastic, no doubt to supply a greater surface for transfer of oxygen from blood to tissues. But the effort defeats its own purposes. It is not under physiological control and is, therefore, to be classified as allergic. **How quickly this condition reverts to normal in all diseases in which it is encountered following restoration of the normal oxidation catalysis shows how fundamental the loss of efficient oxidations is to disease in general. In the purely functional allergies the same truth prevails.**

Molecular structures that catalytically quench the normal oxidation catalysis possess rather heavy molecular weight, which contributes inertia. At the same time they possess an ethylene, quinone, imide, or amino group, the free valencies of which actively absorb the energy of the positive oxidation catalyst and thus remove its activity from the reaction field. The toxins of pathogenic germs and allergenic substances are all built up along this plan. **They, therefore, possess a common mechanism of action, which offers a single means of attack whereby they can be completely destroyed so far as their toxic action is concerned. One agent, there-fore, can serve specifically destructive to all of them and this agent is a vigorous oxidation catalysis.**

One of the most effective therapies of our day depends upon this activity, but it is not understood to be so because the activation of oxygen is brought about very indirectly. I refer to the sulfonamide family of drugs. Their mode of action is confessedly not understood, and their development is conducted on the hit and miss system. **If the laws of chemical structure that control immunity were generally known, these drugs would not be presented to the profession in their present dangerous and badly handicapped forms, but instead one harmless, extremely efficient substance would be the only one in use.** It is the active principle of all of them. I will describe it, for it is formed in small amounts wherever the sulfonamides give definite benefit. It is one of the substances we have used for many years under the name of the **Koch Synthetic Antitoxins. It is 1:4 Benzoquinone.**

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Every member of the sulfonamide group is toxic to the healthy body, but it is much more toxic to sick persons. If the patient retains sufficient oxidation capacity to burn off the amino group and the sulphonic acid and other characterizing groups and oxidize the benzene ring to 1:4 Benzoquinone, he is able to prepare a protective substance out of the sulfonamide. If his vitality is too low to accomplish this change, the toxic effects of the drug may prove fatal. Probably only small quantities of the drug undergo favorable change and the presence of inflamed vital tissues contraindicates its presence in the system. Therefore, nephritis, meningitis, anemia, etc., forbid their use. Whereas 1:4 Benzoquinone being harmless in catalytic dilutions in which it should be used is curative to these complications, it has no contraindications. It, therefore, serves as the ideal therapeutic agent.

1:4 Benzoquinone, however, in fairly concentrated solution is an allergenic substance and can produce cancer when repeatedly applied in solutions of one to five or ten thousand. It resembles caffeic acid, which is also a quinone or dihydroxy aromatic structure that we have found to be able to produce a sensory allergy. This is particularly true if its unsaturated side chain is saturated with a halogen. The allergenic behavior of the quinone group is one of the first observations we have made in the beginning of this study. It appeared that the quinone group, since it offers an inertly bound Carbonyl group, may serve as a negative oxidation catalyst. Thus it is able to absorb and quench the electronic activity of the Carbonyl group present in the more active aliphatic molecules that catalyze the oxidations.

In high catalytic dilutions, however, 1:4 Benzoquinone no longer behaves as a quinone, but as a Carbonyl compound of the aliphatic type and it activates oxygen so as to become a peroxide itself, which splits into two of the most active oxidation catalysts that can be constructed, namely, Glyoxylide and Malonide, the two catalysts we have relied upon for many years for the successful Treatment of the most resistant diseases known. These two substances are the master catalysts of aerobic glycolysis, as we understand the problem. Therefore, in an uncontrolled way traces of these substances may be formed when proper conditions prevail, after the administration of the sulfonamides. But their activity is handicapped by the large mass of drug that remains unchanged. Still sufficient may be present to initiate oxidations vigorous enough to burn the invading toxins.

On the other hand, 1:4 Benzoquinone in catalytic dilutions dehydrates, activates oxygen and is changed to Glyoxylide and Malonide, restoring the oxidations within the tissues to such a vigorous normal that no disease toxins whatever can resist being burned. Probably the most important characteristic of these three oxidation catalysts is their ability to de-polymerize the toxic bodies elaborated within the dense cicatrices of chronic focal infections. Under the anaerobic conditions that prevail in such foci, the toxic agents liberated by the imprisoned germs are not burned, as they would be where the normal tissue oxidations progress vigorously. The free valences, therefore, have opportunity to polymerize and thus the molecule increases in size progressively through many phases, some of which possess photochemic properties with pathogenic qualities, until finally a heavy enough molecule is produced that can adsorb deeply into the colloids of the reproductive mechanism of tissue cells and exert the specific grade of fluorescence that causes malignancy. **The original toxic agent produced by a pathogenic germ to serve its nutritional purposes is a readily diffusible substance with fairly small molecular weight and is readily burnable by truly healthy tissue oxidations. The polymerized toxins are not readily burned and are able to cause the various allergies, degenerative diseases, and functional inhibitions that constitute chronic disease and play a part in the long pre-growth period of malignancy to be discussed later.**

Our subject matter deals with disease in its totality, therefore, and describes the behavior of the agency, which disposes of all phases of pathogenic action by a normal physiological procedure-oxidation. The Therapy described is a reproduction of the normal process and should interest every physician because of its harmlessness and because it fits every physiological situation that has become

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perverted by the action of a foreign agent. **It deals with one physiological measure that cures every infection known to man, bacterial, protozoan, or virus, and also cures the sequelae to these infections, arthritis, insanity, diabetes, mul-tiple sclerosis, cancer, and others. It places the Treatment of dis-ease upon the most fundamental basis possible, the chemistry of the vital principle, the oxidation mechanism. A few comparisons will emphasize its advantages.**

We give daily doses of insulin to assist the function of the pancreas in the treatment of diabetes, a palliative procedure, but we cure diabetes by giving one or two doses of Glyoxylide or 1:4 Benzoquinone. Thus we destroy the focal infection whose poisons have paralyzed the pancreas function. The blood sugar may then return to normal by about twenty mmgs. percent per week on a rich carbohydrate diet without the use of insulin.

The whimsically curative mechanism of irradiation is con-fessedly not understood. The process is not controllable by dosage alone or by any other known factor. Irradiation causes cancer and is far more reliable in this effect than in bringing about cures. In fact, our experience makes us doubt that it ever cured true cancer, except very rarely. **However, the mechanism by which it causes and cures cancer is explainable by our Thesis and is simply this: By dehydrating the inosite of the tissues, 1:4 Benzoquinone and Hexylene, discussed further on, are produced and they yield Glyoxylide and Malonide. If the 1:4 Benzo-quinone is produced in carcinogenic dosage (1:5000-1:15000) over a period of time, the results are malignancy. Whereas, if a lucky catalytic dilution of 1:4 Benzoquinone or Hexylene are formed and the situation not spoiled by further interference, a good result may be had.**

All of the vitamins depend directly or indirectly upon carbonyl activity to functionate. Their specificity and intensity of activating the oxidations is determined by the total molecular structure. Para-amino-benzoic acid can form a quinone carcino-genic in large dosage; **Vitamin B, especially, and A, C, D, and K have proven useful to us for years in cancer therapy.**

Like the sulfa drugs, the arsphenamines are not bactericidal in therapeutic solutions. The latter must first be oxidized to arsenous oxide and the arsenous oxide must be burned to arsenic anhydride and arsenic acid in the tissues to be useful. While undergoing oxidation the free arsenic valences activate oxygen to the extent that syphilitic and some other poisons are burned. But the toxicity of the arsenic limits its usefulness.

The nontoxic carbon compounds we have introduced are much more efficient oxidation catalysts. Since they are de-polymerization agents, also, they are curative in such allergic syphilitic changes as diabetes, the gumma, and the specific infiltration of the nervous system. **Thus the superior efficacy of the Natural Immunity agents stands out beautifully.**

Since the range of chemical structures considered here is small in comparison to the variety of disease conditions they influence, we must conclude that they concern factors of primary causa-tion of disease, and that the great variety of common disease characteristics are matters of dependent secondary causes, that cease to exist after the primary cause is removed.

CHEMICAL BASIS

Firstly, it should be stated that carbonyl groups activate the oxidations of other Carbonyl groups, and do so by increasing the tendency to produce peroxides, thus benzaldehyde tends to become and produce the peroxide of benzaldehyde much quicker than the latter changes to benzoic acid. Moreover, the ethylene

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group activates oxygen and tends to become a peroxide spontaneously, so to speak. Thus it serves the peroxidation of the terpenes.

OXIDATION INHIBITANTS

The catalytic effect in the activation of oxygen for auto-oxidation and the oxidation of like structures I find to be inhibited by the amino group and, in some instances, by the imido group. Thus it is easy to see that the protein structure, which is made up of carbon chains possessing Carbonyl groups, is protected from oxidation because each Carbonyl group is flanked by an amino group. Moreover, the loss of the Carbonyl groups in an amino acid gives it pathogenic anti-oxidation properties as in histamine, methyl guanidine, etc., and thus, too, the amine bases and like products of bacterial action serve toxically as oxidation inhibitors. On the other hand, removal of the amino group is a necessary preparatory step for the oxidation of amino acids. The amino group thus plays an important role in the preservation of the exact structure of the protein of the individual and of the type and species. Thus, when immunity must be acquired against some infection, immunity does not emerge until a certain amount of proteolysis and desamidation of amino acids has taken place producing carbon chains possessing carbonyl groups unhampered by the presence of amino groups. Therefore, fever and tissue waste with excretion of increased non-protein nitrogen is the unpleasant and dangerous companion to acquired immunity. The efficiency of the resulting Carbonyl compounds, in the production of immunity, depends upon the proportions of structures we describe below as the most efficient oxygen activators.

There are other inhibitants of Carbonyl and ethylene activity, namely, the quinone and dihydroxy-aromatic molecules. These are used commercially to prevent peroxide formation and thus to protect unsaturated compounds from polymerization inducible by the peroxides of such bodies. It is my opinion that the quinones and peroxides of quite stable aromatic compounds serve as the immediate carcinogenic substances through their anti-oxidation catalytic effects. Also, that this very anti-peroxidation effect prevents the burning of unsaturated bodies of stable structure, and thus permits them to exert their fluorescence in a way which produces the allergies as I interpret their production here. Stable peroxides of ethylene linkages in inert molecules tend to induce polymerization in like structures thus diminishing their combustibility and favoring allergic activity.

It might be well to give a photochemic description of fluorescence. This phenomenon depends upon the free valencies a substance possesses between its carbon atoms, or carbon and oxygen atoms, or carbon and nitrogen atoms. When these free valences are able to absorb energy, they become a new system which is only maintained momentarily before the energy is given off again in a degraded way, either as light emission or, as we are concerned at this time, by transfer to a suitable acceptor. When the fluorescent substance happens to be adsorbed intimately into a chemical body undergoing activity, the energy of the fluorescent substance can be passed on directly to the chemical processes of the adsorbing substance and accelerate its activity. In so doing, the fluorescent substance returns to its previous state, but the acceptor of the energy is activated and its chemical processes are accelerated by the energy received. A substance cannot serve as an acceptor of energy in this way unless, in addition to the intimate adsorption union between it and the fluorescent substance, there is also an identity in the spectrum emission ranges of the fluorescent substance and the absorption range of the acceptor.

THE PRODUCTION OF ALLERGY

Allergy has generally been considered to be a hypersensitivity to some substance, yet one may look upon the process as a hyperactivity of a tissue structure outside of physiological control. The physical-chemical basis of the mechanism of its production depends upon two different properties of

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unsaturated bodies. One is the transfer of energy through fluorescence from exothermic reactions going on in the cells of a tissue to the chemical processes of some special functional mechanism in these cells. The other is the evolution of energy in a functional mechanism by carrier action of the quinone group. In the first instance, the allergenic agent must be adsorbed intimately into the colloids of the functional mechanism, be it the contractile, conductive, secretory, or reproductive elements of the cell. In fact, the agent is adsorbed into all of them, yet the energy it has absorbed can only be transferred to the chemical processes going on in that functional unit which possesses spectrum ranges of energy absorption that are identical with the ranges of emission it possesses itself. **Thus the specificity of allergy is explainable on a purely chemical basis.**

If the secretory elements of the cell are of proper spectrum quality, hyper-secretion (as in hay fever) results; if the conductive elements as of nerve cells are concerned, allergic neuritis, epilepsy, fixed ideas, inhibitions, contractures, etc., result. If the reproductive mechanism is concerned, uncontrolled cell division of neoplasia results; if the contractile elements are affected, then muscle spasms (as in asthma) are the answer. In short, the type of allergy depends upon the similarity in the specific spectral characteristics of agent and functional units, while the basic disease process depends simply upon the presence of the difficultly oxidizable unsaturated valencies responsible for the fluorescence in the molecules comprising the allergenic agent. Therefore, the removal of the pathogenic agent is merely a matter of the saturation of its free valences with peroxide oxygen, which destroys its fluorescence or carrier properties. The completion of the combustion by first splitting the peroxide (isorrhopesis) destroys the pathogenic properties fully.

Now the only absolutely safe and the most efficient materials able to fully accomplish this result are the catalysts of oxidation that Nature provides in her own oxidation mechanism, the structures that we believe to be the intermediaries that catalyze the oxidation of sugars for normal function and activate oxygen in maintaining natural immunity, and, to a lesser degree, the substances liberated by the proteolysis and desamidation of amino acids in acquired immunity.

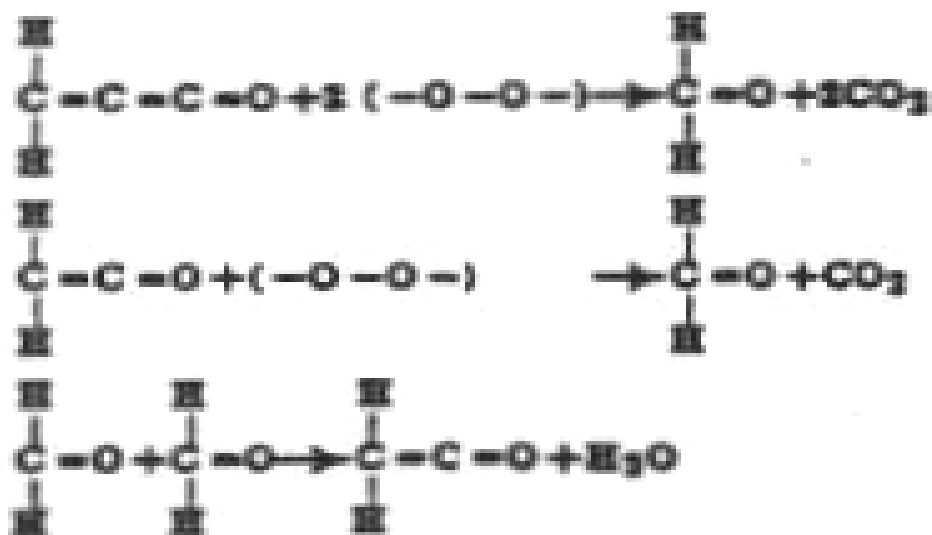
THE THERAPEUTIC AGENTS

I stated previously that the Carbonyl group and the ethylene group tend to favor per-oxidations of similar groups: in other words, that their free valencies exhibit oxygen activating effects. It was also stated that this tendency appears, to be inhibited by amino groups. It appears, also, that this activating property is accelerated by the presence of ethylene groups, and by the presence of hydroxyl or of another Carbonyl group (di-hydroxyl) in the molecule. However, for the most energetic oxygen activation and immunogenic power the hydroxyl present should be positioned so as to yield to dehydration and the production of an ethylene linkage shared by the Carbonyl group. *The chemical basis of immunity may be stated as three rules. First, that amino groups are not present in the carbon chains possessing the Carbonyl group. Second, that the Carbonyl group forms a part of an ethylene linkage. Third, that it be joined to a carbon atom united with hydroxyl, which can be removed to yield an ethylene linkage shared by the Carbonyl group. Fourth, that it be conjugated with an ethylene linkage in a molecule that is able to yield to change whereby the carbon of the Carbonyl group shares the ethylene linkage. Usual dilutions range from 1×10^{-6} to 1×10^{-30} . Normal cytochrome concentrations are 1×10^{-10} .* (The Carbonyl group may be united to nitrogen by double bonds as in cyanic acid and demonstrate minor immunogenic power only.)

Such substances are those that I have proposed to be the intermediaries and auto-catalysts of aerobic glycolysis, a process that has not yet been worked out, because under the conditions prevailing the intermediaries are too unstable to be isolated for identification. The systems outlined have served me well

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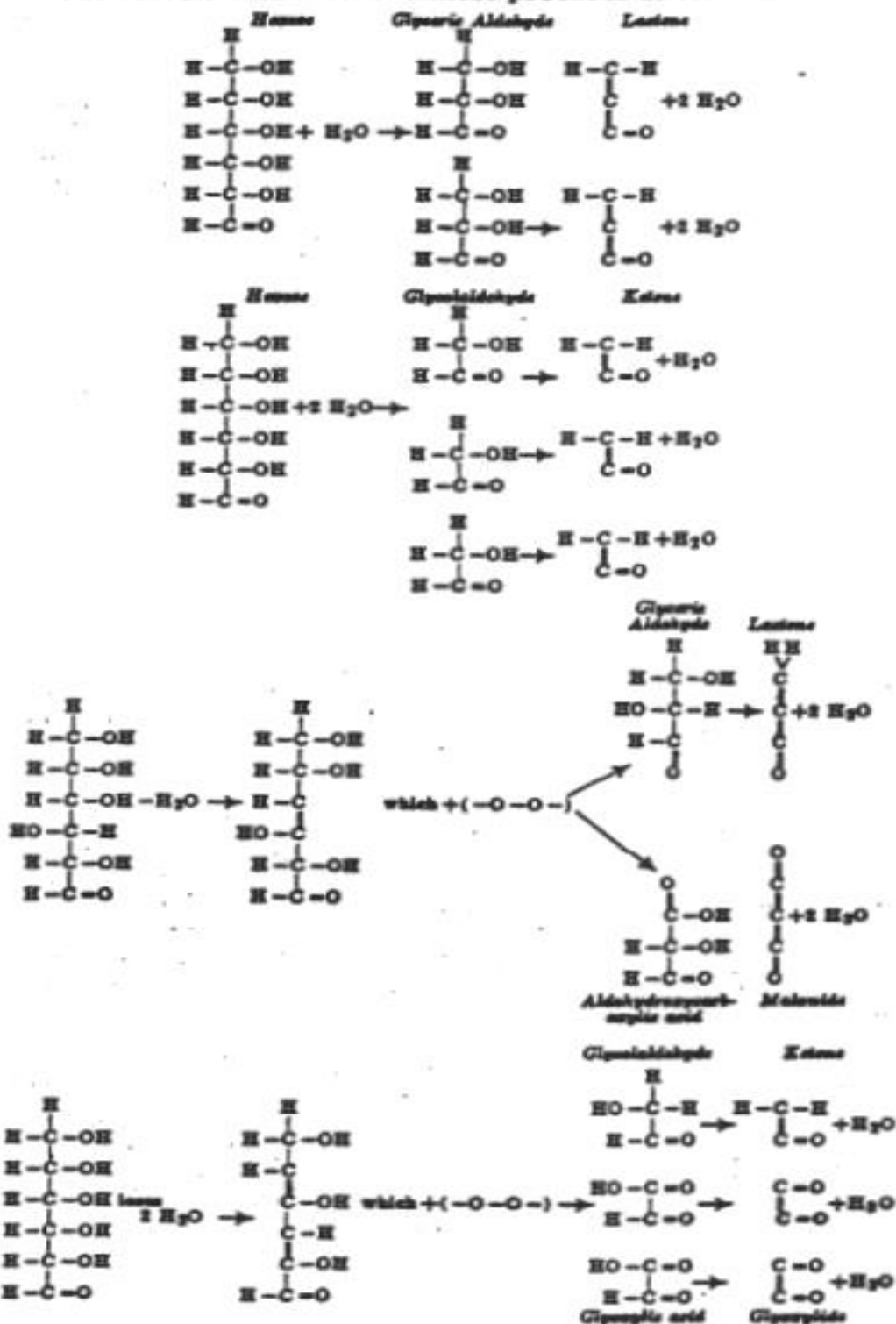
experimentally and clinically during the past 19 years, and are of two types, as follows: Glucose undergoes hydrolysis into two molecules of glyceric aldehyde or into three molecules of glycol-aldehyde, each molecule of which undergoes dehydration to ketene followed by peroxidation, yielding carbon dioxide and water, with formaldehyde as an intermediary. The other system is the dehydration of glucose and fructose at the union between the carbon atoms in alpha and beta position to the Carbonyl group. This reaction is catalyzed by iodine and thus iodine of thyroid function finds its place in the oxidation mechanism and can accelerate it by its excess or by deficiency depress it. Both situations are well known clinically. From fructose two molecules of three carbons each are formed by peroxidation and cleavage at the point of dehydration. Glucose by similar dehydrations between alpha and beta carbon atoms to the Carbonyl group, with subsequent peroxidation and cleavage, produces three molecules of two carbons each. Thus from both glucose and fructose, glyceric aldehyde, the aldehyde of glyceric acid, glycol-aldehyde and glyoxylic acid are formed; and these bodies dehydrate to form ketenes and oxyketenes with two and three carbon atoms each which are peroxidized, yielding carbon dioxide and formaldehyde. The latter then serves as a carrier of a chain reaction, by condensing to form ketene and water and by being peroxidized to yield carbon dioxide and formaldehyde again, which may repeat the performance. But when conditions so determine, it may take up peroxide and become formic acid, which on being peroxidized, burns to carbon dioxide and water. The reactions of the ketenes with which we are concerned and of formaldehyde follow thus: —



This latter reaction is catalyzed by calcium I find, and so the place of calcium in aerobic glycolysis is evident. Here the parathyroid function carries an importance equal to that of thyroid iodine, as described above, in another phase of the process.

The free valencies of the Carbonyl and ethylene groups are themselves catalysts because they possess photochemic values, and all catalytic actions are photochemic in nature. Similar groups resonate each others activity, and depending upon the inertia imposed by the rest of the containing molecule, the specific energy received from a group undergoing reaction will either be able to induce a like reactivity or be quenched in merely subliminal disturbance. The reactive groups serve as positive catalysts in that they propagate the process, while the quenching molecules are negative catalysts to the degree that they absorb and deplete the field of this particular energy. Such carcinogenic molecules as Benzopyrene and the quinones of molecules of this class behave as negative catalysts to the oxidations in this way. Pourbaix in Maisin's laboratory has demonstrated in animals and in surviving tissues that car-cinogenic compounds actually inhibit the oxidations.

The aerobic oxidation of hexose proceeds as follows:—



All of the intermediaries mentioned above represent substances possessing active Carbonyl groups further activated by ethylene or hydroxyl nicely placed, and, therefore, are proper activators of oxygen for the burning of sugar and fats and for the saturation of free valencies and burning of pathogenic substances. They conform to the rules of structure we have established for immunogenises and are

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therefore able to catalyze the oxidations of living tissues in vitro as well as in the animal body. In vitro the increase in the oxidations is 30 percent or more, but in the animal body it may be phenomenal. For instance, a girl riddled with military tuberculosis and barely able to step up on to the scale for weighing, within an hour after Treatment with a solution of all of these catalyts was able to walk upstairs in comparative ease. The restoration of cardiac function as depicted in the histories given below is another example of their efficiency. But more than any other change, the restoration of muscle tissue and function and the quick dis-appearance of pain in the muscular dystrophies and the return to normal in such conditions as multiple sclerosis indicate the great depth of action they exert. The destruction of germ and allergy poisons of various origins, by the restored oxidation process following their use, demonstrates that they remove the primary cause of disease, and that matters of secondary causa-tion have no support thereafter and the way for correction and repair is open.

Though each of the intermediaries of aerobic glycolysis mentioned above and demonstrated in the case reports have individually in certain cases proved their ability to restore a sufficient oxidation for the cure of disease, and thus to serve as examples of the rules of chemical structure we outline as necessary for immunity production, yet for the best action and reliable clinical service, the whole group in balanced solution properly diluted is definitely required to restore the oxidations fully. Dilutions from 10×10^{-7} to 10×10^{-18} work well. We call our solution Glyoxylide solution because in it we expect the presence of the most active, as well as the more sluggish, members of the group. We sometimes reinforce it with propargylic aldehyde, glyoxylcarboxylic acid, hydroxyketo carboxylic acid, and glyoxal as well as monovalent and divalent cations in conformity to our developing experience. The success in preparing an efficient product depends upon the train-ing and skill invested, since the technique is rather unusual and requires special training. Otherwise unnecessary trial and error is inevitable.

RECOVERY PROCESS

The recovery process is fundamentally cyclic in nature; and the periodicity expressed is of the same order no matter what disease manifestation is undergoing correction. The shortest unit definitely observable is 12 hours, and this unit may be multiplied a number of times to form the more prolonged phases of the periodicity. The usual periods observed are 3 1/2-day and 3-week intervals which may be multiplied to form longer periods even up to 72 weeks after the Treatment has been given.

The negative phases are termed reactions and they express the symptoms of the disease in a modified or temporarily accentuated form.

Following the negative phase: the positive phase expresses an improvement in the condition, and so improvement follows until recovery is complete.

Among the reaction periods, most important are the 3rd, 6th 9th, 12th, 24th, 36th, 60th and 72nd weeks.

Generally, only one or two of these periods express sufficient reaction to be easily noticeable, and the particular time varies with different patients, but most often it is the 12th, 24th or 36th weeks that are critical, beyond which recovery is expected to be completed.

When a general reaction of chills and fever and general achiness comes early as during the period between the twelfth and thirty-sixth hour after the Treatment, generally only one or two more febrile reactions are found to follow, and they take place at the third, sixth, ninth, twelfth or twenty-fourth week as a rule. Recovery may soon afterwards be complete. The periodicity is expansive, the first reaction

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phases being twelve hours or a multiple of twelve hours. When seven twelve hour periods, that is three and a half days have been traversed, the periods are multiples of three and a half days, such as seven or ten and a half or fourteen days, which leads one into the third week. After the third week is passed the reactions come at three-week periods, that is the sixth, ninth, or twelfth week. This leads one through the three months, which, thereafter, is multiplied into six-month, and nine-month periods, etc.

These general reactions are accompanied by focal inflammation of the neoplasm, tubercle, or leproma. ***Thus the chronic progressive affair is converted into an acute or inflammatory recovering lesion. In acute infections, the lesion undergoes recovery forthwith and may be well in hours or days.***

As recovery proceeds, the last features of the development of the disease are first to leave, and the affair unfolds itself in the reverse order to its development, and in so doing early disease manifestations may again exhibit themselves as flashes of symptoms, skin lesions or rashes, or even vascular disturbances with clear cut classification, and in an orderly manner, but of very brief duration. **Thus the hangovers of old disease in the system are brought to light and disposed of one does not however give an indicated remedy, but permits the symptom to wear out, and give way to greatly improved progress toward recovery. The more acute the disease, the quicker the recovery.** Thus a measles or streptococcus sore throat of devastating type and high fever may clear up in hours or a day or two, and an apparently fatal pneumonia with severe nephritis may clear up in a week, the severe symptoms yielding in hours and days. ***However in chronic disease the longer the disease has been established in the individual or in case it is hereditary, the longer it has been established in the progenitors, the longer the time required for recovery.***

In the recovery from a functional allergy nothing more is required than the destruction of the fluorescence of the causative agent, but in the structural allergies, excessive tissue must be removed before the affected parts can be reconstructed. Usually anatomical deficiencies are provided for through scar tissue, but after this Treatment, the deficiency is repaired by normal tissue elements so that normal function is again possible. The reason for this is the absence of infection which is accountable to the high resistance to infection of the vigorous oxidation mechanism restored by the Treatment. However while the neoplasms are being absorbed the deficiencies are replaced by vascular and angioblastic in-growth, which moreover, serves as the frame-work for repair and as the medium of absorption of the neo-plastic material as it undergoes autolysis;

The microscopic picture of neoplasms, undergoing recovery, demonstrates the same changes as the organization of a blood clot. Here as in the clotting of milk, calcium plays its initial role in the digestive process. The cell bodies swell and become clear, and take on haematoxylin stain rather strongly, while the nucleus fragments and dissolves. In the changes that follow, the in-growth of angioblastic tissue, forming capillary loops ahead of which, zones of liquifaction are apparent and which proceeds until the whole tumor is replaced by vascular trees. These latter are comprised of afferent arterioles that break up into capillaries, which unite to form veins. The afferent arterioles have good muscular coats subject to contraction and relaxation. **Thus, when the whole growth is replaced by the vascular structure, contraction of the arterioles permits emptying and shrinking of the structure, while relaxation permits its engorgement with blood and swelling. Hence at the time when recovery is about completed, there will be wide variations in the size of the tumor even within short periods of time. This vascular tumor undergoes complete involution only after tissue reconstruction is completed. And since the neoplasm was quite excessive, its vascular substitute may appear to fade away very rapidly when a final vasoconstriction has set in to determine its involution.** This change may therefore, be quite sudden or be quite gradual. The amount of vascular in-growth is determined by the size of the neoplasm, and also by the factors that stimulate its production such as physical manipulations

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during examinations, too many injections of the Treatment material, and sometimes a deficiency in healing elements. Since its nutrition is taken from material supplied by the autolysis of the neoplasm as well as from the general nutrition, growth stimulating principles at hand partially determine its rate and extent of development. Thus, in slowly developing tumors, the vascular organ is not excessive, and the neoplasm may appear to fade away gradually with recovery; but in rapidly developing tumors, there is generally a vascular substitute of equal size or larger. Since the neoplasm has developed from nutrient elements taken from the blood, its autolysis returns valuable elements of nutrition, and especially blood forming material to the circulation, so that one of the earliest changes during recovery is an improvement in color, and a better blood picture.

The capillary loops are supported by sufficient connective tissue stroma to give some strength to the structure, so that it may serve as a wall to a viscus until repair is completed. To aid repair the associated viscera are splinted reflexly by impulses originating in the rich supply of fine nerve filaments accompanying the vascular tissue. Thus a hyperaesthesia, and a hyperreflexia relax the walls and contract the sphincters and give hypersensitivity to associated cutaneous areas. When an abdominal organ is involved, there may be an interference with peristalsis that can be met quite well with careful enemata. But where nature desires quiet for healing, this provision should be respected as much as is feasible. These changes are valuable as aids in the estimation of the position of the recovery process. As healing is established these changes disappear.

It was stated that, since infection is not present, scar tissue is scarcely formed even in large areas of repair. This is true, even though local and severe systemic infections are present. For instance, in a virulent septicemia, where blood smears show many streptococci and staphylococci in each field, five days after Treatment not a germ is present and cultures are negative. **It is also a common experience to find old scars, remaining from past serious infections, disappear after the Treatment. We attribute this to the destruction of retained germs by the newly acquired immunity, which makes the scar capsule no longer necessary as a protective organ.** Likewise too, recovery from tuberculosis, or other infections, is not followed by a scar to mark the lesions, but rather by the restoration of normal tissue, therefore the danger of recurrence is banished. **It should be repeated that the whole matter is nonspecific so far, as germs are concerned, so it makes no difference if the infective agent is, a spirochete, a virus or any pathogenic germ on the list from the lepra bacillus of ancient times to the most recent mischief-maker identified.**

MANAGEMENT OF THE CASE

The management of each case is a more or less special matter, based upon the principles mentioned as factors of the recovery mechanism. However, in a general way, there is very little difference in the conduct of different cases. Firstly, we try to get a recovery on one injection, and whenever possible, we prepare the patient first so he will be an ideal medium for its action, and so too, we attempt to keep him in that state. Therefore careful control is attempted in matters of diet, colon hygiene rest, exercise, warmth, etc. The difficulty, if it exists at all, lies in the interpretation of recovery features for it is not always easy to distinguish between recovery reactions and the progress of the disease. Yet there are definite criteria, which enable one to make a correct decision. They are the periodicity, which times the reaction phases, the general or constitutional changes, and the particular or local changes. There is the general trend, and the phasic variations expressed constitutionally and locally.

If it is determined that the progress of recovery has come to a stop before being completed, evidently another Treatment injection is required; but if possible, it should be determined first why the process did not go on without interruption, and we must attempt to correct the fault. One must also distinguish

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between a true halt and a prolonged negative phase or a temporary period of suspended progress. After it is decided that recovery has ceased before its completion; the best time for repetition is to be determined, and for that the periodicity expressed by the particular patient, in line with, the general scheme of periodicity, will help. The hit and miss system may work out fairly well provided a long interval such as twenty-four or thirty-six weeks can be allowed between Treatments, but where the patient is in desperate shape, experience and deep study may be needed for the correct decision.

GENERAL TRENDS

When a patient is becoming his "old self" more and more in mentality, sensory perceptions, such as taste and smell, and in his appearance, actions, muscular balance, etc., and there is increase in strength, improvement in appetite; and sleep, he is recovering no matter what the local lesion appears to present. In fact the changes going on locally must be improvement though they may show aggravation in size, soreness, etc.

SPECIAL FEATURES OF GENERAL IMPROVEMENT

The blood and urine, the skin texture and color, the meta-bolism rate, the blood pressure and quality of the heartbeat and texture of the blood vessels are helpful guides. The sedimentation rate and the crenation of the red cells in one percent salt solution, the replacement of methemoglobin by oxyhemoglobin, and the cell counts indicate the trend, but it must be remembered that while the growth is being absorbed at the high rate of the negative phases, sufficient toxic material is circulating to increase the sedimentation rate and diminish the crenation rate. However, at the end of a positive phase, the crenation rate may be normal while the sedimentation rate may not have improved very greatly unless the absorption and elimination of the diseased material is completed. It must be remembered too that when several disease poisons such as those of tuberculosis and cancer, and perhaps also syphilis are present in the same patient, the recovery from any one of them before the others are eliminated, and therefore the removal of one of the toxic factors, may be accompanied by an increase in the sedimentation rate while the crenation rate improves. This is because each of the poisons mentioned tends to absorb each others energy, and thus detoxicate each other, just like one fluorescent substance may quench another of appropriate spectrum qualities, or one homeopathic medicine may annul another medicine or poison. We find that we may add a few drops of very dilute tuberculin solution to the blood and depress the sedimentation rate so long as cancer is present, but after recovery this addition will increase the sedimentation rate just as the disease would. One can thus test for the completion of recovery. Luetin and agar have similar properties in a measure, but tuberculin is more practical.

Professor Brose's phosphatase test, and the Ph and oxidation-reduction potential of the blood may prove very serviceable too. But no test can gauge recovery without being interpreted in the light of the rest of the findings. It is the totality of changes only that should be the guide.

Normally the red cells all-crenate in a one percent salt solution. But toxic material carried by the blood tends to increase the osmotic pressure of the erythrocyte contents so they fail to crenate in proportionate percentage to the toxic state. The injured cells may swell instead of shrinking. The explanation is not so simple an affair as one might think. Poisons absorbed from the intestines play a part but with a cleansed bowel, the failure to crenate should be attributed to the internal toxic state produced by the disease. The crenation follows both the general trend and its periodic variations. The pH. and mv. may be about 8 and 5 respectively and like the crenation test improve with each positive phase, but fall back somewhat with each negative phase, in keeping with the general appearance and feeling of the patient, the general trend being towards normal. To a good observer the totality of change is evident in the clinical features alone.

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The quality of the heart beat during recovery as compared to its quality before the Treatment may be definite aid in estimating progress. The electrocardiograph is a great help, but the heart sounds and the character of the beat tell in a similar way to the characteristics of the nervous system, what the sum total of the response is at the time. Here too the presence of a negative phase must be taken into account and one must estimate the quality in both positive and negative phases. At times, the advance of recovery may traverse a reaction to a hereditary or past disease, and the heart may be the chief organ to reveal the symptoms. Hence, a suddenly developing aortic blow or stenosis that lets up fairly abruptly, may signify the recovery from an old syphilis while the patient is getting well from cancer. **In fact, because of the fundamental position of the Treatment, the recovery from cancer is not taking place at all unless the diseases of less depth are also lifted and removed in due course, and in reverse order to their acquirement or destructive position in the case at hand.**

The urine tells quite a story, albumen disappears as fast as the blood and renal structure is corrected. This may be quite rapid. In acute infections like pneumonia urine that boils solid because of albumen may be free in a few days. But in chronic Bright's disease time is required, perhaps weeks or months. The quantity and partition of solids excreted by day and night, the improvement in specific gravity, etc., should follow in correct order, but during the earlier negative phases, there may be a surprising excretion of non-protein nitrogen referable to the elimination of the autolyzing growth material. When the products of digestion of the growth are absorbed by the blood faster than they can be eliminated by the kidneys, the dependant tissues absorb them from the blood and as a consequence develop a higher osmotic pressure, take up water, and swell. Thus oedema of the feet and legs may be present during the period of greatest rate of autolysis and absorption of the growth. When the kidneys have caught up on their job of elimination the oedema disappears. It serves as a safety valve.

As the recovery gains ground, the spleen and liver improve in function; this may be noted from the bile elimination, the destruction and removal of effete but still circulating red cells, and the improvement in the peristalsis of the intestine. Where modern therapies have annihilated the reticulo-endothelial system, including the spleen, the improvements just mentioned, plus the disappearance of germs from the blood smears, may be the first indication that there may be a recovery, for, unless the defense mechanism is restored, recovery is out of the question. Good medical judgment will tend rather to delay, than to repeat Treatment; for, if the Treatment is effective, like a key in a lock, one does not repeat the dose any more than one would stick another key in the hole while turning the key already there. **Recovery may take months or years, and one dose has demonstrated its ability to act equally long.** The dose is practically never repeated before the twenty-fourth week. Yet patients that have been heavily radiated may require a second dose on the fifteenth day, but only if they have given no response by way of reaction or improvement after the first dose.

DIET

The preparation of the patient comprises the cleansing of the bowel and sometimes a fast for a few days while subsisting on freshly prepared apple juice and the bone soup we have described.

The cleansing of the bowel is accomplished by the use of a solution of common salt, one tablespoonful to a quart of water. It should be warm enough to counteract spasms and given in the most favorable position obtainable for its acceptance. It should not be forced too much beyond the ability of the in-testine to accept it but the attempt should be repeated until two quarts have been taken. It is then allowed to empty. The enemas should be taken several times a day for several days until the bowel is quite well cleansed. If

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there is very stubborn intestinal inertia, milk of magnesia or citrate of magnesia may be required by mouth.

In the meantime all medication and the use of tobacco, alcohol, tea, coffee, and so forth should be discontinued.

The diet is preeminently vegetarian, one should avoid such decalcifying acids as oxalic, tartaric, and even citric, unless the latter is neutralized somewhat by precipitated chalk. This is because; in cases suffering from deficient oxidation, the burn-ing of citric acid may be difficult, and it may take away the valuable cations from the living colloids and carry them off into the urine. This so-called alkalizing action is evidently a catastrophe. On the other hand we may feed chalk, or give a low dilution of it, for a time at the beginning of Treatment, also, where bowel function must require a cathartic, milk of magnesia is preferred on a similar basis. **The necessary vitamins should be provided in their natural form from raw fruits, cereals and vegetables. Yeast is a great help and can be used in amounts of an ounce or two several times a day, as far from meals as possible. Meat should not be given while a growth is undergoing absorption, because the liver has enough to do with that job, but, if after the growth is absorbed, and asthenia and anemia is stubborn, nearly raw beef, from the inside of a roast, free from burned parts and overheated fats, can be given. Animal products should be avoided as a rule, and milk feeding should be properly supervised.** A soup made by boiling clean chopped beef bones four or five hours, will supply glycine and various salts advantageously. Still the major part of the diet should be raw ripe vegetables and fruits. These should be grown with natural fertilizers that are matured by the earthworm. They should be washed carefully to remove all traces of insecticides. **Most important is the position of the whole grain cereals finely ground, and especially rye and wheat are protective against disease because of the products of sun activity aside from vitamins that they contain. Rye excels in this respect and it should be eaten every day plentifully.** Unadulterated, correctly, ground flour should be used directly in the home. Cooked a few minutes as porridge, or baked as bread, etc. **Pepper, alcohol, tobacco, tea, coffee, chocolate, cocoa, narcotics, etc., are forbidden where possible. Terpenes of all sorts, even in fruit skins, perfumes, paints, etc. must be avoided.**

Bowel elimination should be thorough each day if possible, yeast may help, and large drinks of warm water with yeast half an hour before breakfast is often very helpful. Plenty of water must be taken each day. Fresh, home made apple juice is always a great help, and those who find apples hard to take before treatment soon find they can take them afterwards. Ripe pears, melons, berries and peaches serve well. Plenty of whole grain cereals finely ground, and the cereal residues, after the starchy parts have been removed, are preferable. We use butter and cream, and fresh olive oil, but preferably avoid milk and eggs. The animal proteins produce sulfides and amines that interfere with the oxidations. They should not be used therefore, unless where absolutely needed, a situation which is rare indeed.

COMPLICATIONS

In the care of malignant cases, fractures of involved bones, hemorrhages, pain, ascites and rarely embolism are possible complications. More commonly a tooth becomes painful and extraction is required. This is always unfortunate because an anesthetic may interrupt the recovery process. A general anesthetic should never be used, and even a local injection of the smallest amount required may prove a setback. It is best to have all teeth attended to at the start before Treatment is given. Where the physical examination suggests the likelihood of much bleeding, it is good policy to give precipitated chalk in half teaspoonful doses once or twice a day, and, if a hemorrhage is severe at a negative phase period, such as the third, sixth, ninth or twelfth week, the dose of the oxidation catalysts should be repeated immediately. Fractures and their prevention are a matter of splinting, and prevention, and thus the avoidance of an anesthetic is

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most important. Paracentesis is done with a fine trochar so that no anesthetic whatever will be needed, for anesthetics may completely extinguish the recovery process.

For pain the smallest amount of morphine required is given by mouth without atropine. No other painkiller, and no sleep-ing medicine whatever are allowed. Pain should be controlled as much as possible by good nursing, hot packs, general warmth, etc.

Soft emboli composed of cancer plugs undergoing autolysis are sometimes set free and cause a temporary intermittent circulatory block, and as the embolus is ultimately digested the symptoms are transitory as a rule, but occasionally a true vascular occlusion takes place, which may prove quite harmless, or fatal depending upon the importance of the vessel affected.

Injuries from irradiation may prove a true defeat, either because of a general poisoning, bone marrow or reticulo-endothelial-destruction. Sometimes a terrific X-ray or radium neuritis is a defeating complication because of the immense amount of narcotic used to partially subdue the pain. Tissue necrosis and poisoning of the nervous system are at times a direct fatal effect both of the X-rays and of radium. Toxic effects of the X-rays on the heart and suprarenal glands when the rays have been sent through these organs generally terminate fatally. Fortunately, the oxidation catalysts annul these effects somewhat, and even cure X-ray cancer, but one never knows what the outcome may be in advance.

Constipation, often of long standing, may depend upon spleen and liver insufficiency. Plain desiccated bile or milk of magnesia may be used with reason, but the daily enema containing one to two percent common salt, comfortably warm and used dexterously should be depended upon until the general recovery corrects the bowel inertia. Soap, molasses, turpentine, etc. should never be used in the enema.

PERCENTAGES OF RESULTS

In the functional allergies, like hay fever and asthma, recoveries on one dose are reported in eighty percent of the cases treated. Recovery may require a few hours or weeks or months. The other twenty percent require more than one dose, considerable time and study and may prove extremely non-responsive.

In a case of serious acute infection, where the resistance was so completely destroyed by sulfanilamide and other factors that blood smears showed as many streptococci and staphylococci as red cells, and the white count was as low as 6500, liver function was too low to produce bile and the bowel paralysis permitted a movement only once in eight days, all bacteria disappeared from the blood before the fifth day after one dose. In another case that was expected to die on the way to the hospital in the ambulance, because of heart failure resulting from the severe septicemia, one dose brought back consciousness and fair heart function in twelve hours, and recovery in less than a week. Therefore it is not surprising that we may claim a high percentage of recoveries in cases of sepsis where deep general anesthesia or other interference was not sustained soon after the Glyoxylyde solution was used.

In cancer some physicians report, from twenty percent, to eighty percent recoveries. Much depends upon the advantage the patients start out with and much depends upon the expertness used by physician and attendants.

CASE HISTORIES

The following case histories are given to illustrate the principles of chemical structure involved in the development of immunity. Recoveries in proven cancer cases are used as examples, simply

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because they demonstrate that the deepest possible pathology is correctable by the method, and simpler diseases though otherwise incurable, ordinarily present much less difficulty.

Before detailing any case histories a word about return of function to tissues hitherto seriously impeded should be made. Vision may serve as an example; thus, an infant of one and a half years, convulsive mildly, without papillary reflexes or any vision whatsoever was given one dose. Two weeks after the injection, the eye reflexes were good and she could see a hand placed within reach. The convulsive tendency had reduced in a major degree. A boy of seven, treated two years ago when truly blind has regained peripheral vision in both eyes so that he is able to ride his bike about London traffic now. A boy of twelve, fifteen years ago could see the windows well at noon, but not well after 4 p.m. in winter. He exhibited constant writhing motions, and was scheduled for admittance to the state insane asylum. Within twelve weeks after one dose he was able to see well enough to attend the movies, read ordinary print, and attended school profitably. A practicing physician of 83 years, blind in the right eye for eighty years, and in the left eye almost entirely for several years past, was given a dose about a year ago. He reports he was able to see a string at a distance of ten feet with either eye within three months after the injection of the Glyoxy-lide solution, and has again resumed the practice of medicine. Cases of partial and complete blindness associated with various diseases have likewise been reported, as greatly benefited after this Treatment was given, by other physicians.

The following case history demonstrates structural repair of tissue deficiency produced by malignant invasion, and also of the correction of structure imperfection in a glandular tissue, and the return of normal functions in consequence.

GOITRE AND CANCER OF THE RECTUM

Patient, Mrs. S.N. Age 35, normal weight 152 pounds.

Family History: Father had sarcoma of right knee.

Past History: Tonsillitis periodically for years.

Pre-Growth Symptoms and Status of Patient: An enlarged thyroid gland for past six years, that increased in size with onset of rectal trouble, some dizziness throughout this period, with short blind spells, which let up during the last year. She had suffered with piles for years, was operated for them nine years ago and again three years ago. Later treated by Dr. M.N. for a time but, as the trouble got much worse, he referred her to a surgeon, Dr. T., who made a diagnosis of cancer and refused to operate. This was in November 1922. She applied to us for Treatment, December 15, 1922. She had suffered severely for several months, with pain in the back and down the legs, bleeding from rectum and vagina, great difficulty of bowel movement, and finally the passage of all fecal matter through the vagina, plus a discharge of blood and pus. Weight on admission 125 pounds, anemic and weak.

On examination, December 15, 1922, it was impossible to explore the bowel through the anus as this was blocked by a mass of cancer. Vaginal examination revealed a hard nodular posterior wall, large enough to admit two fingers. The cancer mass extended to and involved the uterus, which likewise was nodular, greatly enlarged, hard and immovable, biopsy confirmed diagnosis, Adenocarcinoma of rectum.

A solution of ketene and glycol-aldehyde was given. **Recovery was complete in five months**, nearly all feces passing through the rectum without pain. Within nine months, the recto-vaginal fistula was completely healed by replacement with normal tissue, all signs and symptoms of cancer and the thyroid

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enlargement had completely disappeared. Her weight returned to normal and perfect health remains re-established.

MALIGNANT GLIOMA OF THE EYE

Patient, Baby, R. L. age three years and six months.

First observed by me November 21st, 1935. Right eye was removed May 1935, for rapidly developing Glioma.

Pathological Report:

Gross Pathology: Eyeball having a normal external appearance. On section the posterior chamber is practically filled with a grayish friable tumor mass, which seems to be attached to the region of the nerve head.

Microscopic Pathology: Sections of tumors show rounded dark staining nuclei of cells practically devoid of cytoplasm set in a thin connective tissue stroma having no characteristic arrangement. Marked necrosis is present in some areas and round cell infiltration may be seen in some areas. Section of nerve head shows no tumor tissue.

Pathological Diagnosis: Glioma of retina.

In November 1935, the other eye was found to be similarly affected. Surgeon advised that its removal would be useless and patient was referred for a dose of Glyoxylide. At this time pains were a prominent feature, eye was red, pupil dilated and apparently paralyzed. Visual field was diminished by one-quarter of its area, and the neoplasm was visible as a mass about the size of a bean. Ophthalmoscopic examination revealed, "A flattened white mass penetrated by blood vessels, six or seven times disc diameter in upper right nasal quadrant." Two c.c. of Malonide solution were given November 25, 1935, and August 18th, 1936. Recovery was completed within a year. During the reactions mild muscle twitching in the legs took place at the 12th to 24th week period. This we interpret as evidence of reaction in multiple gliomata distributed in parts of the central nervous system. **The results are a return to normalcy of the eye in every respect, and a very good condition of her health in general.**

CANCER OF UTERUS WITH THYROID SUPPRESSION

Patient, Mrs. K., age 44 in April 1931, when history was taken.

Past History: Pneumonia at 18 and influenza during 1918 epidemic. Sudden rapid gain in weight six years ago with myxoedema, dizziness and susceptibility to pus infections and peculiar nervousness.

Present Illness: In March 1929, she noticed slight bulging and hardness of right lower abdomen. A small growth was removed from the labium that proved microscopically to be squamous cell carcinoma. My examination April 1931, found uterus and adnexia involved in a large mass of cancer. There was typical bloody, odorous drainage. She was weak, anemic and myxoedematous in spite of daily doses of thyroid extract.

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Treatment: Two c.c. Ketene solution was given intramuscularly April 1931, and recovery developed gradually, being completed in May 1933. The thyroid impairment and myxoedema gradually cleared up. **She remained well.**

MASSIVE CANCER OF UTERUS

Patient, Mrs. E. R., age 57 at time of Treatment, November 6th, 1923.

Present Illness: started as pain in lower back and abdomen in Spring of 1923, when examination by family doctor resulted in a diagnosis of inoperable cancer of the uterus. She was examined at the Mayo Clinic in June 1923, where the diagnosis of inoperable and hopeless cancer was confirmed and some irradiations were given for palliation. However, the disease seemed to become more malignant and on November 6th, 1923, when she applied to me for examination, she was practically bedfast, having lost weight from 170 to 115 pounds.

Physical Examination: revealed general cachexia, a hard lumpy, fixed, bulging mass filled the abdomen below the umbilicus and extending above the umbilicus on the left side about one and 1/4 inches. The vaginal vault was expanded to a diameter of four to six inches and the cervix obliterated by the neoplasm that filled the vagina and compressed the bladder and bowel. There was copious bloody mucopurulent odorous discharge from the vagina.

Treatment: One dose of 1 c.c. of glyoxal solution was given and repeated on the 12th week. Reactions appeared at three-week intervals until the 24th week, after which recovery was considered complete. No more tumor masses could be found. The uterus was defective in structure and presented some soft vascular areas where healing was in progress. Subsequent examination showed complete healing with a minimal amount of scar tissue only. **She remains well today, 16 years after treatment.**

FAR ADVANCED CANCER OF THE STOMACH

Patient, Mr. B., age 46 at time of treatment April 6, 1924.

Pre-growth: toxic state was expressed by some ten years of gastric ulcer with hemorrhage and vomiting at times. Periodicity was definite.

Present Illness: started as a quite constant pain in the epigastrium in 1921, later it radiated to lower dorsal spine; worse by riding. Vomiting and hemorrhages increased in frequency and intensity. He lost from 220 to 120 pounds during 1922 and 1923. Various hospitals served experts in the diagnosis of cancer of the stomach by X-ray, laparotomy, and biopsy. Exploration revealed the stomach involvement to extend from the cardia to the pylorus and involving both spreading mostly along the lesser curvature and anterior wall. The surgeon's prognosis was only a few weeks to live at best. My examination made April 6th, 1924, revealed an emaciated bedfast sufferer vomiting putrid material and old blood, unable to hold food. The left supraclavicular space revealed a metastasis, the abdomen about the umbilicus bulged enormously to accommodate the massive neoplasm. In the lower abdomen several small masses were palpable, probably gland metastases; the lower dorsal vertebrae appeared involved.

Treatment of 1 c.c. of Glycol-aldehyde solution was given intramuscularly and recovery was soon in evidence and was completed within one year. In this time he gained up to 200 pounds. **His health remains perfect except for a hernia produced with heavy lifting.**

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CHRONIC MYOCARDITIS WITH CANCER OF THE STOMACH

Mr. H., age 51 at the time of treatment, April 23rd, 1925.

Past History: of recent mumps and influenza. For the past 14 years he had peculiar dizzy spells on retiring, feeling as if he were turning summersaults, the muscles seeming to give way with loss of control. Gastric ulcer for 20 years with hemorrhages of late. Pain in stomach relieved by soda. Dropsy quite generalized for last three years. Slimy dysentery for past six months, with constant pain over epigastrium. Lost weight from 178 to 155 pounds in last four months, stools generally tarry, difficulty in swallowing, and constant slight cough during this period. Radiographs of stomach and chest revealed, besides the dilated heart, an enormous carcinomatous involvement of both the prepyloric and cardiac portions of the greater curvature. The report reads as follows: "Lesser curvature of stomach presents a smooth appearance, but there is a ragged shallow filling defect on the greater curvature that extends from the prepyloric region upwards to the cardiac region. This filling defect is constant in all films. The cap is not seen on any of the films. Slight iliac residue at five hours and normal colon."

My examination revealed a cyanotic dyspnoeic oedematous individual with eyes showing jaundice, ankles swollen badly. Perpetually arrhythmic pulse over 100 in rate when at rest. The left supraclavicular space showed metastasis. The upper abdomen was filled by a hard mass that extended to two inches below the umbilicus. The anterior shelf of sigmoid revealed some tumefaction. Mediastinal dullness increased to the right, apex shifted to left.

Treatment a. 2 c.c. of Glyoxylyde was injected inter-muscularly and recovery set in within a few minutes, as was evidenced by the steadying of the heart and improved respiration. This improvement increased as time went on so that at the end of the fourth week the dropsy, hoarseness, cough, and dyspnoea had cleared up, except after considerable exertion. **The growths were all absorbed and good health was established by the seventh month. Radiographs taken at the end of a year revealed no pathology. Seen last in spring of 1937 good health still maintained 12 years after Treatment.**

The presence of catalase in the tissues combats the peroxide state, and therefore the activation of oxygen through the free valencies of the Carbonyl group have this natural inhibitant to contend with, its purpose being obviously the destruction of left over peroxides. In order to demonstrate an all-around inhibition of catalase and thus the activation of oxygen by the Carbonyl group and at the same time the carrying of activated oxygen to the tissues, a very dilute solution of formaldehyde with the peroxide of formaldehyde used therapeutically in a well-established case of cancer, will serve. The results are reported in the following history. As the peroxide of formalde-hyde undergoes hydrolysis and gives rise to an activated Carbonyl group in a very simple molecule, and also gives rise to peroxide oxygen, it offers the factors needed to test the hypothesis stated here. It indicates that there is competition between the activating effects of the Carbonyl group and the inactivating effects of catalase, but it does not prove that cancer is caused by excess catalase in the tissues. This solution is not a good therapeutic agent generally even though it worked well in this instance reported here, and in some others.

CANCER OF LARYNX

Mr. M., age 58.

Treated once, November 1928. Diagnosis confirmed microscopically by two different pathologists. "Squamous cell carcinoma of larynx showing many epithelial pearls." Involvement: vocal cords and cervical glands extensively. Voice and breathing impaired. **After one injection intra-muscularly**

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recovery was completed within six months with complete recon-struction of vocal cords and restoration of voice. Remains well. A very dilute solution of formaldehyde and of the peroxide of formaldehyde was used in this case.

LYMPHOSARCOMA

Mrs. A. G., aged 40.

Family History: Mother died of cancer of the uterus at age of 62.

Past History: Appendectomy at 35. Had small lump back of neck, size of pea, from childhood.

Present Illness: Eight weeks ago lump began to increase very rapidly to hickory nut size and, after five weeks, had it removed surgically. Micro-scopic study revealed it to be "lymphoblastoma of lymphosarcoma type" as reported by pathologist of good standing.

Microscopic Examination: "The normal lymphnode architecture is largely replaced by diffuse hyperplasia, including localized areas containing large pale lymphoblasts. The micro-scopic appearances are those of early lymphoblastoma of the lymphosarcoma type. (Does the peripheral blood show evidence of an excessive number of abnormal immature white cells? Such histologic findings in the lymphnodes may or may not be associated with leukemia.) Rapid recurrence took place, so that in three weeks the operated are became a tumefaction some-what reddened and occupying the middle third of the sterno-C-mastoid muscle about an inch in diameter. Area below contained several masses the size of a pea, and hard. There was rapidly developing toxicity and failure in general health. Loss of weight from 108 to 101 pounds in last few weeks.

Treatment: One dose of Glyoxylide solution was given intramuscularly on May 19th 1937, and recovery took place rapidly. In three weeks, all tumors were completely absorbed and the weight gained to 102 1/2 pounds. **Inspection, on June 21st, 1939, confirmed the recovery.** Rapid recoveries take place very uniformly in cases where the growth develops rapidly and where the patient is not overwhelmed with the disease, as this case illustrates.

CANCER OF BREAST

Patient—Mrs. C. N., age 43. Housewife.

History taken September 1926, when Glyoxylide was administered.

Past History: Abscess of right breast following injury in childhood. Rheumatism at 13; appendectomy in 1914. Gall bladder explored in 1920. Also tonsillectomy. Since 1920 enlargement of finger joints, helped by colchicum.

Present Complaint: A hard mass above the nipple, egg size, first noticed in 1921 as a soft swelling which recently grew rapidly, large and hard causing retraction of the nipple. In January, 1925, right breast was radically removed with "axillary glands and both right pectoral muscles, carrying the dissection to the midline over the sternum, upward to the clavicle and outward to the latissimus dorsi muscle, and downward to include the upper part of the rectus abdominis fascia.

The Microscopic Examination made is reported thus:

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1. Sections from tumor proper show larger and smaller gland alveoli lined with many rows of epithelium, or entirely filled by epithelium: these cells are of moderate size and have relatively large, deeply staining nucleus, and many of them are undergoing mitosis. In addition to these large gland alveoli, the fibrous stroma of the breast is infiltrated in all directions by compressed alveoli of the same type of cell.
2. Other areas some distance from the tumor show gland alveoli, and also large atypical alveoli like those seen in the tumor proper.
3. Other areas some distance from the tumor show no invasion but alveoli containing large clear epithelial cells of the type designated a 'Hyper-plastic Number 2' by McCarty.
4. Sections from nipple show no invasion.
5. Sections from axillary glands show large tumor alveoli in those from the mid-axilla only.

Diagnosis: "Adenocarcinoma of breast". She left the hospital February 12th, 1925. The hospital reports their examination made June 2nd, 1925, after a series of radiation from February 9th, 1925 to May 3rd, 1925, to show no evidence of recurrence. Likewise, in July 1925 no recurrence was noted. However, patient returned to the hospital in September with pains in the right subcostal region, nausea and vomiting. Examinations were reported also in November and December 1925, and no recurrence mentioned except the possibility of liver involvement. In late 1926, the right arm began to swell, which her surgeons account for as due to lymphatic obstruction.

Examination: On applying to us in September 1926, examination revealed a mass above the right clavicle a little larger than a walnut. In the right axilla two tumors were found, one the size of an almond and one the size of an almond kernel. The operation area showed some malignant induration as three small tumefactions in the line of suture. The liver was enlarged by three finger-widths below the right ribs, as a definite hard mass attached to the liver. She was somewhat icteric in color. Very thin and toxic.

Treatment: One c.c. Glyoxylide solution was given intramuscularly September 21st, 1926. There was some definite reaction of grippiness, slight chills and fever several days later and during the third week. The metastases absorbed completely before the end of the fifth week. The large one above the clavicle disappearing first of all, namely, during the fourth week. In the meantime the gastric symptoms also cleared up and the liver involvement was no longer detectable after the sixth week. Her health improved steadily and her weight increased from about 87 to 103 pounds. **Examination made in February 1939 (ten years after Treatment), shows no involvement by cancer whatever and general good health.**

CANCER OF STOMACH

Patient, Mr. R., age 69.

Treated once, August 1926. Medullary carcinoma of stomach. After gastroenterostomy, to relieve pyloric obstruction, the neoplasms spread extensively, completely closing the new opening. Diagnosis confirmed by biopsy.

Biopsy Reports:

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Microscopic Examination: "Small alveoli, combined with a diffuse growth of atypical proliferating epithelium, form the structural picture of this neoplasm. The epithelial cells are generally polyhedral, or round, in shape with large hyperchromatic nuclei. One portion is necrotic—a superficial ulceration; this may be classified as the diffuse type of gastric carcinoma. I am unable to determine this point exactly, as it is necessary to know something of the gross appearance. If there were extensive involvement of the wall, this would be the correct interpretation. If the growth were sharply defined, rounded and ulcerating; it would be placed in the circum-scribed types of carcinoma simplex. "This type is always infiltrating and early invades the lymphnodes with widespread metastases."

Diagnosis: "Carcinoma of the stomach. (Type dependent upon the gross pathological anatomy.)"

Physical Examination: revealed a fixed bulging mass, fist size, filling the epigastrium when 1 c.c. Glyoxylyde solution was injected intramuscularly in August 1926. **Recovery became complete in six months. Natural opening at pylorus now functioning, but gastroenterostomy healed shut. Remains well and vigorous.**

ADENOCARCINOMA OF BOTH OVARIES

Patient, Mrs. L. B., age 63. Abdominal section done by Dr. W.W.S., March 20th, 1935. Both ovaries found neoplastic and peritoneum studded throughout with many tumors. A biopsy was made with a liberal piece of tissue.

Pathological Report as follows:

Gross Pathology: The specimen consists of two very irregular nodular masses of tissue, one measuring 17 by 12 by 9 cm., the other 14 by 9 by 6 cm., which were removed from ovarian region. Scattered fibrous adhesions are present about each mass. On section the smaller mass consists almost entirely of very cellular and very friable neoplastic tissue. Cystic structure which have been formed by the necrosis of tumor tissue occur throughout this mass on section. The larger mass is firmer than the smaller one. On section tumor tissue similar to that described above, but less friable and generally firmer is demonstrable. Patchy cystic degenerative changes, some of the cysts containing a clear straw colored fluid are demonstrable in this tumor on section.

Microscopic Examination: Section through each ovarian tumor shows a malignant neoplasm growing invasively into the capsule of each structure. The tumor cells are tall and of columnar type. They produce gland-like structures as they grow, and occasionally they engage in papillary formation. This tumor histologically appears to be well advanced. It is given Grade 2 malignancy and is considered to be radio resistant. It is quite likely to metastasize.

Diagnosis: Bilateral Adenocarcinoma of ovaries, Grade II malignancy, radio resistant type.

Treatment: One c.c. of Glyoxylyde solution was given April 21st, 1935.

Results: Recovery was completed within one year. Patient remains well.

CANCER OF UTERUS

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Patient, Mrs. T, age 31: Squamous cell carcinoma of cervix uteri. Biopsy confirmed by three different pathologists. Report reads: "Sections show an atypical proliferation of squamous epithelial cells which have markedly infiltrated for underlying tissues."

"Diagnosis: Squamous cell carcinoma (epithelioma.)" Surgically inoperable, invading body of uterus and adnexia. Severe hemorrhages and pain, cachexia; no children, one miscarriage. Treated with two doses Glyoxylide solution, 1 c.c. each, two weeks apart, August, 1923. **Recovery followed with complete restoration of uterus in one year. Four healthy children born since. Perfect health remains.**

ADVANCED CANCER OF BREAST

Patient, Mrs. H. age 59. Had operation for cancer of the left breast February 8th, 1935, and the pathological report reveals cancer with metastases in lymph nodes. Pathological report appended. Breast condition, as of July 1937, showed advanced metastasis with consolidation of entire right side of chest. Patient apparently dying, so ill that one would not expect her to live more than six or seven weeks.

Treatment: First injection of Glyoxylide solution was given July 11th, 1937, and repeated April 2nd, 1939.

Subsequent History: The chest entirely cleared up and patient well when last examined on June 6th, 1939. Appears entirely well with a pulse of 72, weight of 128 pounds, and blood pressure of 124/80.

Pathological Report:

Gross Examination—Specimen, breast. The specimen consists of a large left breast, which is covered on one surface by a diamond-shaped piece of skin, which measures 21 by 6.5 cm. On its surface is present a protruding nipple. No areola is present. Just above and to the right of the nipple can be palpated a firm nodule, just above which the skin has been cut away. On section, this area measures 2 cm. in diameter. It is composed of pale gray, firm, dense tissue, which forms a retracted scar. It cuts with firm resistance. The under surface is covered by a fairly large amount of pectoral muscle. The remainder of the gland is composed of yellow fat in which is a present pinkish-gray strand of the usual glandular tissue.

Section of a large lymph node reveals it to be, on the cut surface, composed of yellowish-red soft tissue. The external surface is firm.

Impression: Carcinoma of breast.

Histological Examination: The tumor of the breast is very scirrhous in the central portion and over large areas acellular. At the periphery the tumor is in places scirrhous and in places medullary, and although in general it is sharply circumscribed, it is nowhere encapsulated. In some situations the neoplastic epithelial cells are arranged in the form of small solid masses, and in other situations there is well-expressed alveolar differentiation. The cells are medium size, tend to be distinctly outlined and have relatively large chromatic nuclei with fairly frequent mitoses in some areas. The metastases vary greatly. From three lymph node sections, one contains no tumor, one is occupied by a very scirrhous tumor tissue, which in places, resembles the tumor in the breast and in other places there are large tubular solid masses of epithelium resembling ducts. The third lymph node is occupied chiefly by a cyst from which papilliferous masses of epithelium project and part of the cyst is filled with what apparently was mucinous material and throughout this small solid epithelial buds can be recognized.

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Diagnosis: Moderately well differentiated Adenocarcinoma of breast with metastases to axillary lymph nodes.”

INFECTIONS

A few cases of infection are given here to exemplify recovery responses obtained.

ANTERIOR POLIOMYELITIS

A boy of 16, well nourished, while having the usual prodrominal symptoms of anterior poliomyelitis, was caught in a storm sailing his boat and subjected to extreme exhaustion and cold. Paralysis of the whole right leg followed in about 12 hours, and the paralysis spread in four days to involve the legs and arms, the abdomen, and respiratory muscles, the bladder, the speech organs. Cyanosis was extreme, the right eye was turned outwards, and he was unconscious when he received his first dose of Glyoxylide. The bladder had not been emptied for two days. The belly muscles were paralyzed and bloated and was expected that he would not live many minutes. Respiratory motions imperceptible. Pulse was slow and steady. Treatment was given and in ten minutes there was some contraction of abdominal muscles and definite improvement in breathing and in the cyanosis. The eye straightened out and he could talk rationally in a few hours. Improvement was steady. Recovery was seriously retarded because he was submitted to an exhausting ride of 150 miles before he was able to travel, that is, two weeks after his Treatment. However, by his 12th week he was able to stand and to take some steps and the arms were normal. The right quadriceps extensor muscles, the transversalis and oblique, abdominal muscles are 60 percent below normal. The rest of the muscles of the torso have returned to normal. **He gets around like any other boy except when climbing stairs.**

STREPTOCOCCAL SORE THROAT

Mr. J. P., 18 years old, fairly well all his life, seen evening of December 28, 1938 with typical streptococcus sore throat, cervical glands seriously involved, fever 105', in somewhat of a stupor, pulse rapid and weak, but could be aroused to answer questions. One dose of Glyoxylide solution given at midnight yielded considerable relief in eight hours. Throat and neck greatly improved, temperature 101', pulse 100 and of good quality. After 16 more hours temperature 99', pulse 82. **Next morning the temperature was normal and the throat and glands practically normal. He felt well and was up and about.**

TOXIC MYOCARDITIS FOLLOWING STREPTOCOCCAL PNEUMONIA

Mr. S., age 17. Had influenzal pneumonia severely in February 1938. Three months later the pulse rate in bed was 120 irregular and weak. There was cyanosis: respiration rate 24 to 30. Electrocardiogram showed serious myocardial impairment May 16th 1939, 2 c.c. of Glyoxylide solution was given intramuscularly and in less than 10 minutes the pulse rate was 65, regular and strong. The whole situation changed, cyanosis had disappeared and respirations dropped to 20. Eighty-four hours later a slight negative phase developed. The pulse increased to 90 for about an hour, after which it settled back to 70-76, as a continuing habit, with good function.

TOXIC MYCOARDITIS

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Dr. M., age 35. Heart rate had been increasing over the last few months until it reached its present rate of 115-120 when at rest. The quality was not good and there was considerable irregularity, slight exertion brought dyspnoea, and increase in heart rate. There was epigastric and precordial pain of severe degree at times. At the time of the injection of the Glyoxylide solution the rate was 115 and of poor quality. Within five minutes it dropped to 88 and in 12 hours to 82 with good quality. At present the rate varies around 75 to 80 and ordinary exertion does not bring dyspnoea. **General health greatly improved.**

INFECTIVE ENDOCARDITIS AND MYOCARDITIS

Mr. W., age 71. Low blood pressure for several years and during last seven months the systolic pressure dropped from 110 to 90 mm. Hg. in spite of careful medical attention. Patient was seen in April 1939, bedfast, irregular fever reaching 103 at times. He could not raise his head from pillow without extreme dizziness, had no appetite and vomited somewhat. Pain was epigastric and precordial and generally severe in left shoulder and at times in the right shoulder. Cyanosis and dyspnoea were marked with a moderate general oedema. The liver was somewhat enlarged and tender. Heart showed considerable dilatation with the apex shifted to the left. Pulse 120/130, very irregular and weak. Heart muscle sounds were faint and there were both systolic and diastolic murmurs. Urine showed considerable albumin. Diagnosis of infective endocarditis and myocarditis was made without the aid of blood cultures and 2 c.c. of Glyoxylide solution were given intramuscularly. Immediately, there was definite steadying and improvement in the pulse within 12 hours, the rate dropping to 102. By the fourth day the apex had shifted close to the nipple line and the blood pressure rose to 110/70. Dizziness and pain had disappeared and the temperature was normal. The liver enlargement had also subsided but there was still some slight oedema about the eyes. Three weeks later he was up and about all day and could do a little light work without the pulse going above 90. Blood pressure 115/75. Urine negative. **Seems to be in normal health at present.**

CORONARY OCCULSION

Patient, Dr. H. G. A., aged 64.

Present Illness: Had been bothered for a couple of years with pain and stiffness in his shoulder joints: but one did not recognize the essential rheumatic nature of his disability. While walking, December 2nd 1936, he was suddenly disturbed with a severe pain in the center of his chest. After resting a short while this passed away. However, it returned with terrible severity two days later, while he was quiet in his own home. Heavy, hypodermically administered, doses of morphine relieved him only while the narcotic action rendered him unconscious. Glyoxylide was used on December 8th and this gave him considerable relief in a few hours. Three and a half days later a second dose was given, following which all pain subsided and has not recurred. Five weeks after the pain had left him, an electrocardiogram still showed evidences of severe coronary damage. Nine weeks later a second tracing disclosed a practically normal condition. The injury to his vitality has been most far-reaching, and the first ten weeks of convalescence were spent in bed, for the most part. But, long before he was able to be around, he was surprised and pleased to find him-self free from his stiff, sore shoulder symptoms. For a time I had observed his lips were pale or cyanosed when he had become fatigued, but soon after the Glyoxylide was used this gave place to a normal healthy appearance. **Now, 32 months since his seizure, he leads a normal, fairly active life, free from any sign of his old coronary symptoms.**

CORONARY OCCLUSION

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Dr. B., age 68. January 1926, time of Treatment with Glyoxylide solution. In this case the coronary thrombosis was complicated with marked arterial and coronary sclerosis. He had been a busy country practitioner until 1917 when angina pectoris pains shut down his work. They came on exertion or after eating. Finally, pains were unbearable and he had to stop practice. He would walk a hundred feet very slowly before pains put a halt to the effort. Often at last, pain was severe without exertion. Elec-trocardiogram confirmed the condition of occlusion, and the sclerosis was verified. In January of 1926, **I gave him one injection. Recovery was rather steady and I think rapid, for in three months he was again at his practice and in a year was as vigorous as ever, pretty close to normal if not entirely normal, and remains so.** The systemic blood vessels show no more sclerosis. Up to the present time, in spite of heavy work, he does not seem to have aged noticeably.

EPILEPSY

Miss B., age 17, schoolgirl. Epileptic fits for over three years occurring at night after retiring. Most often, when observed, the aura centered in the epigastric region. There were not more than three fits a day and sometimes only one a week. One dose of the Glyoxylide solution was given August 12, 1929. The disease gradually receded, so that at the twelfth week no major fits occurred, but only an occasional petit mal. These completely disappeared before the eighteenth week. She has remained well since.

Areas that do not want to heal are allergic in causation. The gumma, lep-roma, tubercle, and psoriasis are the most common seen. Recovery can here be obtained with return to normal structure and function as well, as exemplified here.

PSORIASIS

Patient, Miss N. —Age 82. Brother has psoriasis. Patient had tonsillitis one and one-half years ago. Tachycardia on changing posture soon followed, and one month later, psoriasis started on thigh and spread rapidly in spite of expert concentrated attention. At the time of Glyoxylide injection body was generally covered, hairs and nails affected. Ears almost separated from scalp. **Recovery was completed and heart returned to normal fourteen weeks after one injection of Glyoxylide given, April 2, 1926. Recovery is permanent to date.**

TUBERCULOSIS

Miss A. Age 16. Advanced tuberculosis of both lungs. Spontaneous pneumothorax, left chest. Heart shifted to the right aide. Massive tuberculosis left kidney. Evident tubercular meningitis. Projectile vomiting every few minutes for three weeks, cyanotic. Fever 105'. Pulse very weak and rapid. Bedfast. Treated one c.c. of Glyoxylide, July, 1922. Recovery took two years. Whole left lung regenerated. No more pathology traceable. Heart restored to left side. Married, has healthy twins who are very resistant to colds. **Health is still perfect.**

EXTENSIVE PULMONARY TUBERCULOSIS WITH CAVITATION

Patient, Mr. B. Age, 36 at time of admission March 2, 1934. One sister had died of tuberculosis at age of 22.

Past Illnesses: Rheumatic with high blood pressure about 10 years ago.

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Present Illness: Started in 1929, as a progressive enlargement of the cervical glands on the left side of neck. Upon hospitalization in a public institution in 1934, both lungs were found extensively involved showing cavitation. Irradiation failed to help the tuberculomas in the neck. He progressively grew worse and was finally sent home with a hopeless prognosis

Physical Findings: Radiologically and by physical signs, bilateral cavitation and wide distribution of lesions were demonstrated. Largest cavity about two inches in diameter. Cervical glands on left side of neck amount to the size of a large fist. There are gastric and cardiac disturbances. Tissues waxy.

Treatment: 2 cc. Ketene solution were given on March 3, 1934, September 24, 1935, and February 1937. Recovery set in promptly after the first dose. He was able to go to work in January 1937. There is no cough. Numerous sputum examinations made to date are always negative, physical and radiographic studies demonstrate recovery. **He is in perfect health.**

TUBERCULAR ARTHRITIS AND OSTEOMYELITIS

Patient, Miss S. Age 20. Tuberculosis of left knee joint for fourteen years. Three operations between ages of six and twelve to relieve acute flare-up of Osteomyelitis in lower half of femur shaft. Distortion of bone progressive with increasing ankylosis and deformity. Motion angle ten degrees. The fourth flare-up took place in July 1934, with swelling and intense pain of the knee joint. Rapidly progressive. Could not walk. Radiographic study revealed irregular structure and contour of lower third of shaft of femur with defective calcification and bone absorption, clouding of articular surfaces narrowing of joint space, extensive proliferation around periosteal border. One dose of Glyoxylide given July 23, 1934, was followed by rapid decrease in the pain and a steady restoration of joint and bone to normal, functionally and structurally, with perfect use of leg and full motion within nine months. **General health has become excellent.**

GASTRIC ULCER

Patient, Mr. C. P. Age 46.

Past History: Periodic gastric upsets for years necessitating a gastro-enterostomy fifteen years ago when extensive ulceration was observed. Relief lasted only three years, after which symptoms recurred causing very much suffering. He was operated on again two years later and relief followed for one year, whereupon greater misery set in. In November 1938, he suffered a severe gastric hemorrhage. Was hospitalized for a number of weeks and on a strict diet. Ketene solution was given June 5, 1939. Recovery was rapid in spite of non-restriction of diet; drinking, etc. **Present health, perfect.**

GASTRIC ULCER

Patient, Dr. H. age 50, suffered with gastric ulcer ever since childhood. Finally two perforations took place one at the greater and one at the lesser curvature. Peritonitis developed but was controlled by incision and drainage. At the time of treatment with ketene solution, a third perforation was threatening.

Physical Examination: Revealed a large induration in the epigastrium. There was much pain, and suffering from eating. The heart skipped beats frequently. Two cc. of Ketene solution were given intramuscularly in September 1927. There was some fever and chills on the fourth day, and improvement

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was rapid indeed. Within four weeks he ate and drank as he pleased. **Recovery was completed in six months and he remains perfectly well today.**

GASTRIC ULCER

Patient, Mr. W. F. Age 38.

Family History: Negative to cancer.

Past History: Measles and chicken pox in Childhood. Pneumonia at 20 and again 4 years ago.

Pre-growth Symptoms and Status of Patient: Stomach trouble started as indigestion when 16 years of age, always taking soda. Operated on in 1913 for appendicitis, the appendix found normal; operated on in 1914 by the same surgeon for gastric ulcer; he resected two small ulcers and one large ulcer and made a gastroenterostomy; no relief. The patient kept taking soda continually; the stools were black, had pain and gas, was unable to straighten up for years, the pain extended through the epigastrium to the back. He was careful about diet to date of admission, was very nervous all the time. In the year 1920, his weight dropped from the normal of 155 to 135.

On January 8, 1920, he had two severe gastric hemorrhages that left him nearly bloodless and cold. His physician had him well packed in ice but that did not stop the bleeding. Tarry stools were passed for several succeeding days. Our examination on January 12, 1920 revealed a cancer mass in the epigastrium the size of a fist. The ulcer was still bleeding. Ketenes were given and recovery was complete in four months with disappearance of all stomach trouble and the mass in the abdomen. Chills, a light fever and achiness for the first six weeks following Treatment constituted the reactions in this case. **He now weighs 197 pounds and is in the best health he ever experienced; stomach functions perfectly on any diet.**

ACUTE PROGRESSIVE MUSCULAR ATROPHY

Patient, Miss D. C. Age 46.

Present Illness: started one and one-half years ago as a progressive neuritis with atrophy of the muscles of the shoulders, arms, forearms, and hands worse on the right side. Leading internists and neurologists throughout the country could only prescribe increased doses of narcotics to combat the increasing pain. My examination made May 15, 1939, revealed a tumor to the left of and below the umbilicus two inches in diameter. Menses had stopped for several years. The muscles of the shoulder girdle and right arm, forearm and hand were atrophied to perhaps 10 percent of normal. The same muscles on the left side atrophied to 30 percent of normal. There was beginning atrophy in the muscles of both legs. Pain was constant, tremor definite and paralysis marked. All narcotics were withdrawn and on the following day 2 cc. of Ketene solution was given. The first night following Treatment was marked by a great diminution of pain so that no narcotics were required. The second night practically no pain was suffered and from then on recovery advanced steadily in every respect. In six months, she was able to write with the former paralyzed hand and the restitution now appears to be about 80 percent normal in every respect. **Her health is splendid.**

OBLITERATIVE ENDARTERITIS

Patient, Mr. S. K. Age 50. History taken July 23, 1928.

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Diagnosis: Obliterative endarteritis.

Past History: Enjoyed good health until 40 years of age. For last ten years suffered with gastric ulcer, but obtained comparative comfort by careful diet, taking soda and so forth. In the summer of 1927, he found it progressively more and more difficult to walk about when playing golf. Walking caused pain in the feet, and rests became necessary at shorter and shorter intervals. Diagnosis of Obliterative endarteritis was made by a number of experts and the blood sugar of 380 was found. He was given insulin treatment but grew worse. He was finally advised of the hopelessness of his case, that he should stay in bed, take such opiate as was necessary submit to the necessary amputations and await the end.

Present Illness—Our examination made July 23, 1928, disclosed considerable nutritional injury, the yellow waxy color of one suffering rapid blood destruction, but no tumor mass could be found. Although both feet and the right leg were severely involved with the endarteritis no gangrenous decomposition had yet taken place. The toenails, however, appeared dead. There was great pain on motion, but he could get about some.

Treatment: One c.c. of the Glyoxylide was given in July, 1928.

Results: In a few weeks a rapid improvement took place and he was able to return to work. Within twelve weeks the anemia gave way to a normal blood quota and fine healthy color. During this period the gastric ulcer symptoms completely cleared away and the left foot and leg practically gained normalcy. The solid cord-like vessels became thin, compressible and pulsating and after pressure on the skin the blood came back with normal rapidity, and by the fifteenth week he could walk all day without pain or inconvenience. The toenails regained much of their normal pink color. However, the right foot and leg did not regain true normalcy until after the eighteenth week had passed. With his recovery he acquired the best health he had experienced since he was thirty years old and his urine remained free from sugar. Blood sugar dropped to between 80 and 90 mmgs. and remained normal. He indulged in periods of excessive work, and in May 1933, after a prolonged period of exertion he dropped dead from heart failure.

CONCLUSION

We have here only partly demonstrated the law of chemical structure that controls tissue function and immunity through the oxidation mechanism—the most basic process of life. More has been written about the common allergies and infections and about some conditions of obscure aetiology that respond to the treatment based upon this law. The treatment is pre-eminently within the province of the general practitioner, and can be conducted successfully and inexpensively in the home.

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**The Writings of
Dr. William F. Koch,
Ph. D., M.D.
Publications 1950-1967**

Dr. Koch's Explanation of The Function of His Reagents:

Abstract: Dr. Koch's Explanation of the Function of His Reagents: Dr. Koch approaches the study of cancer from the stand point of a physiologist thereby revealing insight into cancer's purpose and function within the body. His research sheds light into a tumor's purpose as a protective, auto immune response to a definite toxin; an attempt at specialization of function in which all tissues compete. The tumor's response; however, is destructive and inadequate.

The compound itself is a chain of carbonyl groups with fairly high molecular weight. Our explanation of its action is that it initiates an oxidation chain reaction by chipping of a hydrogen atom from an exposed carbon atom in the toxin molecule, thus producing a radical, which combines oxygen to form a peroxide radical. This peroxide radical acts upon another toxin molecule in the sane way and it forms another peroxide and so the chain is carried by a peroxide of the toxin and this continues until the poison is all oxidized out of the way.

Neoplastic And Viral Parasitism Their Basic Chemistry And Its Clinical Reversal

By

WILLIAM FREDERICK KOCH, PH. D., M.D.

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Abstract: Neoplastic and Viral Parasitism, Their Basic Chemistry: Dr. Koch's 1963 scientific explanation of the Reagents' actions on the pathogen in cancer. Case histories are used to corroborate his findings. An explanation of the Koch Protocol is also included within this text.

The research that is being offered now was started 50 years ago with the writer's discovery that complete parathyroidectomy resulted in the production of fatally toxic quantities of guanidine and methyl guanidine in the tissues and their excretion in the urine. (1) Three years later Paton of Glasgow fully confirmed this finding. (2) We wish to show now that the data gathered from this study led to a clinically useful concept about energy production in the tissue cell and its transfer to the functioning elements to support contraction, secretion, conduction and cell division. The atomic exchanges and the electronic displacements that take part appear to follow a pattern of construction and activity which one identifies in the normal functioning mechanism and also in the natural pathogens and which accounts for the properties of viral parasitism. This pattern also guides the construction of the agent used to reverse the pathogenesis and correct the parasitism in viral and neoplastic diseases — a sort of a Least Common Denominator. The facts and conclusions were assembled at first as a Postulate but, now that they are confirmed by their clinical utility, they form the basis for a new Therapy. This research did not follow the usual lines of thought that govern current therapeutics, for it is based on the properties of the free radical, the double bond and the Carbonyl and azomethine groups. Such matters have not interested medicine heretofore, though they are the fundamental chemistry of the great industries including the plastic industry. But now (June, 1961) that Szent Gyorgyi suggested that future cancer research might do well to learn if the "lone electron" (free radical) played a part, a general interest in the science that is basic to our Thesis has been created and we are, therefore, obligated to make this disclosure. This report should stimulate or interest biologists and physicians to broaden their approach when meeting their unsolved problems.

First let us consider what complete parathyroidectomy revealed as a guide to this study. In addition to the guanidine bases, excessive amounts of lactic acid, phosphate and calcium were eliminated in the urine in spite of forced ventilation of the lungs. It was, therefore, apparent that fermentation supplanted oxidation as a source of energy for function. The autopsies showed extensive ante-mortem dotting of the blood in the large veins and in the tissues and a hemorrhagic glomerulitis and hepatitis. After kidney and liver functions were destroyed, the convulsions were more severe and soon proved fatal.

We attribute the high toxicity of the guanidine structure to its activated amine group as conjugated with the imide group by which it was relieved of a quota of inactivating electrons. The reaction we are most interested in here is the ability of an activated amine group to condense with a Carbonyl group to form an azomethine double bond, which physiologically serves as an "avenue of electrons" or bridge for energy transmission, in our opinion, and is readily formed or split by hydrolysis at physiological levels. Pathologically, the bond is stable against hydrolysis at physiological levels and, hence, interferes with

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important Carbonyl functions. Though it has attracted little attention in biology it is present, once or more often, in most of the vital molecules in tissue chemistry and recently is assigned a place by Braunstein and Kritzman in the co-factoring of transaminations by pyridoxal phosphate. Its remarkable properties have fulfilled the requirements of our Concept, long before it was considered in biochemical processes. It is now known that guanidine destroys the Pasteur Effect. This is what happened in the parathyroidectomized dogs and our Thesis claims that the Pasteur Effect is governed by the Carbonyl group that initiates oxidations for energy production. (3) This group we designate the Functional Carbonyl Group of energy production, the FCG, which is inactivated by condensing with guanidine, whereby energy production is blocked.

On the other hand, the amine group of creatine, methyl guanidine, acetic acid, is also activated by conjugation with the imide group of the guanidine fraction, but because of the influence of such substituents as methyl and acetic acid, its condensations with Carbonyl are very liable to hydrolysis, so it is not toxic and can serve important physiological functions. We assign it an accessory place in carrying out the Pasteur Effect.

The ante-mortem clots in the large veins showed that fermentation and the Krebs Cycle oxidations progressing in the tissue fluids were not sufficient to charge the surfaces of the blood and tissue colloids for good dispersion, so the blood jelled in consequence. It must be recalled that an ante-mortem clot is not a true fibrinous clot, but a jelly-like change due to lack of electric charges on the colloidal surfaces and indicates a defect in the energy production by the oxidation mechanism, aside from energy carried by ATP. Jelling of the blood in the coronary or cerebral vessels blocks the circulation in the early part of an apoplectic stroke or coronary occlusion attack not caused by direct embolism. In such instances, the oxidations within the functional elements that provide the energy for good dispersion of the colloids are blocked. In the parathyroid studies, guanidine was the blocking toxin and its injection in toxic doses produced all the changes that follow parathyroidectomy, including ante-mortem clots. Because of the properties of the activated amine group and the evidence that the tissue oxidations were blocked, we concluded, that the functional oxidations are initiated by dehydrogenation accomplished by highly activated Carbonyl groups of the functional mechanism — the Functional Carbonyl Group (FCG). The activation, we concluded from additional observations, was due to its conjugation with electron contributing double bonds of an ethylenic linkage, which would lose this power by making additions with free atoms or radicals.

Because of clinical encounters, it was necessary to assume that a Functional Carbonyl Group received the energy produced by the oxidations initiated by the FCG of energy production, for if this FCG of energy acceptance was blocked by condensing with a firmly binding amine, the functional elements would be under energy starvation and function would be blocked just as much as if energy were not produced. So we Postulated that if the energy evolved at the FCG of energy production could pass via an azomethine bridge into the mobile electrons of an amine rich in double bonds and this amine could split off from the FCG at physiological levels, it could carry its energy to the FCG of energy acceptance and release it for function. For clinical purposes this is all we needed to assume to explain the two possible types of functional block — that is due to failure to produce energy, and that is due to failure to pass the energy into the functional units. The blocking would be by firm azomethine condensation, or by an addition of a free radical to the activating double bonds of either FCG, as previously stated.

After 1930 when Lohmann exposed the function of creatine phosphate (4) and Lundsgaard showed its relation to muscle contraction, it was easy to fill in our Thesis as follows, especially after Englehardt (5) demonstrated in 1939 that ATP (adenosin triphosphate) gave up its energy to support the contraction of muscle fibrillae. We assumed that the FCG of energy production dehydrogenated fuel or pathogens that

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entered its field. As soon as the acquired hydrogen atom was removed by some cofactor, the FCG condensed with the amine group of creatine to pass energy into its mobile electrons, until it was sufficiently activated to split the azomethine bond by adding to phosphoric acid and thus liberate the FCG to start another cycle of oxidation. It is now accepted theory that creatine phosphate passes its energy on to ADP (adenosin diphosphate) to form ATP and the latter hands it over to the functional elements for work and growth. We then sharpened our Thesis by considering the exposed amine group of the adenine unit of ATP (which is activated by conjugation with a series of 4 sets of conjugated double bonds) as the group that condenses with the FCG of energy acceptance to pass the energy into the functioning elements.

One and the same FCG could perform both functions in rapidly alternating succession and thus account for the undulations estimated to run at some 30,000 per second when an impulse is conducted along a nerve fiber. We will discuss them as separate entities, however.

FCG blockage explained the ante-mortem coagulation of the blood in the parathyroid experiments. It explains the jelling of the blood in the early phase of an apoplectic stroke or coronary attack, for in both the administration of a Carbonyl group of high oxidation potential corrects the jelling of the blood so it flows freely and thus prevents the degeneration of the vessel wall that would lead to true thrombosis and infarction. Case histories will be given as examples, both of the block to energy production, as in coronary occlusion, and of the blockage in energy acceptance, as in exophthalmic goiter, even after the pathogen has integrated with the functional mechanisms concerned, the FCG systems of energy production, and the mechanisms of energy acceptance. When the normal tissue's FCG has failed to dehydrogenate an amine pathogen, as when its O/R potential was too low, the firmly binding amine group must block FCG function. If because of anoxia the free radical formed in the pathogen, by its dehydrogenation at the hands of the FCG, has no oxygen to combine with it then adds to the activating double bond conjugated with the FCG and blocks its function.

Therefore, the absence of adequate molecular oxygen is able to prevent the free radical, so formed, from becoming a peroxide free radical to be further burned. It would add to the activating ethylenic linkage of the FCG and thus block FCG function. Therefore, two circumstances are basic to the pathogenesis (a) the presence of a firmly binding amine structure and (b) the presence of anoxia; either, can block the FCG function to produce disease, or prevent the use of ATP for tissue cell development. The restoration of the growth process in hindered children of many classes and the reconstruction of tissues destroyed by cancer or by diabetic gangrene, demonstrate that restored FCG function can again use ATP not only for the primary cell functions, but for growth as well. Case histories will illustrate.

The relation of the FCG to gene structure and function is thus opened for study. The destructive effects of irradiation on function and structure are another study in which we have collected important data, which must be reported some day in the interest of radiologists who have sustained injury, and of atom fission chemists who have been diseased through professional exposures.

INHIBITION OF FCG FUNCTION

Anoxia is necessary to the blocking of the activating function of the ethylenic linkage. Warburg's Thesis (6) that anoxia is the cause of cancer, is supported here and one may add that it is necessary to certain types of viral integration with the host cell's functional mechanisms to produce paralysis. When the FCG dehydrogenates a pathogen, viral or chemical, that enters its field during hypoxia, the free radical formed cannot add molecular oxygen to become a peroxide free radical and be combusted, so it adds to the attracting pole of a double bond with which it has contact. That must be the proximal pole of the ethylenic

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linkage that activated the FCG that removed the hydrogen atom. Addition here will block all electron migrations to the FCG and the oxidation initiating mechanism cannot function any more. The deprivation of the functional mechanism (grana) of oxygen does away with them structurally and functionally as Warburg's Thesis claims, however, we find that they are NOT eliminated from the cell. It is their identity that is lost and the change is clinically reversible by removing the pathogen. Warburg spoke only of cancer. We include cancer and extend the observation to all other diseases studied to date.

We will show that together, with the anoxia, a co-factor is required. In cancer, it is a carcinogen (viral or chemical) and clinically, a polymerized product of bacterial action in a hypoxic focus of fibrosis carrying a silent infection. The integration formed by the pathogen with the activating double bond of the FCG, or with the FCG by free radical addition or by firm condensation with an amine, respectively, is provided for by the activation of the position alpha to a double bond. This double bond is the electron withdrawer and the alpha activation also provides for the dehydrogenation of this position after integration of the pathogen takes place, so that cleavage of the pathogen from the FCG system with restoration of its Carbonyl group and of its activating double bond are had. The host cell is thus separated from the pathogen in good functional status, while the pathogen is no longer to be found. It undergoes a progressive oxidation favored by activation alpha to the terminal Carbonyl groups produced at each fragmentation. There are two means of securing this separation and they confirm our Thesis as to the nature of the pathologic integration. It will be seen also that one Corrective Reagent used is constructed on the same pattern and is essentially a highly activated Carbonyl group of a potential of one volt more or less according to the carrying structure which is built up to secure the greatest steric advantage for its particular attack, which is, of course, high potential dehydrogenation.

Reversal of the pathogenesis is closely followed by tissue reconstruction. Thus, when Ehrlich ascites cells are transplanted into the peritoneal cavity of mice, the liver and spleen reticuloendothelial cells immediately atrophy and both organs shrink. The neoplastic cells infiltrate and produce tumefaction with ascites. Treatment can be given at various periods after inoculation and the animals sacrificed for observation. It is then seen that, as the neoplastic invasions are removed and the peritoneum becomes absolutely clear and glistening, the spleen and liver and especially their Kupfer cells regenerate rapidly. If any traces of neoplastic invasions are found, they are undergoing nucleolysis, calcification, and coagulation as an early phase of digestion. Such changes are similar to what we observed in the biopsy material taken from skin squamous cell cancer during recovery. (Medical Record of New York, October 1920). The initiating factors are, of course, the activated Carbonyl group of the Reagent and the activated position alpha to an ethylenic linkage in the integrated pathogen tending to release its hydrogen atom unrestricted.

In reality, the ethylenic linkage is not an electron donor, but a weak withdrawer of electrons. When conjugated with a Carbonyl group, which is an active electron attractor, the ethylenic (π) electrons are mobilized toward the Carbonyl group, and such substituents as CH_3 , CH_2CH_3 , and $\text{C}(\text{CH}_3)_3$, which are active releasers of electrons will, when located at the opposite end of the double bond, supply their quota for attraction to the Carbonyl group of the FCG system. In addition, the Carbonyl group is negatively polarized with an oxygen atom rating 3.5 electronegative units and a carbon atom of 2.5 electro-negative units. Only fluorine exceeds the electro-negativity of oxygen. Therefore, the Carbonyl group of the FCG system as conjugated with an ethylenic linkage serves as an active dehydrogenator of fuels and pathogens that enter its field, and the ethylenic linkage serves as the bridge for the electronic migrations toward the Carbonyl group. Where two or more Carbonyl group double bonds are conjugated in series, the orbital mechanics determine so heavy a concentration of electrons and electro-negativity at one of the groups that it becomes a most active dehydrogenator, and as in Triquinoyl, the strain becomes so great that one group even becomes expellable to form the more stable five member ring.

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In addition, fuels and pathogens are especially equipped to mobilize their critical hydrogen atoms. In glycogen and the polysaccharides, the Carbonyl groups are inactivated and in the monosaccharides, the lactone structure makes the molecule inert. When the Carbonyl group is free, however, it attracts the electrons away from the hydroxyl group so that its hydrogen atom tends to be liberated unrestricted. This mobilization is seen when glucose or fructose is dissolved in heavy water. Here it is found that the hydrogen atoms trade places freely, and at random with the deuterium of the heavy water. Such mobility is surprising in view of the fact that the bond energy of the O-H group is one of the highest of the covalent bonds; namely, 110.2 Kilo-Calories and the bond length is one of the shortest; namely, 0.95 Å units. Thus one sees the power of mesomeric induction to bring about reactivity without causing ionization.

Pathogens and unsaturated fats also invite dehydrogenations in various degrees. Here we Postulate that a of an ethylenic methylene group positioned alpha to a double bond linkage offers two activated hydrogen atoms; one is important for the integration with the FCG system during the anoxia and the other invites its removal from the integrated pathogen by the Carbonyl group of the curative reagent continuously when oxygen is present. (This dehydrogenation can also be accomplished by an appropriate free radical). The activation of the pathogen's hydrogen atoms is secured by withdrawing electrons from the alpha placed methylene group by the substituents placed at the other end of the double bond. Those that withdraw electrons are halogens, methoxyl, hydroxyl, aldehyde, Carbonyl, vinyl, phenyl, cyano, and sulfhydryl, but not by amino groups. Here one sees the possible place of iodine in activating the initiation of physiological oxidation. The withdrawal of electrons from the alpha positioned carbon atoms weakens the bond to hydrogen and facilitates dehydrogenation. The stage is thus set intrinsically for the oxidative reversal of the pathogenesis. The pathology actually provides for its correction. The philosophic implications deserve thought.

TWO SEPARATION PROCEDURES

To cause the cleavage of the pathogen from the host cell's FCG system at the position alpha to the double bond of the pathogen that activated the integration, be it by an azomethine condensation or a free radical addition, one uses a highly activated Carbonyl group dehydrogenator. The dehydrogenation thus brought about leaves a free radical, which when oxygen is present will add a molecule of molecular oxygen to become a peroxide free radical. This will cause the cleavage leaving a Carbonyl group to restore the FCG, or a Carbonyl group to replace its activating ethylenic linkage that formed the integration. This exchange is to the advantage of a long lasting immunity or resistance of a higher order than the ethylenic linkage had offered formerly, because the Carbonyl group is a richer assembler of electrons than the ethylenic linkage and gives the FCG a higher dehydrogenating power that will start combustion in a wider field of fuel or pathogens that enter the field. This is seen in the Triquinoyl molecule we use as a therapeutic agent. The orbital mechanics of the six Carbonyl groups united in cycle determine such a heavy concentration of electrons at one of the groups that it is actually expellable from the group to make a five-member ring, leuconic acid. It is the electronic saturation of this Carbonyl group that makes it a splendid dehydrogenating agent to serve so satisfactorily as a therapeutic Reagent.

Warburg credited anoxia with the power to produce cancer, and while anoxia is essentially provocative, we have found that in addition, two carcinogenic agents are also necessary. They are the initiating and sustaining carcinogens. One and the same chemical structure may serve in both capacities, as will be seen in the diagrams that follow. However, the initiating carcinogen or allergen may be: a virus, a product of germ activity in the intestine, a mercaptan or other structure carrying a sulfhydryl group, or a free radical produced by the sun's rays on a ripening pollen, or a present in some plastic material. The sustaining allergen or carcinogen is in our experience a product of germ activity. It is brewed in an old scarred in focus of silent infection where enough oxygen is not admitted to burn the free radicals produced in its

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slow metabolism, thus giving them a chance to polymerize. Both are joined to the energy receiving mechanism of the host cell by free radical addition, and hence, by a single covalent bond. The integration of a virus is with the energy producing mechanism and likewise by a single covalent bond, and so the phenomena associated with viral infection and allergy, including cancer production as well as their reversals, are of the same pattern and may be discussed together. Though the single covalent bond is well known for its easy rotation under environmental influences, it appears fixed for each disease entity, a fact that gives a good clue to the nature of the critical atomic groups, both of the pathogen's and of the host cell's energy producing and receiving mechanisms.

A little more discussion should be given to the easy rotation of the single covalent bond, and also its ability to be fixed in one plane by mutual polar attractions and repulsions of component atomic groups in both the host cell and the integrated pathogen. This rigidity exhibited by each species in each of its viral infections has been observed as a constant feature and would be the only explanation available, if we assume that the pathogenic integration takes place by an addition at one position in the host cell's FCG, and its activating double bond.

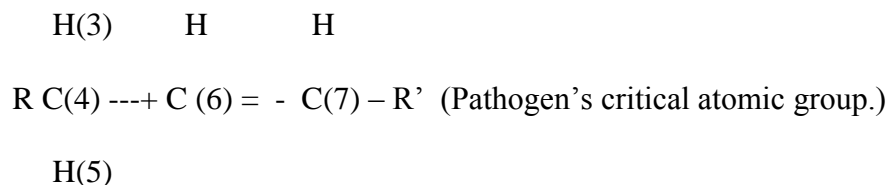
The additions of the two pathogens, the initiating and the supporting pathogens, cannot be formulated with exactness as the chemical structures are not known with exactness and we have arrived as far as we have by Postulates and check-up of each Postulate, all of which were based on sound chemical principles. With this reservation in mind, we may also formulate the integration of both pathogens with the critical atomic group of the host cell's energy producing and receiving mechanisms, as directed by the polarity forces exhibited by the double bond and its substituents. This cannot be claimed to be absolute for we do not know the atomic groupings sufficiently for an absolute diagram. However, any utility in a conclusion reached by postulate is just as good a utility as that reached by cold fact, for it is the utility we need now to face the cancer and viral plagues we fret about or are not willing to tackle. The utility of an explanation is some reward.

We have observed that hog Cholera fails in 100% of cases to respond to the serial system of Carbonyl groups that hog Aftosa, cow Aftosa, and rabies respond to very satisfactorily. Many epidemics of Aftosa in cattle have responded 100% to this Reagent. On the other hand, Aftosa does not respond to Benzo-quinone nor does rabies respond to diphenoquinone to which 100% of hog Cholera responds in more than one epidemic. So the species pathogen-integrate for each disease is set. A diagram in one plane can be given on paper only, and will have to be interpreted by the reader with reference to other planes. The substituent groups R, R' R'' cannot be given in detail for they are not known. However, the signs will have to be understood to carry the polarity values that cause the fixation of the single covalent bond that joins the two parties, as we outlined before. What we can show is how the polarity values of the critical atomic groups of the autonomous host and of the parasitic pathogen favor the pathogenesis and also the separation of the host's critical atomic group from the pathogen, which undergoes a stepwise oxidation. There is, however, more than one question that is not answered by the diagram. Further data must first be won. The main question answered is how and why the Reducing Agent is successful in all of the pathogenic integrations, regardless of species or viral type. This, one can see, is due to the firmness of the double bond against rotation, since the cleavage is had between its two terminals and they remain fixed with reference to each other. The diagram also indicates the fixation of the single covalent bond that combines the pathogen and host cell, in each specific disease integration, so as to offer steric hindrance to successful attack by certain Reagents, and steric advantage to others, and this is confirmed by clinical experience.

CRITICAL ATOMIC GROUP OF PATHOGEN, ESSENCE OF PARASITISM

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The pathogen may integrate with the host cell's FCG by the condensation via its amine group and block FCG function, or pour polymerization energy into it to force an allergy or a neoplasia. This need not be diagramed, as only one pathogen is required. Blocked functions as in diabetes or mental suspensions following the toxic amine carrying antibiotics are examples. But neoplasms caused by butter-yellow and diacetyl aminofluorene require a supporting carcinogen to supply the energy for mitosis.



The polarity of C(4) is positive like C(6) through withdrawal of electrons by R' and C(7), which thus become negative. R' could contain halogens, nitrile, etc.

CRITICAL ATOMIC GROUP OF THE FUNCTIONAL ENERGY PRODUCTION AND ENERGY ACCEPTING SYSTEMS. ESSENCE OF AUTONOMY

The polarity of the Carbonyl group (12) is strongly negative through the electrons it has withdrawn from the double bond, and C(13) is also negative because of laying in the orbit the Carbonyl electrons, which polarizes the electrons to the pole nearest to it and removing them from the distal pole, which makes C(14) positive comparatively. The methyl functions at C(15) contribute electrons via the double bond to the Carbonyl group. R'' carries groups like R and R' of the pathogen that determine the line-up of the two when they integrate, and the polarities of the critical atomic groups' atoms determine, which make the unions or additions to the double bonds. C(4) being positive tends to expel H(5) for easy removal by the Carbonyl group (12) forming the free radical that makes the addition of C(4) to the negative pole of the FCG's activating double bond at C(13). Thereby, a free radical is produced at C(14) which adds to the negative pole C(7) of a fresh molecule of the pathogen to start the polymerization chain, which continues as an end to end addition yielding the energy that supports the allergy or the neoplasia.

THE INTEGRATION OF PATHOGEN AND HOST CELL CRITICAL ATOMIC GROUPS AND THEIR SEPARATIONS

(Schematic)

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image002.jpg>

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image004.jpg>

To rupture the integration oxidatively, the Therapy dehydrogenator re-moves H(3) of the initiating pathogen producing a free radical that adds molecular oxygen to become a peroxide free radical that cleaves C(4) from C(6) producing a Carbonyl group at the latter. C(4) also becomes a Carbonyl group which being positive remains attached to the negative C(13). By gaining a Carbonyl group, the pathogen loses its parasitism and becomes autonomous.

The polymerization bond between C(14) of the host's FCG activating double bond and C(7) of the pathogen's invites cleavage as C(14), is positive in polarity and tends to release its H atom to the action of a dehydrogenator of appropriate qualities, as offered in the Therapy Reagent. A free radical is formed

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there and a peroxide free radical results in the presence of oxygen that cleaves C(14) from C(7) of the pathogen, forming two terminal Carbonyl groups. The Functional System of the host cell thus now holds a cluster of three Carbonyl groups to serve its dehydrogenating function as activators and as dehydrogenators. This is a quite formidable array, via its orbital-mechanics. The Carbonyl group won by the pathogen attracts electrons from the methylene group alpha to it and thus releases its hydrogen atom to any dehydrogenator at hand, as the cytochrome or ferrous-ferric electron acceptor systems, and so a new Carbonyl group is formed at each terminal again; a process that can be repeated until the pathogen is burned out of the way.

SEPARATION OF THE INTEGRATION VIA THE REDUCING AGENT

The Reducing Agent is constructed to yield a hydrogen free atom, which C(7) of the pathogen being of high negative polarity immediately combines. A free radical is thus formed at the C(6) pole, which being of positive polarity immediately combines the molecular oxygen in which it is bathed to form a peroxide free radical that splits the double bond to form a Carbonyl group at C(6). This Carbonyl group withdraws electrons from C(4), which is already positive and makes it release H(3) to any ordinary dehydrogenator, as before mentioned. The initiating pathogen is thus removed and the FCG system gains a Carbonyl group, joined to its functional mechanism. Another Carbonyl group is gained at C(14) by the progressive oxidation of the integrated supporting pathogen starting at the closest C(4) to the newly formed Carbonyl group, which now reinforces the FCG so it is amply able to remove the H(5), which is already repelled by the positive polarity of C(4). C(4) thus becomes a Carbonyl group as a result of the usual sequence of free radical action. Likewise, so does C(6) that draws off the electrons from C(7) so that it tends to release its hydrogen atom to the ordinary hydrogen acceptors and become a Carbonyl group that, in like manner, causes C(14) to release its hydrogen and become a Carbonyl group. Now the FCG is a triple Carbonyl group affair with properties, as just described, as resulting from the action of the oxidation process instituted through the Therapy dehydrogenator.

Whatever toxin debris is present in the FCG is readily burned away by the high power of triple Carbonyl system of the FCG as a dehydrogenator. The rapid action of the recovery process in cases where the Reducing Agent was used in dilutions of one part per trillion, may be explained on the basis of the procedure just outlined. The following polio case, coronary case, and the diabetes case, being typical examples.

The processes, just outlined, must be considered in any investigation of cancer, allergy, and infection, as they use the most basic of chemical phenomena, as we understand chemistry today. Whether the outlines given are the actual processes that take place is not easy to prove without much work. However, they lay out the paths to be followed in any basic investigations of the subject, and they were fruitful to us in our limited approach. The results cannot be overlooked, as such results have never been known before in the whole history of medicine unless, of course, we are scientific enough to factually examine the superior results of Divine Miracle Healing, as reported by Nobel Laureate Alexis Carrell, which he compared with his tissue culture data and, which yielded some enlightening conclusions that cannot be scientifically brushed aside, though they follow laws of Nature we are not as yet able to understand. The cases we present follow basic cycles and laws that we have observed before, whether interpretable or not.

THE RECOVERY PROCESS

This is a cyclic affair with periods of 12, 24, 36, 60, 72, and 84 hours, weeks, and other multiples of 12 hours, 3 week, and 3 months until recovery is completed through the reverse repetition of the symptoms of the pre-growth toxic period in which functional block suppresses oxidation-favoring development of

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fermentation with its displacement of oxidation. For this, one dose or two of either the Oxidation or Reducing Reagent is all that is generally used. During this recovery period, the symptoms of action of the pathogen's toxin during the development of the disease are repeated in reverse order to their coming. These the writer showed, as early as 1927 (7) to be neurological, vascular, or digestive disturbances, and represent different phases of the polymerization of the toxin from a monomeric form of the acute infection on through various molecular weights, until it has reached the structure able to produce a neoplastic response. During the recovery, the process is reversed as the polymer is oxidatively broken down peeling off its accumulated monomer units and passing through stages where it produced the various symptoms of the pre-growth period. Head-aches, dizziness, epilepsy, diabetes, psoriasis, arthritic changes, etc. may be the changes that reappear for a short time and then disappear. Usually the last reaction is an acute inflammatory process at a point where the patient had experienced a severe infection many years earlier. In breast cases, it is usually the tonsil and associated lymphatics on the same side as the affected breast, but it may be a scar somewhere else where a severe infection was present. This reaction generally comes right after the growths are absorbed, or when only the supporting fibrous tissue for the neoplastic cells remains. This absorbs much slower or may become calcified and absorb still slower. Many biopsies have demonstrated this fact.

This reaction may come in the appendix even where the pathogenesis concerned the breast, and was not a tumor, but instead a neuritis. For example in my early experience, a woman of about fifty had her left breast removed because the celebrated surgeon diagnosed cancer behind the nipple. The symptoms were sharp shooting pains. After the breast was healed and she returned for her first inspection, she had the same sharp pains in the right breast nipple and the same surgeon insisted on removing that breast that very day, but because of social engagements, he consented to let her wait till after a large dinner party, scheduled for the following day in Detroit. Instead, her husband brought her to me for examination, and I could find no tumor, whatsoever, but the pains were the exact pictures of the Homeopathic Berberis symptomatology. She said the left breast felt exactly the same, and was now frightened into having the right breast removed. I gave her Berberis and the pains were gone in a few days, never to return. The breast was never removed either. A recent different "Berberis case" came to Rio for diagnosis, because her Arizona surgeon wanted to remove the left breast for the same type of sharp pains. My examination found no tumor, whatsoever, and as she was so emaciated with the skin stretched over the ribs, so that any tumor would easily have been observed. The axillary glands were palpable as they would be in such a state of emaciation. Examination revealed a chronic appendicitis over to the left of the midline and tenderness below the umbilicus. She was advised that her great reaction would occur in that position. She was so weak it was difficult to walk and carry her purse. It took a year after the SSR injection for the pains to completely disappear and to gain strength, when suddenly on the 60th week she came down with an "acute appendix attack." On removal the appendix, it was found to be attached firmly to the left ovary and kinked. Her health quickly returned. Had the appendix been cultured, the germs would have possibly been found to have been non-pathogenic at that time, as was observed in other instances.

This recurrence of the reaction cleaning out the lesion that harbored the original infection (as a last feature of the recovery process) also occurs in the treatment of rheumatoid arthritis, and many neurological and psychiatric problems, and in diabetes. It teaches much that the profession is eager to know. The complete text gives examples such as fill the insane asylums, but would be simple problems to clear up, if this etiological factor and the pathogenesis described here were common knowledge.

THYMUS GLAND DEFICIENCY AND MUSCULAR DYSTROPHIES

The patterns of endocrine deficiency vary in some instances from that exposed in the exophthalmic goiter case, Mrs. M. J. Here, the deficiency was not in the thyroid gland that attracted so much attention, but in

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some other tissue that could not accept the energy of ATP into its functional units and hence, was starving for energy. So some nerve or hormonal factor acted on the thyroid to produce thyroxin to whip up the tissues to produce energy carried as ATP to supply the starving tissue. However, the block to the FCG of energy acceptance for function prevented this energy from being used and a vicious circle was established that was leading to fatal exhaustion. After the FCG was freed so it could accept the energy, the whole mischief was normalized.

In the muscular dystrophies, the thymus is the essential deficient tissue upon which the muscle deficiency depends. In both the thyroid and in the complete thymus deficiencies, the inability to accept energy into the functional mechanisms is evident in the hyperplasia of the gland, and the increased use of oxygen and higher basal metabolism rate. In the thyroid case, the BMR was as high as 104%, but in complete thymus deficiency cases it is very much less elevated, though enough to indicate the inability to use the energy of ATP. It is also evident that the thymus defect may not be complete, but may depend on the inability to use its specific trace element, manganese, as a thyroid case may not use iodine, or an anemia case may not use cobalt. So one must provide a concept of how the thymus gland works as we have for diabetes, especially, because orthodoxy has no solution.

There are a few facts that can be organized for a practical pattern of its function. Alpha tocopherol is essential to its function as well as manganese. The spent product of tocopherol appearing in the urine is in the form of the hydroquinone of tocopherol. Therefore, our Thesis is simply that tocopherol is oxidized to the quinone, which on performing its task, is reduced to the hydro-quinone. In other words, the manganese is used by the thymus Hassall's cells as a co-factor, possibly as the trioxide, to oxidize tocopherol to its quinone and the quinone serves as an oxidizing agent (hydrogen or electron acceptor) in the further function of the gland, as in the production of a substance for the development and function of the muscles, and of the reproductive system. In this latter function, the use of ATP is required and when the FCG of energy acceptance of the Hassall's cells cannot accept this energy because of a block via an integrated pathogen; thus the thymus and muscle deficiencies are complete until the block is removed. Many years ago we used the serial system of Carbonyl groups and those as activated in Benzoquinone, to accomplish the liberation of the FCG.

But the deficiency in the thymus may not be complete and may involve the simple oxidation of manganese to its trioxide. The supply of fair but non-toxic amounts of manganese to the tissues in general Josephson (8) found would correct such cases. Evidently the chain of subsequent processes was unimpeded and the body cells in general oxidized the manganese. But when the FCG of energy acceptance is integrated with a pathogen, the use of the Reagent given to the thyroid cases, is also required to reverse the disease picture in Parkinson's disease, myasthenia gravis, and some other forms of muscular dystrophy, as reported by our collaborators. We will give a special discussion to this subject with photographs demonstrating muscle reconstruction and return of function.

CASE HISTORIES TO ILLUSTRATE CORONARY OCCLUSION AND INFARCTION SHOWING JELLING AND RECOVERY OF BLOOD COLLOIDS

Mrs. S., age 74, with long history of arteriosclerosis and aortic insufficiency, usual blood pressure 200/100, had a severe coronary attack in June 1960. The Oxidation Reagent was given before true infarction could take place and the recovery was immediate. The electrocardiogram showed no infarction. The following year on June 27, 1961, she had a severe attack and was immediately hospitalized and every possible aid given while under the oxygen tent provided no favorable response. Her condition deteriorated rapidly, blood pressure 190/100, great pulmonary edema, thin weak pulse at 130 per minute, great dyspnoea, general cyanosis, chest pain, and she was at the point of collapse when the Reducing Reagent

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was given, 2 cc. of the one to a trillion dilution injected into the triceps muscle by Dr. Jayme Treiger. The response was immediate. Right after the needle was withdrawn, the blood pressure was found to be 140/80, the pulse 60 P.M., the dyspnoea ceased, and the cyanosis faded away. She was comfortable within a "minute." The next morning the electrocardiogram was taken and showed extensive infarction of the septum extending over the lateral wall of the left ventricle. Another electrocardiogram taken a week later, showed much improvement with diminution of the size of the area of infarction. The day after the crisis, the blood pressure was back to her usual normal of 180/100. At the first attack, the occlusion caused by the jelling of blood in the coronary vessels was quickly changed to good dispersion before infarction could happen after the Treatment was given. In the second attack, this also happened so that the infarction process was halted from extending to include the area where the jellification had occurred. The pathology started to reverse visibly within a week and immediate functional improvement, is to be noted.

EXOPHTHALMIC GOITER, NODULAR TYPE

Mrs. M. J., age 35, in July, 1943, showed rapidly developing weakness, tremor, sweating, great changes in appearance, extreme exophthalmus, rapid loss of weight and strength, excitement, excessive nervousness, tremor, jerking of the muscles, spasms with toes bending inward, and use of the fingers became difficult. The thyroid region was enlarged by a number of hard nodular tumors, rapidly increasing, pulse thready and too rapid to count accurately, blood pressure 190/110, and B.M.R. plus 104%. She was too weak to walk and had to be carried into Dr. Julian Baldor's office on November 10th, 1943, after being under iodine therapy, ice bags to the neck, and absolute quiet from July to November 10th, while steadily deteriorating. She thought she was losing her mind, had hallucinations. She was given 2 micro micrograms of the serial system of Carbonyl groups in the triceps muscle. In two weeks, a remarkable change for the better was evident. She was stronger, could sleep, gained weight, etc. In twelve weeks, she was completely normal, physically and symptomatically, B.M.R. plus 6%, pulse 80, blood pressure 140/80, back to normal weight and strength, working hard by carrying a suitcase weighing 50 pounds in and out of houses as a demonstrator, playing in an orchestra, etc. Eyes, thyroid, and nervous system completely normal and have remained so to date.

Comment: In this case, somewhere in the body, because of block of FCG function, important cells could not obtain the energy of ATP; they were starved of energy. So the hormone message was sent to the thyroid to whip up all the tissues to produce more ATP to overcome the energy starvation of that group of cells where ATP energy was blocked from entering the working mechanism. Thereby, the thyroid gland was stimulated to the limit and the tissues were depleted to utter exhaustion. The Carbonyl compound of high oxidation potential caused removal of the obstructing toxin, as we have explained. As soon as the FCG of energy reception was freed and could go back to work, the tissue that was starved received all the energy it could use, so the call on the thyroid ceased and its nodular hyperplasia and activity sub-sided to normal. The depleted tissues were no longer forced to produce ATP and all was well.

EXOPHTHALMIC GOITER

Mrs. D. F., age 27 years, thin, very nervous with dyspnoea, cold sweat, pharyngeal spasm, acne, leukorrhea, sometimes bloody fetid urine, painful nodules in the right breast that persisted and followed a cautery of an ulcer on the cervix uteri, tachycardia of 106 per minute, and a slight thyroid enlargement. Since childhood, she had periodic crises of angina, along with high fever, and pus coming from the tonsils. Treated by a gland specialist, she received a dozen modern drugs without benefit. Feeling worse, she consulted Dr. Jayme Treiger on March 12, 1958. The B.M.B. was plus 45%, blood pressure extremely low, nightmares, pulse 106, and weak. She was given two-millionths of a microgram of the Reducing Agent on March 13, 1958, by Dr. Treiger.

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Recovery Course: Every three and a half days, the tonsils became inflamed and swollen with a strong pus discharge until they were normal in texture and clear of pus. The cervix uteri, likewise, became inflamed periodically and drained freely until it became normal. In spite of these crises, she was feeling better with renewed vitality that began to show within the first week. Three weeks later, she reported with a normal pulse of 82, and a blood pressure of 120/90. The cervix ulcers were healed; the B.M.R. was 6% above normal. Two years later, she was perfectly normal, pulse 60, blood pressure 110/70, temperature 36.7, with the best health she claimed she had ever experienced. In this case, twenty years of pathogenesis steadily retrograding turned to a near normal in a few weeks and was perfectly normal in two years. The reversal of the pathogenesis in this case is like that of the former case, even though the Reducing Agent was used.

DIABETES

It will be seen that this disease as currently met in the great majority of cases is an intoxication that blocks islet cell function. The energy of ATP does not enter the fibrillae that synthesize insulin in the affected cell. If the situation lasts long enough, some of the cells die off and are only slowly replaced after the toxin is removed. The case of Mrs. M. J. E. P. will illustrate. On the other hand in fairly early cases, as Mr. L. S. of only one year's duration, even with a very high blood sugar 320 mgm.%, there may be a hyperplasia of islet cells, which are also paralyzed by integration with the poison so when this is renewed, the effect of the hyperplasia is seen in that the blood sugar stays at a very low normal level or less, 75 mgm.%

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image006.jpg>

Mr. L. S., age 53, had a rich venereal past, malaria at 21, and operated for varices in 1941. He complained of vertigo, edema of the legs, grade 2 small varicosities, aorta palpable, fundus oculi showed veins with second grade mani-festation (Wagner), blood pressure 240/130, pulse 96, glycemia 112 mgm.%. Clortiazamide reduced the blood pressure to 210/110 with vertigo. On January 19, 1960, there was dyspnoea, and blood pressure 200/110; on February 14, blood pressure 220/120, pulse 84; on May 16, vertigo, tachycardia, dyspnoea and after lying down, blood pressure 250/130, pulse 90. On August 18 epistaxis, blood pressure 260/120, dyspnoea, constrictive feeling in neck, blood sugar 320 mgm.%, urea normal. Thus, there was a steady rapid deterioration during the pre-treatment control period. One-tenth of a microgram of the serial system of Carbonyl groups was given on September 24, 1960. He had a reaction on the following day. The edema and constrictive feeling in the neck disappeared quickly and in three weeks he felt very well, weight 82 kilos, blood pressure 170/100, blood sugar 75 mgm.%. He has remained in good health. One sees that the diabetes was but one feature of a multiple symptom poisoning. Before the Reagent was given, all insulin and other drugs were stopped. He was taken off of animal proteins and placed on an unrestricted cereal, vegetable, and fruit diet, with sugar, honey, and molasses. This diet is our usual procedure followed in diabetes. He has remained well with high efficiency islet function as the low blood sugar persistently shows. (9)

The reaction in this case was severe with chills, fever, and general muscular pains, especially in the legs. When one compares this reaction with the mild one of the following case, one sees that the etiological factors were different and caused different general effects, though they both affected the islet cells in the same way — that is, blocked their function.

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The structures of the etiological toxin then were different, but they still had the one feature in common; namely, the ability to integrate with the islet cell's functional mechanisms and this common feature we identify as the activated position alpha to a double bond, which provided for the integration and also invited the oxidative separation. Evidently there are a number of toxins that have different general effects, but are able to attack and integrate with the islet cells by the same mechanism—a mechanism that invites separation from the host cell by using the same Reagent, in exactly the same way.

Another case, given the oxidation serial Carbonyl group Reagent is that of Mrs. M. J. E. P., age 51. (10) A few minutes after the previous case was treated, she was given the same dose of the same Remedy from the same ampoule as the preceding case, 1/10th of a microgram in a one to a million dilution. This was to facilitate comparison.

Her pre-treatment control period showed that she had been diabetic for five years, but was first seen by Dr. Treiger on August 24, 1959. Her first complaint was articular pains, thirst, excess weight (95.6 kilos), height 158 in., blood pressure 175/90, edema grade 2 in both feet, glycemia, 240 mgm.%, Folin Wu, urine S.G. 1.036 glucose 4x. She could not tolerate diabenase and was put on protamine-zinc insulin during the whole of 1959 and 1960, but the blood sugar generally ran about 200 to 240 mgm.% on 40 units of PZI. In June 1960, the glycemia was 340 mgm.%, while on 60 units of PZI, and by September, it rose to 398 mgm.% while on 60 units of PZI daily. She was then taken off of insulin and all other medication, taken off of animal proteins and on September 24th, she was given the serial system of Carbonyl groups, one-tenth of a microgram, as in the previous case and placed on the same unrestricted carbohydrate diet.

In five days, the glycemia fell to 210 mgm.%. In two months, her weight dropped to 89.5 kilos. The edema left the legs within a week after Treatment; there was a slight grippy reaction about that time, also. Her whole health changed for the better. Hemglycemia on November 30, 1960, was 160 mgm.% and six weeks later, it fell to 120 mgms. and has so remained.

USING THE REDUCING AGENT

A case of diabetic gangrene was given the Reducing Agent by Dr. Julian F. Baldor while in a state bordering on coma, Mr. A. C., aged 71. He had been diabetic for five years and was on insulin, but gradually his condition deteriorated. On January 5, 1961, he had a severe crisis, glycemia 375 mgm.%, high fever, much pain in the right foot, and was approaching coma. Gangrene of the 5th toe had set in; the toe was amputated on February 12, 1961.

VISIBLE DEMONSTRATION OF REVERSAL OF THE PATHOGENESIS

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image010.jpg>

Radiograph No. II taken on June 3, 1961, of the same foot showing bone reconstruction where the gangrene had formerly destroyed the bony structures.

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image012.jpg>

Radiograph No. III of Mr. A. C.'s right foot taken in December 1961, about 9 months after Treatment.

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AN INTRODUCTION TO FREE RADICAL THERAPY

The fever continued and the gangrene spread rapidly to involve the foot. Gangrenous fistulae developed on all aspects of the foot and discharged dead bone. Amputation above the knee was considered, but then abandoned because of the violence of the gangrene.

The Reducing Agent was given in a dose of one cc. of one millionth of a microgram to the cc. on March 18, 1961, after being taken off of all medications and animal proteins. Two days later, March 20, the radiograph of the foot was taken. It showed the destruction of the fourth tarsal and metatarsal bones and part of the third and part of the fifth metatarsal bone. On March 30, 1961, without insulin, the glycemia was 124 mgms.%. In eight weeks, the lesions were all healed and the destroyed bones were reconstructed in normal minute detail, and he was able to walk normally. On August 25, 1961, the glycemia was 80 mgms.% and his health perfectly normal. The radiographs demonstrate.

Here we see that the pathogenesis was reversed completely and our Concept is verified. (11) Other diabetic cases of great severity and long standing, when placed on the same regime, reduced their glycemia from over 400 mgms.% to 135 mgms.% thus, showing that islet tissue was somewhat deficient and had to be restored. However, their diets were unrestricted cereals, fruits, vegetables, honey, etc., and without any medication whatsoever. Consult complete text for other observations.

VIRAL INFECTIONS

The nerve cell gives the best chance to observe viral integration and its separation. The restored function being the criterion, for anterior horn cells do not reproduce.

Two states of viral integration with the host cell's functional mechanism are known, the lytic in which the host cell is quickly and completely destroyed and its energy and substance are used up for viral vegetation. This is the only type encountered in rabies and the full destruction takes about four days. In dog distemper, the other type of integration where the virus lives in symbiosis with the host cell is that usually encountered, but the rapid lytic type may intervene at any time. Eventually the symbiosis yields to a lytic destruction with possible fatality. Here energy production and acceptance is completely blocked and the host cell and virus appear to be dead. The host cell withers and the axis cylinder of the nerve fiber appears to be lost. There is no function and the dependent tissue atrophies and the growth of the affected limb are hindered more or less. The invalidism caused is equal to that of the lytic type. Still the virus can be removed and the host cell will recuperate so that the dependent tissues and growth of the limb will be restored, even twenty years after the infection took place. This is the best type to demonstrate our Thesis. During the acute phase, it is not always possible to differentiate between the two types, except that the rapid spread of paralysis and the violence of the toxic attack, speaks for the lytic type. Its reversal is also the quickest when treated early.

CHRONIC SYMBIOTIC ANTERIOR POLIOMYELITIS WITH PARALYSIS AND ATROPHY OF THE WHOLE LEFT LEG

Myrna R., age 10, presented paralysis and atrophy of the left leg from hip to the toes, for three years. She was at the famous Warm Springs Foundation, but was turned away as entirely hopeless. The leg was too flabby to support a brace and she had to be carried. She received the serial system of Carbonyl groups in a two cc. dose containing one millionth of a microgram from Dr. Julian Baldor on February 11, 1944. Two reactions showing pain that spread down the back into the left leg occurred on the third and sixth weeks. There-after the recovery was steady, until after the twelfth week when she could walk and play with other

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children. The muscle reconstruction was so nearly perfect and also the function, that it was difficult to tell which leg was affected. She took up toe dancing.

CHRONIC SYMBIOTIC ANTERIOR POLIOMYELITIS OF TWENTY YEARS STANDING WITH COMPLETE PARALYSIS WITH ATROPHY FROM HIPS TO TOES

Mrs. V. N., age 23, when first observed on April 5, 1943, by Dr. Wendell Hendricks. She could not walk, so she was carried into Dr. Hendricks' office and placed in the chair; picked up and carried out again. She received the Oxidation Reagent on April 7, 1943, and a steady recovery followed. The dose was repeated on June 23, 1944, and on November 14, 1944, because the case was complicated by terrific migraine that was related to the polio infection. The calf measurements were right leg 4 inches, left leg 10 inches in circumference. The right leg was 2 inches shorter than the left. Both were completely useless, except as serving with steel braces from hips to toes for three point suspension, so she could swing about the house with crutches; otherwise, she was confined to the bed or the wheel chair. There was no voluntary motion, nor reflex motion, nor strength. The attack came at the age of one and a half years. Toward the end of the nineteenth year, contractures set in which required remaining in bed for the most part, as she could no longer wear the braces with comfort. During her 18-week and 63-week — after the first Treatment, she had reactions of chills and fevers with more rapid improvement thereafter. The migraines disappeared completely in 1944. She was able to walk in about six months and in twenty-one months she was practically normal, able to run stairs and work all day standing on her feet without the use of braces or any other contraptions. The right leg had grown to be only ½ inch shorter than the left, right calf 10 inches, left calf 11½ inches, function perfect and health excellent.

ACUTE POLIOMYELITIS WITH PARALYSIS LYTIC TYPE INTEGRATION

Loman A., age 10 years, started with violent headache, pains in back and legs, vomiting, high fever 104, and pulse 128 on February 3, 1944, in the afternoon.

The next morning his legs were paralyzed and the pains were worse. He shrieked with pain. Our examination showed the legs paralyzed from hips to toes, perfectly flaccid and without any tendon reflexes, or voluntary motion. When a sharp point was used to prick the soles of the feet, he made no response. The spinal fluid was taken and agreed with the standard findings for anterior poliomyelitis. There was no time wasted in withholding the Treatment, as the back was becoming paralyzed too, and his screaming was getting worse. Two cc of the same Reagent and dilution was used here too, at 11 a.m. By 2 p.m., he was more comfortable, the vomiting ceased, and the headache and pains were yielding. At 7 p.m., he could move his legs, the fever had left, and he ate a light supper.

The next morning he could walk to the bathroom. The recovery was rapid after that. He suffered a reaction during the third week, with chills and fever for three hours, and with pains in the spine and legs. This showed there was some symbiotic integration, as always occurs more or less in the lytic type. But here the violence of the spread of the infection, the very unusual fever and pulse, indicate a predominantly lytic infection and this is confirmed by the rapid recovery.

ACUTE POLIOMYELITIS WITH COMPLETE PARALYSIS OF BOTH LEGS TREATED WITH THE REDUCTION AGENT

Miss N.L., nurse, age 33, took sick on August 16, 1947, with the usual prodromal symptoms of terrific pains in legs and back, nausea, headache, and stiff-ness in both legs. On August 19 at 4 p.m., both legs from hips to toes went flaccid and failed to support her; she could no longer move them. The other

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symptoms either stayed the same or became worse. The writer saw her at 11:30 p.m. that day and found a flaccid paralysis of both legs from hips to toes and noted the other symptoms. There were no tendon reflexes and a sharp instrument used to forcibly prick the soles of both feet brought no movement, whatsoever. She was given one millionth of a microgram of the Reducing Agent in 2 cc. of water intramuscularly in the upper arm. The next day at 8 a.m., the mother phoned that she could move her legs and felt better in all ways; had slept some, and eaten a little. That midnight, I saw her again. She could stand and even walk, felt well, and was hungry. The recovery was complete in two days and all reflexes were normal.

A GENERALIZED SYMBIOTIC TYPE INCLUDING RESPIRATORY INVOLVEMENT

Florizinha, a girl of 6 years, showed a flaccid paralysis from head to toes. She could not move a finger or a toe, or speak even at a whisper. The respirations were too shallow to see. There was no voluntary muscle action and no muscle action was observed in all attempts at eliciting reflexes. She was in the Hospital Jesus of Rio de Janeiro, for four weeks before she was brought to the ward as a "sequel case" to receive this Reagent. The Reducing Agent was given in the usual dose of one millionth of a microgram, dissolved in 2 cc. of water. Two weeks later, when making the next visit, she was seen sitting on the edge of the table swinging her legs and waving her arms as she laughed and joked with the other children. Her recovery was complete and rapid. This was a totally symbiotic infection that involved the whole spine without any lytic complications, whatsoever. Many sad cases of invalidism depend on the same type of infection.

INFECTIOUS HEPATITIS, ACUTE LYTIC TYPE INTEGRATION

This is generally a lytic type of integration with occasional chronic symbi-otic cases. Since the liver parenchyma is able to reproduce its cells and com-pensate for those injured, the disease is not fatal except in rare cases. The signs of rupture of the integration lay with the speed of recovery after the Reagent is administered, as compared with the usual course. It will be seen that the disease progress is stopped immediately, though the elimination of bile adsorbed into the tissues, takes a few days. Two cases will suffice. Every case treated so far responded ideally.

J.H.C., age 13, student, consulted Dr. J. Treiger giving a history of having drunk water suspected to have been contaminated fifteen days earlier. He developed abdominal pain and the urine was loaded with bile. There was deep jaundice and profound drowsiness. He was subfebrile. Blood examina-tion on February 5, 1959, showed Bilirubin 5.83 mgms.% (Malory and Evilin), the Van den Bergh was immediately directly positive, the cephalin-cholesterol positive, and the thymol flocculation positive. He was given the Oxidation Reagent on February 5th, two millimicrograms in 2 cc. of water intramuscularly. In two days, he felt much better and the jaundice had faded considerably and there was no pain or other disturbance, but for all traces of the bile to disappear, it took over two weeks. The tests were repeated and all were found normal then.

INFECTIOUS HEPATITIS SYMBIOTIC TYPE WITH SUDDEN LYTIC CHANGE FULMINATING TOWARD A TERMINAL STATUS

Miss S.M.L, consulted Dr. J. Treiger on May 4, 1959, prostrated, with nausea, feeling like a drunkard. She had a fever of 38.8°C., muscular pains, halitosis, and facial neuralgia following a feast on seafoods. On May 8, 1959, the fever was gone, likewise, the muscular pains, but there was a severe pain in the gall bladder. On May 11, 1959, the blood showed Bilirubin 5.95 mgms. %, Van den Bergh strongly positive immediately 3 plus, cephalin-cholesterol (Hanger) three plus, thymol turbidity 7.5 units, thymol

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flocculation (MacLaglan) posi-tive 3 plus. That night she was much worse, fever 39.5°C., extremely agitated, fear of death, hallucinations, and delirium. She was then given two millimicro-grams of the Oxidation Reagent after the agitation gave place to a new phase of prostration bordering on coma. Improvement was evident in 48 hours with lowering of temperature, and return of appetite and bowel functions. Steady improvement followed and on June 17, 1959, the blood showed Bilirubin 1.02 mgms.%, Van den Bergh delayed weakly positive, cephalin-cholesterol negative, thymol turbidity 5.5 units, and thymol flocculation negative. On July 10, 1959, during the ninth week reaction following the Treatment, there was violent nausea and dizziness. She was given another dose of the Oxidation Reagent and improvement was apparent in three hours. Two weeks later, the blood test showed a normal Bilirubin of 0.41 mgms.% and all other tests were negative. During the twelfth-fifteenth week reaction period, there was an intestinal upset that cleared up quickly and during the 27th week reaction period, there was a pain in the left lobe of the liver. After that she remained normal. These reactions show that a symbiotic integration of the virus was present, as well as, the acute lytic type that fulminated to cause serious mental symptoms.

RABIES

This one hundred percent incurable disease has yielded like all other viral infections treated so far. Twenty years ago a rabid coyote caused the infection in a physician and in his horse on the plains of Montana. Both were treated with the serial system of Carbonyl groups after they had reached the convulsion stage. The recoveries took exactly as long as the time of develop-ment of the symptoms, three to four days. Some dogs were treated in the Army Hospital for small animals in Rio de Janeiro with encouraging results, also, and finally an epidemic of rabies in 1955 brought on by vaccinating costly zebu cattle gave the best chance for observation. Only the lytic type is known and from the earliest symptoms where swallowing is paralyzed it takes four days or less to terminate. Terminal cases took the same length of time to recover.

In this epidemic, 60 cows were vaccinated with the Fluery type live vac-cine. Forty died typically and were proven rabid by autopsy and inoculation tests. Twenty were still alive when the writer arrived at the Fazenda. Of these, thirteen were treated and seven were held as control material, but were used for study in ways that would not interfere with the course of the disease. The controls all died typically and were proven to be rabid. Of the thirteen treated, eleven recovered. The two that died did so within an hour of receiving the Remedy, as they were about moribund when treated. One other case like the two that died was able to make a recovery. It illustrates the recovery course and demonstrates, like the other ten, that recovery of nerve cell function depends upon cell reconstruction, a reversal of the pathogenesis in which the energy and material taken from the host cell during viral vegetation is returned for host cell reconstruction. A perfect reversal of a reciprocal nature is, there-fore, observed. This suggests, but does not prove that the virus uses the host cell's enzymes during the pathogenesis, as well as, by the host cell during its reconstruction.

All cows treated showed paralysis of swallowing, some had severe tort-icollis and spastic convulsions and others could stand on their feet, but if pushed would fall and not be able to get up without help. One animal treated at the end of the third or beginning of the fourth day of symptoms was unable to stand and showed the typical tonic convulsions. It lay paralyzed in the same condition for four more days after Treatment and was badly dehydrated at that time. The government veterinarian thought best to sacrifice the animal to get better autopsy material and save it more suffering. He, therefore, had it dragged to the truck, but when the attempt was made to hoist it into the truck it kicked up a fuss and tried to run away. The Fazenda veterinarian happened by and seeing the animal show coordinated movements, he ordered it let loose, led it to water where it drank greedily and was then chased to pasture where it ate its way back

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to good health. The point here is that, in the four days of progress of the symptoms and the paralysis before Treatment, the nerve cells had reached a state of advanced destruction, but were not dead as yet. The energy taken by the virus through its integration with the FCG was able to support its vegetation and the autolysis induced in the host cell supplied the material for the viral vegetation. After the Treatment, the situation was reversed to a complete reconstruction in the same time required for the host cell destruction and provirus colony formation, for at the end of that period, the cell was able to function normally again. This is what happened in all of the eleven cases that recovered and the time relations indicate that the Reagent used to reverse the pathogenesis, did not attack at the point of integration of the virus, but at the most exposed unit, which would be the last one laid down in the co-polymerization of the viral nucleic acid units that constitute the essence of its central or pathogenic part. The oxidation would be induced there by the Reagent as described and the separation of the last laid down unit would make it available for host cell reconstruction, into the very place from which it was taken during the host cell lysis. The energy liberated by this oxidation must be able to pass on to the host cell to serve its reconstruction, for so long as the FCG is occupied, it cannot produce energy. Thus, the successive steps of splitting off each unit of the virus provide both energy and material for the host cell's reconstruction. The indication then is that the nucleoprotein part of the viral colony is made up of host cell's nucleic acids, which can excite no serological reaction of immunity, though it is the pathogenic part. The energy is that supplied by the host cell originally, as well as, the enzymes concerned. This clarifies the fact that after integration, no serological effort can rescue the cell. One is, therefore, tempted to look upon the origin of the virus center as of a nonspecific material taken from and common to animal cells and workable by their ferments.

The protein capsule is made of other material built on by the nucleoprotein center and is specific to each variety of virus. It has immunological, antigenic, properties. Cleavage of the viral nucleoprotein from the FCG results in restored structure and function and thus overcomes the pathology.

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PARALYTIC DOG DISTEMPER

While rabies is a 100% fatal example of the lytic type of viral integration, paralytic distemper is a 100% fatal expression of the symbiotic type. It has responded with 100% restoration of function in 90% of cases treated by the Oxidation and the Reduction procedures, outlined here in private practice. In the Treatment of all cases that came along, with care left to the owner, the Army Hospital for small animals secured an 80% recovery rate in two hundred cases in all types of distemper. ("Veterinaria," Vol. IV, No. 1, p. 21, 1950, Colombo and Carneiro.) (12)

A typical case is that of the pointer, Singe, age 10 years. He was treated with the Oxidation Reagent on October 14, 1960, after he had become paralyzed in the right half of the torso and the left back quarter as the pictures show. The prodromal symptoms of trembling, loss of appetite, and sadness, lasted two weeks and the paralysis was of two weeks duration, before the Treatment was given. There was visible atrophy of all muscles concerned. The veterinarian offered to sacrifice the dog, as it was a hopeless case. The recovery took two weeks to overcome the paralysis and in two more weeks the atrophy was repaired as well, and the dog perfectly well. This was an early case and the reversal of the pathogenesis took as long as its development. Cases created with the Reduction Reagent showed no difference in their recovery percentages or course. Restoration of function of the paralyzed milk producing cells takes twenty-four hours after either Reagent is used in cows treated for hoof and mouth disease. (13)

CANCER

Warburg's Thesis on tissue oxidation is well known and his report on anoxia as the etiological factor in cancer (14) demonstrates this fact. He, however, does not explain how anoxia produces cancer and concludes that the pathology is irreversible. Our Thesis shows the essential place of anoxia in the pathogenesis, as it provides for the integration of a co-factor the pathogen or virus, with the host cell's functional mechanism via free radical additions or azomethine condensations. We have demonstrated for decades that the pathogen can be separated from the host cell by the two mechanisms of cleavage — one at the position alpha to the activating double bond, and the other by cleavage through the double bond itself. Excess tissue of the tumors is placed in a position for normal function, but being in excess, it is digested and absorbed like a blood clot, and thereby serves as nutrition. (Koch, Cancer Journal, October, 1924). The pathogene-sis is thus reversed!

Warburg suggested that the mitogenic energy comes from glycolysis and it seems reasonable. However, our experience allows us to conclude that it arises in the polymerization of incompletely combusted metabolites (produced by germs trapped in an anoxic scar) that have entered the host cell and integrated with the mitotic mechanism, or by the energy arising in the polymerization or a part of a provirus that has integrated with the host cell's mitotic mechanism. We have observed in our earliest experience that when cancer is given small, rapidly polymerizing, unsaturated free radicals, their growth is terrifically stimulated by the energy, so liberated. Whereas, if a large, inert, free radical is given, their growth ceases and involution sets in. Here polymerization has been terminated and the source of energy is cut off.

Synthetic carcinogens serve as the initiators of the co-polymerization of the bacterial metabolite or provirus during anoxia, when the free radical formed by its dehydrogenation at the hands of the FCG adds to one pole of the double bond that activates the FCG, and the free radical thus formed at the other pole adds to the unsaturated ethylenic linkage of either pathogen, thereby producing a free radical that continues the polymerization, as an end to end process. Very little energy is required for mitosis, and the energy liberated by slow polymerization should be sufficient, especially as it is liberated in the energy generating mechanism. The removal of each pathogen involved requires oxygen and an efficient dehydrogenator, as we explained earlier.

METASTIC CANCER OF THE BOWEL

Mr. J. K., age 42. The pre-treatment control period extended from September 10, 1941, when the condition was so poorly developed that it was given a diagnosis of diverticulosis of the colon with a ruptured abscess at the Henry Ford Hospital of Detroit. By February 3, 1942, it had developed a bowel obstruction, which the X-ray revealed to be a cancer of the splenic flexure of the colon, which had already obstructed completely and had perforated. A colostomy was done on the ascending colon, as the left half of the abdomen was fully occupied by the neoplasm. By February 24, the extension occupied the whole abdomen and had perforated the belly wall in several places, showing large and small cauliflower growths with central necrotic festulous openings that discharged feces and extremely putrid material. Practically the whole belly wall was thus invaded. The biopsy taken from the fistulous invasions showed—Gross Pathology: Pathological diagnosis 101.62, John K., February 27, 1942.

“The specimen consists of a piece of skin measuring 14 x 14 axis. The central portion is destroyed and partially filled by a friable grey tumor mass which involves the underlying structures and has been cut through upon removal. The tumor shows extensive necrosis. The edges of the specimen are cauterized.

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“Microscopic: Sections show a tumor mass invading the subcutaneous tissue. The normal epithelium is absent over the mass. The cells of the tumor are large, hyperchromatic and show many mitotic figures. Poorly differentiated tubular glands are formed by these cells. The massive necrosis affects large areas of the tumor.

“Diagnosis: Metastatic carcinoma of the colon.” The voluminous Henry Ford Hospital record gives much more data, showing that the invasion of the neoplasm was so extensive that it was impossible to cut through the abdominal wall. The retrogression from a strong man at work, of 180 pounds of good muscle to less than 135 pounds and bedfast from September 10, 1941, to February 27, 1942, took less than six months. A half dozen new fistulous cauliflower masses formed in and about the area that was operated, discharging even more offensive necrotic pus.”

Then the Henry Ford Hospital experts wrote in his case record — “This is an entirely hopeless case.” He retrogressed still more rapidly to April 1, 1942, when he was sent home to die. On the way home, by ambulance, he received 2 cc. of the Oxidation Reagent intramuscularly. One month later, the dose was repeated.

“Post Treatment Progress: The interim report of the Henry Ford Hospital as recorded by Dr. Bohr, August 28, 1942, five months after he left the hospital and was given the Oxidation Reagent states: Case No. 342016, John K.:

“Patient left hospital April 1 of this year with a diagnosis of fungating cancer of the colon and a terminal prognosis. On the way home that day he received one of Dr. Koch’s Cancer cure shots. On July 1, he weighed 113 pounds, but from that time on he began feeling stronger and gained weight. By the middle of July, his wound was completely healed. He weighed 175 pounds at the end of July and he has maintained his weight ever since then. He enters the hospital now, after being back to work for three weeks, for first stage of colostomy closure.”

The history shows that the bowel functioned normally through the rectum at this time, so the colostomy was successfully closed and at the time, no cancer tissue was found on exploration. His health returned. He gained to his normal weight and strength and annual examinations for over a five-year period showed the recovery was permanent. The recovery rate is proportional to the pathogenesis rate, which we have found to characterize the 100% fatal viral diseases. Characteristic of the healing by this recovery process, no scar tissue was required to accomplish the tissue reconstruction, because the infection is cleared away with the cancer cells and healing can take place by first intention, without scar.

SARCOMA OF THE BONE

Mr. H. B. had pain in his right shoulder in July 1934. In August, he threw a ball and the pain became severe thereafter. He went to the University of Michigan Hospital for care. Radiographs showed a destructive involvement of the upper half of the humerus, the scapula, and clavicle. There was a tumor behind the scapula the size of half an orange and a smaller one of the same consistency near the spine. Biopsy, blood, and urine, analysis ruled out all conditions as giant cell sarcoma, Paget’s disease, multiple myeloma, etc., and both the soft tissue tumor and the invaded bone showed it to be an endothelial cell sarcoma, a spindle cell hemangiosarcoma. This is a slow growing neoplasm, but always fatal according to Ewing and other experts. One can contrast the pathogenesis and recovery rates here with those of the former case.

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He was given a hopeless prognosis at the University of Michigan Hospital. The findings of the University Hospital experts were confirmed. He was given the Reduction Reagent intramuscularly, two millionths of a microgram on September 17, 1934. The recovery reactions did not appear until the twenty-fourth and thirty-sixth week after the Treatment. These were fever, greater sensitive-ness and grippiness, which lasted from three to four days each. The general health returned and the arm became useful again and normal. Radiographs taken in August 1942, showed complete healing of the lesions with denser bone than is normal. It is to be noted in this case, that the disease is one characterized by decalcification of the bone; the reversal of the pathogenesis shows an intense re-calcification of all the reconstructed bone tissue. This situation should be compared with the healing of bone destroyed by gangrenous diabetes where normal bone structure is restored, but the bone tissue itself, is not greatly denser than the normal bone. It is the actual pathogenesis that is reversed. He remained cured for over a decade and was lost track of in 1948, when the writer left the United States for work on viral diseases in Brazil. It is seen that the rules of recovery hold here with the Reducing Agent as are seen in recoveries obtained by the Oxidation Reagent.

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image016.jpg>

Radiograph II, showing condition after full recovery.

<http://www.williamfkoch.com/texts/neoplastic/FIXEDNEOVIRAL_files/image018.jpg>

SQUAMOUS CELL CARCINOMA OF THE CERVIX UTERI GRADE W

Mrs. M. W. received the Oxidation Reagent in the same dose as the J. K. colon case. It was also a most malignant invasive growth.

She was examined by three physicians, led by Dr. Loeffler, on January 12, 1940. He reported: "Her cancerous condition would probably, if untreated, end her life within a year. Because of the fixation of the uterus and the involvement of the adnexia, it is my opinion that it was not a surgical case, as surgery would have to be too extensive. It was too late for that sort of thing." It had already entered the cachexia stages, Dr. Loeffler stated, "She had lost 30 pounds in six weeks, complaining of general weakness, and had a rather poor color at the time." Examination showed it had broken through the pelvis and entered the abdomen.

Dr. Loeffler gave the Reagent on March 20, 1940, December 30, 1940, and in October 1941. His examination made a year and a half later in the summer of 1942, recorded: "She had gained weight; she had gained color and improved in appearance. The mass in the abdomen had subsided to the extent that I could no longer palpate it. The appearance of the cervix by examination with the speculum appeared normal," Before Treatment was given, she was taken to the Medford Hospital where a biopsy was taken. The diagnosis by Dr. Green, the Hospital pathologist, was "squamous cell cancer of the cervix uteri." But because of its highly malignant characteristics, it was sent to Dr. Hunter, the Professor of Pathology of the University of Oregon. He gave the following diagnosis: "I see a decidedly invasive and anaplastic carcinoma, which occupies well over half of the tissues." It was graded four, which would be the highest degree of malignancy that is recognized. The specimen was submitted later to Dr. Weller, the Professor of Pathology of the University of Michigan. He reported as follows: "Prepared section # 2751, our 3823-LAW. Tissue from cervix: Medullary squamous cell carcinoma of poorly differentiated type. Histological Grade IV." December 7, 1944.

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There was considerable interest in this case and to make sure of her status she was given a laparotomy on June 1944, by the surgeon, Dr. Haines. He found her pelvis normal with a small fibroid attached to the body of the uterus. The cervix was found to be perfectly normal and was left in its place. The body of the uterus, with the fibroid, was removed and given a careful serial sectioning for a careful search for malignant cells. Dr. Innskeep, the pathologist, reported there were no cancer cells found in the body of the uterus or in the fibroid. Thus, she was found cancer free by the most rigid test, in her fifth year after being treated. Ten years after Treatment, Dr. Loeffler was called to see her just before she died. He attempted to do an autopsy, but found the lower bowel and surrounding area to be a necrotic mass that was too foul to be of use for a specimen. The odor would not permit it. He did not know the uterus had been removed and sectioned and found cancer free, but he signed the death certificate "death from cancer." His report to Dr. Koch was, however, that he did not determine what the necrotic affair was and could not say it was not a gangrenous diverticulosis. The case teaches that cancer can be reversed to normal in about the same time it took to develop and a malignant or equally serious pathology can start again, in the same position many years later, when the hygienic conditions are very unfavorable, as they were in this case.

SQUAMOUS CELL CARCINOMA OF THE CERVIX

Mrs. T. was 31 years of age in August 1923, when because of serious bleeding from the uterus, pain in the abdomen, back, and in her legs because of compression of the urinary bladder; she appealed to Dr. Tupper for attention. His examination found an inoperable cancer of the cervix uteri. He took a biopsy. The laboratory report reads: "August 1, 1923; tissue cervical. Sections show an atypical proliferation of squamous epithelial cells, which have markedly infiltrated the underlying tissues. Diagnosis: Squamous cell carcinoma (epithelioma). Signed, R. G. Owen, Owen Clinical Laboratory."

Examination by the writer revealed a fixed mass involving the uterus, and adnexia in both the bladder and rectal walls. The normal landmarks were obliterated and the mass extended into the abdomen, one-third the distance to the umbilicus. The pelvis was "frozen" by the extensive infiltration. The history showed that she was unable to carry a child to term and always aborted. She was anemic, weak, with a yellowish tinge, and suffered much pain. The changes developed rapidly. Two doses of the Oxidizing Reagent were given in August 1923. In two weeks, definite improvement in pain, bleeding, and pressures were observed. During the twelfth and twenty-fourth weeks, there were reactions of pain, fever, and general achiness, as in the grippe. Thereafter, she normalized rapidly and after the 36th week she had lost all signs of the neoplasm, except that the cervix though healed was deficient on the right side. This was normalized before the first year had passed. Then she was pregnant and in term had a normal delivery of a normal child. Every two years later, she had another normal delivery of a normal child until four were born. There were no more miscarriages, as she had a normally constructed and normally functioning uterus. The pathology was completely reversed. She is still in perfect health over 39 years after being treated.

One sees that the grade of malignancy can be gauged by the rate of recovery—the speed of the reversal of the pathogenesis. Our Thesis states that the Least Common Denominator of the pathogenesis is of the same pattern as that of the recovery mechanism; it would, therefore, be anticipated that the recovery process would share the characteristics of the pathogenesis in reverse.

MALIGNANT SYMPATHOGONIOMA

Baby John L, age 13 months, developed a tumor in the abdomen that required exploration on September 25, 1951. A retroperitoneal growth was found, which could not be removed. The biopsy diagnosis read: "Immature type tumor of neurogenic origin, Sympathogonioma." The tumor developed rapidly, thereafter, so that it caused a visible bulging of the abdomen in two weeks. A mass as large as a grapefruit could

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easily be palpated in the umbilical region with diameters of ten to fifteen centimeters. The red count was 2,300,000 and the hemoglobin 52%. On October 7th he received 2 cc. of the Oxidizing Reagent containing 2 millimicrograms of the serial system of Carbonyl groups. The recovery was rapid and in a year he was back to normal in all respects. No growth could be palpated. On May 5th, while in good health, he was run over by an automobile and sustained severe leg and abdominal injuries. While in the hospital, he was examined by the same surgeon, who had made the exploration and biopsy. A most careful examination could reveal no trace of the former tumor. He made a nice recovery and is still well. The blood examination on April 5, 1953, showed red cells 4,750,000, Hemoglobin 87.5%. He still remains in good health; Dr. Julian F. Baldor was his physician throughout.

LEUKEMIA

The more typical the case; the quicker the recovery in this disease. The reversal has only the primary disease to overcome. The terminal exhausted case can recover fully, but the secondary injuries, call for more time for complete reversal. The two following cases illustrate:

P. F., age 12, Treated January 8, 1956, by Dr. A. Guzman. The symptoms were classical with subcutaneous hemorrhages and bleeding from the mouth, etc. The red count was 1,500,000 and the white count 232,000 with lymphocytes in great predominance, both large mononuclear and immature forms. The spleen and lymph glands were enlarged, mediastinal dullness increased, weakness, etc., and a rapid decline in health. The Reducing Agent was given in a dose of one millionth of a microgram. The response was rapid with periodic reactions of chills, fever, and general achiness, as characterizes the recovery from cancer. In August 1956, he was perfectly well in every respect. The platelet count was 350,000, the red cells 5,100,000, and the white cells 7,200. This case should be contrasted with the following case of Teddy S.

LYMPHATIC LEUKEMIA WITH TERMINAL EXHAUSTION

This patient was referred to Dr. Julian Baldor in February 1949. Teddy S., age 14 years, with a diagnosis of lymphatic leukemia chronic established by bone marrow biopsy, by Dr. C. The white count was only 15,000 showing the degree of the exhaustion, the hemoglobin was 40%, and the red cell count was 2,150,000 in spite of blood transfusions, which numbered 57. Hemorrhages in the skin and gums were profound and typical, the liver was enlarged, and the spleen was greatly enlarged as were the lymph glands; the weakness, pains in the legs, and the high lymphocyte count six months previously had established the diagnosis, at that time. Since then, he retrogressed steadily until he was unable to walk, was seized with pain and fright, depressed, bleached out, and very weak, fever 102°.

He was placed on the usual vegetarian fruit diet at the start of the Treatment; he was given the Oxidation Reagent by Dr. Baldor, 2 cc. of the one to a trillion dilution and all blood transfusions were stopped. The hemorrhagic spots, which were profuse started to subside and change color within a few days; his disposition improved to one of cheer. In nine weeks he was able to walk, had gained twelve pounds in weight, the red cell count was 3,350,000, hemoglobin 52%, and the white cells were 8,000. At the twelfth week, he had a reaction showing slight pains in the legs and a little epistaxis. The blood count then showed 4,000,000 reds, 6,500 whites, hemoglobin 72%; he had gained twenty-five pounds in weight and his spleen, liver, and lymph glands were again normal without even one blood transfusion after Treatment. Thus, the pathogenesis was reversed in every respect.

At the age of 21, he was examined for the military, and classified as IA. He is married and has a healthy child.

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The inhibition to the bone marrow's use of energy was corrected, evidently. Other cases of leukemia have conformed to these two extremes in pattern, both in the pathogenesis and in the recovery, no matter which of the two Reagents was used. The best response is not had simply in early cases, and the location does not determine the outcome either.

For example, in brain cases that are completely diagnosed by exploration and biopsy, the recovery rate, after being treated in the advanced stages, is five cures out of a series of seven.

In the cases treated as an "official test in 1919" of the five far-advanced, widely-metastasized cases, three were cured and a fourth case, who lived too far away to be examined, sent new patients to the writer five years after he had received the Treatment. So the percentage runs about 75%. This is a sufficient recovery rate to eliminate any delusion that these recoveries are spontaneous from some unknown cause. They are partly spontaneous, no doubt, for the recovery is brought about by the patients' own resources after the pathogen is burned off of the functional mechanism, by one of the two Reagents described. Therefore, it is a matter of inducing a spontaneous recovery and this mechanism is plainly set forth, whereby, the pathogen is burned off of the host cell's functional structure. Prof. Wm. Boyd (14) defines spontaneous regression of tumors as, "occurring without a recognized adequate external cause." In Boyd's sense, then our recoveries are not spontaneous, since they were repeatedly induced by adequate external agents. However, the removal of the pathogen was induced and the digestion and absorption of the tumors and the healing with normal functioning tissue was not accomplished by external agents, but by the body's own resources. So these are induced spontaneous cures. The parasitism was corrected. The normal physiology is restored.

REVIEW OF CARCINOGENESIS AND ALLERGENESIS

As we have seen, the cause of cancer is a multiple affair in which anoxia and two pathogens are the principle actors, and the same pattern holds for the production of the allergies.

The only difference is that in cancer, the basic functional cell unit attacked is the mitotic mechanism for cell reproduction. We have classified cancer as an allergy of the cell's mitotic mechanism decades ago (Natural Immunity, 1934, Christopher Publ. Co. Koch).

In the respiratory allergies, the secreting mechanism and contractile mechanism's energy producing and receiving FCG's, and their activating double bonds, are concerned.

In the neurological allergies, as epilepsy, compulsory neuroses, and fixed ideas, the conductile mechanism's energy producing and receiving FCG systems, and their activating double bonds, are attacked.

The energy for excessive action of an allergy or neoplasia is not received from the normal sources of oxidation nor even glycolysis as Warburg suggested, for the FCG of energy production and acceptance is blocked by the pathogenic additions.

We conclude that the energy comes from the polymerization of one of the pathogens integrated with one terminal of the FCG activating double bond as a free radical addition.

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In the case of cancer and any other allergy, the pathogen is a virus or a polymerizing toxin produced by bacteria trapped in the scar of an old infection where ischaemia protects it from oxidation. This pathogen is the sustaining toxin, which may be difficult to differentiate from a virus, or a bacteriophage living in symbiosis with the germ and paralyzing its activity, instead of causing its lysis. When it gains entrance into the blood stream and into the host cell, its critical double bond adds to the distal pole of the FCG activating double bond, which has become a free radical through addition of the free radical offered by the exciting or sensitizing pathogen to the proximal pole.

The sensitizing or initiating pathogen may be a synthetic carcinogen that has been dehydrogenated by the FCG during anoxia, or the free radical of an incompletely combusted metabolite, a dehydrogenated sulfhydryl bacterial product, or a free radical produced by sun rays in the polymerizing units of a maturing pollen. The latter would be the initiating pathogen in hay fever or asthma.

When it adds to the proximal pole of the FCG's activating double bond, the free radical formed at the other pole can co-polymerize with the sustaining pathogen, as just stated, whose energy liberated by polymerization forces, either an excessive uncontrolled mitosis (cancer), or a function, such as an allergy.

The smaller the molecule, the greater the content of double bonds, the more rapid the polymerization, and the greater the amount of energy produced, and hence, the more intense the pathogenic action, whether it is as an allergic affair, or as a neoplasm.

The initiating toxin could be one of the sulfhydryl products of certain bacteria, trapped within occluded tonsillar crypts, the apical infection of teeth, or some occluded scarred sinus of long standing. Sulfhydryl readily forms free radicals upon dehydrogenation by the FCG; and it also has the ability to add to the double bonds of ethylenic linkages conjugated with Carbonyl groups. It can therefore interfere with oxidations in several ways, for it can inactivate the quinone type co-enzymes as Co-enzyme Q-10, which is an electron carrier or transfer agent. As when one closes a culture of such bacteria taken from a focus of infection, just mentioned, it soon shows the development of malodorous mercaptans. In like manner, it may also add to the FCG's activating system to initiate pathogenesis.

To show that the focal infection of long standing is a factor in carcinogenesis, a typical case history will suffice. This woman was then 56 years of age and her case history was included in the Testimony before the Federal Trade Commission in 1943, as a demonstration of the nature of the recovery process after the Koch Reagent was given. The uterus and most of the pelvis and lower abdomen were involved by 'a biopsy proven' cancer of the uterus; the right breast also presented a massive cancer of the simplex type, which extended into the axilla. There were numerous metastases to the skin, as well, when she received the Koch Reagent in 1938. Recovery was in evidence within three weeks and continued with reactions at the twelfth and twenty-fourth weeks, and by the end of the twenty-fourth week, the absorption of all growths was complete; but an acute, violent, inflammation of the tonsil and lymphatics on the right side of the neck, set in at this time. She could neither swallow nor speak for about a week, then it quickly subsided and she felt very well in all respects. When describing her symptoms, she stated that she had the very same thing happen some 20 years earlier, and her health was never as good afterwards. During that attack, she could not speak or swallow, otherwise, both symptomatology were identical, except that this recent attack left rapidly, leaving her in exceptionally good health.

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Here we have an example of the reversal of the pathogenesis as the essence of the recovery process. The first symptom in the initiation of the disease was the last symptom to be brought to light and its causative pathology cleared away at the wind-up of the correction process.

The interpretation is what we have offered since 1926; During the recovery the de-polymerization of the sustaining pathogen was going on and finally when the growth was gone, the monomeric form of the toxin only was present to produce the same symptoms, as it did when the germ (and its virus) infected the tonsillar area and produced the original inflammation and its subsequent cicatrization.

Both inflammatory reactions to the monomeric form of the toxin were identical, except that the recovery reaction induced by the corrective Reagent burned away completely the infection with its toxins, once adsorbed in the protective scar tissue. These were also burned away, so that the scar tissue became obsolete and was absorbed like the neoplasms, themselves. The correction was therefore complete for no scar tissue was needed after the toxin was burned away.

The completion of the recovery from diabetes with its gangrene conforms to the same pattern. Here the block to FCG's function of energy production and acceptance left the islet cells unable to produce insulin and the evolution of the pathology that followed included bacterial infection of the ischaemic bones, which then under-went necrosis. The recovery process removed the basis for this infection and the infection left so the bones could be restored in minute detail. The radiographs demonstrate this. The pathogenesis patterns, as outlined here, need not be rigid and must conform to the attending circumstances. They are in harmony with the clinical experience and the established facts of physiology and chemistry, and therefore, are a guide to successful Treatment, which after all, was the goal of 50 years of investigation.

Healing without infection or scar tissue also permits the parenchyma to be redeveloped, so that the injured and defective organs are reconstructed to their normal architecture and function. Thus, the uterus can bear children normally, the stomach can do its normal digestive work, and the bowel can again function, as it was intended to do. Likewise, the bone is restored to do its supportive skeletal work with increased strength and structural density. The complete text should be consulted for more examples.

THE DIET

The diet is completely devoid of animal proteins as meat, eggs, fish, milk, except in cases where buttermilk (Yogurt) is allowed.

Fresh green leafy vegetables, raw or cooked, are preferred. One eats the whole vegetable, the turnips and also the leaves, and the same with cauliflower, beans, radishes, and all other vegetables. They must be well washed; like-wise, all fruits may be eaten but are to be well washed. The citrus fruits must be smelled before they are eaten, so as to avoid the terpenes in the outer shell.

Cancer patients should use no citrus fruit until the growths are absorbed, nor should they eat grapes, until the recovery is completed. This is because tartaric acid is a robber. Instead of being burned in the body like citric acid, it combines with calcium and other important salts to carry them out through the urine. However, bananas are an ideal fruit as are apples and one can eat them to their heart's desire.

Cereals, as whole grain rye, wheat, and oats made into a porridge or bread, fully ground so as to be more digestible, and these should be used plentifully. Wheat germ should be a daily ration as it supplies blood forming materials, trace elements, and vitamins of the B class. It has good regulatory action on the bowel.

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Since people are often not instructed as to the protein content of vegetables, cereals, and fruits, this should be examined.

PROTEIN FOOD SELECTION

Let us compare the protein content of meats, vegetables, and fruits. One pound of raw, boneless beef or 453 grams contains 84.5 grams of protein. Beef with bone offers 73.5 grams of protein and beef ground into hamburger contains 73 grams. One cup of rye flour, 80 grams, contains 7.5 grams of protein, or about 43 grams per pound. This is about half the protein content of average meat. Besides, it offers the important tissue salts. Nuts carry 9 to 10% protein; milk contains only 3.5%, liver 20%, and dry lentils 25%, lettuce and cabbage about 1.5%. One hundred grams of peanut butter has 26.1 grams of protein. Breads run about 2% protein, Brussels sprouts about 4%, potatoes 2.4%, peas about 23%, beans 21.4%, and nuts 9 to 10%. The actual protein content of easily accessible edible plants is as high as that of meat often enough.

Thus, since the daily requirements of an average size man doing light work is only 0.3 grams per day per kilo body weight, or for 80 kilos (170 pounds), 24 grams per day; therefore, a good bowl of pea or bean soup, a slice or two of bread, a few greens cooked or as a salad would supply all he needs. But one also needs the salts, vitamins, unsaturated fats and carbohydrates. Bran or wheat offers 12.4% protein, 3.4% fat, 4.2% carbohydrates, 7.8% ash, and for each 100 grams, 94 mgms. calcium, 1.312 mgms. phosphorous, 10.3 mgms. iron, 0.37 mgms. thiamine, 0.39 mgms. riboflavin, and no ascorbic acid. Meat, likewise, has no ascorbic acid, but apples carry 5 mgms., bananas 10 mgms., and cabbage 50 mgms. Thus a mixed diet, according to taste without any animal products, will give all the nutrition one cares for or needs; and some articles as beans, peas, and nuts, should be eaten sparingly, especially peanuts because of their high arginine content. Yeasts, the richest sources of vitamins, are taboo because of their high diamine toxin content.

The practical meaning of the vegetarian diet is seen in the cases of the leukemia blood depletion, where 50 transfusions could not keep the blood up to a normal or even half of a normal level, but without even one transfusion, each of these cases gained to a normal blood count only on vegetables, fruits, and cereals, without any medications whatever. Their gain took a few months, but it was observable within one month after the Treatment was given and the diet put into action. Mr. J. K. gained two pounds a day for a month. Mrs. Mac A. did as well and so have countless others.

On this same diet patients have reduced to a healthier weight after the Treatment gave the oxidation they needed. So diet and oxidation capacity determine tissue efficiency and health. Nature is always beautiful when unimpeded. It is joyous and rewards one for dietary care.

Early in our experience, we noted that patients whose homes were in Mt. Clemens, just 20 miles from Detroit, did not do well under Treatment for cancer after they returned to their homes. The recovery process was reversed. This we found was due to the sulfides in the water, and we noted that asparagus that contains methyl mercaptan was as obstructive to recovery, too. The sulfydryl group adds readily to the double bond that activates the FCG of energy production and of energy acceptance, and not only is its function thus blocked, but the addition serves, as we believe, the synthetic carcinogens act to initiate carcinogenesis, as is explained earlier. Very small amounts of mercaptans are physiologically active. Methyl mercaptan is active in one part per 50 billion, and in more concentrated doses, causes blistering and paralytic effects. It blocks the production of rhodopsin in the retina from vitamin A. Like other sulfydryls, it can inactivate such essential electron carriers as the quinones now known to be oxidation co-enzymes. And they readily reduce Oxidizing Agents to become disulfides. They easily inactivate iodine

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and thus, cripple the oxidation mechanism and serve as do its sister compounds containing selenium, to block oxidations of surviving tissue slices in the Warburg Chamber. Needless to say, the diet and bowel hygiene must be guarded against the sulfydryl group, and groups that inactivate sulfydryl, will prove helpful in combating cancer. Potassium iodide, and such plants as the dandelion, and the chamomile flowers are thus good intestinal aids.

PREPARATION OF FOOD

Cleansing is important to get rid of the carcinogenic insecticides. Scrub with soap and brush and rinse very well; peel if necessary. Cook in stainless steel, Pyrex, copper kettles, or in the iron pot. Never cook alkaline or acid materials in aluminum, as they react with it and dissolve it, and it enters the body with the food and interferes with important chemical processes in the tissues. Eat moderately; masticate the food well; eat slowly and joyfully.

Water should be pure and free of poisons such as fluorides, selenium, and sulfides that block the tissue oxidations and ferment actions.

DISEASE PREVENTION AND CORRECTION REQUIRE ADEQUATE OXYGEN SUPPLY

After parathyroidectomy, the guanidine bases that formed caused a gelling of the blood colloids visible in the large veins as ante-mortem clots. In the fine tissue capillaries, the gelling blocked the flow of blood and led to the degeneration of the capillary walls and hemorrhage, — the hemorrhagic glomerulitis in the kidneys and the hemorrhagic degeneration of the liver and brain. But even before the injury had progressed that far, the colloids about and within the tissue cells were also gelled enough to block oxygen transport. How does this gelling come about?

The energy required to charge the tissue and blood colloids so they have a correct dispersion, fluidity, and adsorption power to carry oxygen and electrolytes is not supplied when the functional Carbonyl groups that initiate the oxidations for energy production are blocked by condensing with such tightly binding amines as certain guanidines and other amine bases. The sulfydryl group, indirectly, causes the same effect, as described in the text. The diminished carrying power for oxygen and reduced fluidity lead to hypoxia in the tissue cells, and then the free radicals formed by the dehydrogenation action of the Functional Carbonyl Groups have no molecular oxygen to combine, so they add to the closest double bond at hand, which of course, is the double bond that activates the Functional Carbonyl Group. In this way, the pathogenic integrations with virus, carcinogen, allergen, or incompletely combusted metabolites, are brought about. Where do these toxic amines originate?

They arise for the most part in the filthy colon, as a result of a diet on animal proteins. Old focal infections in the tonsils, appendix, fallopian tubes, or other areas, especially at the roots of dead teeth, are very often to blame. To defend the tissues from pathogenic anoxia, one must remove all such foci of infection and wash the colon free of its toxic contents. The diet must be changed to clean fruits, vegetables, and cereals, without any animal proteins whatsoever, as the Good Creator ordained. One great function of bacteria is to convert dead animal tissues into food for plants, whether the dead animal product is in the ground or in the colon. And it is certain that a large part of the ingested meat is not digested and absorbed completely before it reaches the colon. The toxins evolved paralyze the bowel wall and cause diverticulae. These hold putrid material for varying periods among which the toxic amines are transition bodies. Diamine oxidase present in the intestinal wall and liver combats them, more or less successfully. But in the presence of excessive sulfydryl groups also formed during the putrefaction, the diamine oxidase may also be inactivated.

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After the pathogen, be it a virus, carcinogen, or some allergen, has made the pathogenic integration, the need for oxygen in the diseased cells is all the more imperative, and removal of all sources of the pathogenic amines is the prime consideration. And, not until a good dispersion of the tissue colloids is had and a good oxygen supply is present in the diseased cells, should the Oxidative Reagent be given. For if it does not have a molecule of oxygen at hand to combine the free radical formed by each dehydrogenation, there will be no curative progression of oxidation, and the Reagent is given in vain. This also applies to the free radicals produced by the use of the Reducing Agent. So the first thing to do is clean the colon and remove any old focal infection that is practicable. Plenty of water must be used for thorough cleansing. At least two lavages are had per day.

To cleanse the colon a solution of 1% of sodium chloride or of sodium bicarbonate should be used. At least a liter should be held by the colon and it should be so manipulated that the fluid passes over into the cecum where most of the putrid material is held, often in diverticulae. But in old chronic cases of constipation, the crypts of Lieberkuhn are jammed full of fine sand-like deposits that hold the germs that develop the poisons. The bowel should be expanded by the enema to open these crypts and let their contents out.

It may take from 4 days to 2 weeks to get the colon clean when one is taking no solid food whatsoever, but only liquids as watermelon juice, sugar cane juice, prune juice, apple, or pear juices. Grape juice is not used and citrus fruits are not either, for reasons explained earlier. Vegetable juices are easy to prepare now with the modern kitchen appliances. Cabbage juice, carrot, and beet juices are very desirable. The variety is large. However, each object must be scrubbed absolutely clean with soap and water to get rid of all insecticides.

After a few days of this regime the patient feels better, and is happy to continue. Pre-malignant growths in the breast have been seen to disappear in two or three weeks on this regime, and even the pain from deep irradiation burns that scarcely yielded to large doses of opiates, has greatly improved. In other words, nothing is lost by following the regime and great gains are made aside from the preparation of the tissues for the action of the Reagent.

Prevention and cure of disease is not so mysterious as orthodoxy assumes. They depend upon definite chemical processes that are understandable and controllable over a broad range. They involve a new conception of the oxidation mechanism within the tissue cells, as dependent on the phenomena of -the Free Radical and the Double Bond without which the pathogenesis of the baffling diseases could not be interpreted, but which as we have shown introduces a new approach in pathology and in therapeutics. Just as the chemistry is most fundamental, so is the recovery process in its cyclic nature, the perfect healing, and the return of function, as even the most dangerous germs have lost their pathogenicity.

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The Dr. Koch Concept (For The Scientifically Knowledgeable)

Abstract: The Koch Concept (For the Scientifically Knowledgeable): A brief discussion of the three causative factors in cancer: a disposing factor responsible for the anoxia, an initiating carcinogen, and a supportive or propagative carcinogen. (1966)

Today the dominant and orthodox concept of treatment of disease is and always has been destruction of the patho-genic factor, the germ, the cancer cell, etc. Today it is known as the cytolytic (cell destroying principle). Only homeopathy has carried a different or constructive idea.

The Koch Concept exhibits some of the features of home-opathy, and is constructive and corrective. Thus, in the performance of this Therapy, germs and virus are not killed but are changed to their normal non-pathogenic status. Can-cer cells are relieved of their injurious factor and are given the chance to reconstruct to normalcy; the paralyzed nerve cells are cleared of the virus that has blocked their func-tion so the cell is free to perform its function again. Dr. Koch has used this circumstance to prove that the virus that had integrated with the nerve cell is actually removed, because as long as the virus occupies the vital positions within the cell, the cell function is paralyzed, and when function returns the virus must be absent.

There is also a principle in therapeutics, which combines the destructive idea with the constructive. For example, vaccines are killed germs or viruses, or very much injured germs or viruses and not in themselves able to produce a frank disease, although they have sufficient toxicity to ex-cite a contrary protective action on the part of the body. When injected, the body produces an anti-toxic substance that is protective. However, the protective power of the vaccines is very limited, and after viral infection has taken place, the response in a protective way cannot be elicited.

This is seen in the vaccines that are used against viral diseases in cattle. * It is seen in the Salk and Sabin polio vaccines, showing only protective action before infection has taken place, and sometimes even causing the disease they are supposed to prevent, but no curative action whatsoever is possible. Drug houses have paid heavily in suits brought against them for injury caused by the Salk and Sabin polio vaccines.

(* The Survival Factor in Neoplastic and Viral Diseases.)

It is well known too that once a virus penetrates a cell, that cell is doomed, since no known orthodox system of treatment can separate the virus from the vital part of the host cell by any amount of anti-toxic serum, vaccine, or other measure of that kind. This is because the atomic bonding between the host cell and the virus are so firm that once the integration is made it cannot be broken by any orthodox means. This firm integration between the virus and the cell takes place within one and a half minutes after the virus has penetrated.

With the Koch System the situation is different. He has worked out a Postulate as to the nature of the functional mechanism of the cell, particularly the chemical structure of the energy-producing and energy-accepting mechanism to which he concluded that the pathogens attach themselves to produce not only paralytic disease, but also all other disturbances of function. He has demonstrated that all classes of

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disease fall into the same pattern and hence, are under the province of action of his system of correction. This includes cancer, rabies, and other fatal viral infections, and focal infections whose toxins are the pathogenic agents in such metabolic disorders as toxic goiter and diabetes. This wide range of disease, according to his clinical demonstrations, depends upon interference with the energy production and energy reception of the functional units of the cell.

In order to work out the state of combinations of a patho-gen of any kind with the host cell, Dr. Koch had to identify the atomic groups of the pathogen that made the combinations. He decided that the pattern of combination is the same for all diseases he has investigated, and that one atomic arrangement and electronic disposition in the patho-gen gives it the power to make the combinations, and that two atomic groups associated together are essential to the energy producing mechanism and the energy accepting mechanism of the host cell. These he describes in detail in his reports, explaining the atomic groups and the electronic dispositions, the steric advantages, and the determining, bond strengths and the atomic distances that take part.

Dr. Koch identified the circumstances that disposed to the integration of the pathogen with the functional units. He found that anoxia was the disposing factor. In this finding the great Dr. Otto Warburg supports him but the rest of Koch's Theory is quite different from that of Warburg. The latter's proposal limits further progress in his clarification beyond the fact of anoxia, whereas Dr. Koch by demonstrating how anoxia works in detail goes far beyond Warburg who claimed that cancer was irreversible. Dr. Koch showed not only that the carcinogenic process is reversible, but also the process by which the reversal can be accomplished.

Let us take a look at one disease entity that Dr. Koch has explained — cancer. His exposition identifies three factors in the production of cancer; a disposing factor responsible for the anoxia, an initiating carcinogen, and a supportive or propagative carcinogen.

The disposing factor is a fungus found in all specimens of cancer. Dr. Glover identified it in 1923. This author found it in 1942. Dr. Irene Diller, a leading bacteriologist at the University of Pennsylvania, identified it in 1948. So it is well identified and, as Dr. Koch claims, its product, an amine quite similar to the amines of the antibiotic class used so widely in medicine that causes the gelation of the blood in the area that develops cancer as well as in the general circulation, and this brings about the anoxia required for the further evolution of the pathogenic process.

The initiating carcinogen is described by Dr. Koch as quite often a bacterial, nitrogenous product, amines and mercaptans, sulfydryl compounds that are easily dehydrated to form a free radical that adds to one of the atomic groups of the energy producing and energy accepting mechanisms. The group to which the sulfur free radical adds in the host cell is an ethylenic linkage, which is essentially two carbon atoms joined by double bonds and possessing a rich quota of mobile electrons.

This double bond is conjugated with a Carbonyl group that does the dehydrating of fuels, viruses or carcinogens that enter its field to start their combustion that supplies the energy for function. By this act, when adequate molecular oxygen is at hand, it protects against disease. But when oxygen is lacking, the free radical formed by the dehydrogenation cannot combine oxygen and form a peroxide free radical to continue the combustion process. This free radical can do only one thing, and that is add to the closest double bond at hand, and this double bond is the very one that is conjugated with and activates the Carbonyl group which removed its hydrogen atom to form the free radical. Thereby the foreign substance, or fuel product, is integrated with the host cell's functional mechanism and paralyzes its energy production, and normal function is blocked. However, the function can be forced beyond

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physiological control by receiving vicarious energy as the result of the following events, and thereby the various allergies and cancer can come about.

The addition of the free radical to the double bond as stated above, has an initiating significance, for the other terminal of this bond becomes a free radical which adds to one terminal of the most exposed double bond of the pro-pagating allergen or carcinogen if one happens to be pres-ent. This produces a free radical at the other pole, which adds to another molecule of the same substance in the same way to start a polymerization process that produces the energy, which passes right into the energy receiving mech-anism of some functional unit to force its activity. Thus the function of secretion as in hay fever, the contractions of bronchial muscles as in asthma, the continuous genera-tion of impulses as in the fixed ideas, or compulsions of in-sanity. Or when the mitotic mechanism is affected, the uncontrolled cell divisions of neoplasia are produced. This is the concept of Dr. Koch offering a Least Common Denomi-nator in, pathogenesis as based on the properties of the double bond, its alpha-placed methylene groups and the free radical. He uses these same properties to accomplish an orderly reversal of the pathogenesis.

The substances that are able to serve as initiating carcino-gens are several products: the products of tobacco smoke and exhaust gases from combustion engines, illuminating gas, etc., as well as many industrial products and dyes. Among propagating carcinogens, according to Dr. Koch, are viruses, products of germ metabolism elaborated in an-oxic foci that is in dense scars that healed some serious infection, as in the tonsils, the appendix, etc. Here the germ product does not receive enough oxygen to cause its de-structive combustion, and the free radicals liberated add to the double bond to constitute a polymerization process. Such products can enter the bloodstream and penetrate tis-sue cells and combine with the energy producing mechan-ism or energy accepting mechanism, as described in Dr. Koch's books, and continue polymerizations that yield the energy which forces the cell divisions of cancer. There is much more to it than this. However, enough is said to show that a definite process of carcinogenesis is exposed, and in this process the means for its reversal, the correction or if you wish, the cure of the disease is provided. Nature, her-self, provides for the cure right in the pathogenesis. Viruses are initiating carcinogens that require the cooperation of the polymerizing bacterial products to complete the act of cancer production.

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The Functional Carbonyl Group In Pathogenesis And Its Reversal

By, William F. Koch, Ph.D., M.D.

Abstract: The Functional Carbonyl Group in Pathogenesis: Scientific explanation of the electro-negativity of certain Carbonyl groups which have the ability to attract and accumulate electrons in the carbon-oxygen double bond. They hold the position of least common denominator by initiating the normal aerobic metabolism of function and nutrition whose activity eliminates parasitism in microorganisms and tissue cells. Dr. Koch prepared this article in 1967.

INTRODUCTORY STATEMENT

In tissue chemistry there is scarcely a reaction that does not involve or produce a Carbonyl group as an intermediary or as an end product. And yet its significance in energy production has been overlooked, except in a passing way, by nearly all biochemists. Many Carbonyl groups do not hold vitally critical positions, and indeed only a few are of deep interest to us. However, these take preference above all other Carbonyl groups in the tissue metabolism by the fact that they are “activated.” By activation, we mean that their inherent properties have been accentuated, giving them the advantage of being able to carry through all the reactions they are disposed to mediate.

One property is the electro-negativity they possess by virtue of being able to attract and accumulate electrons in the carbon-oxygen double bond. These are mobile electrons, and are designated by the Greek letter (π), which are enhanced by migrations of electrons from other electron-contributing groups in the molecule, and by electron attracting groups that influence external electrons. For our short discussion, we must avoid the many other associated properties though they admit of mathematical expression and hold a great theoretical interest. Those that we will deal with are of high interest to us in matters of health and happiness, our ability to maintain good vitality, and because of the place they hold in the cure of all forms of disease, as it affects all cellular life from the smallest microorganisms to the highest adult tissue cells. They hold the position of a Least Common Denominator by initiating the normal aerobic metabolism of function and nutrition and hence, their unabridged activity eliminates parasitism in microorganisms, tissue cells, and in the virulency associated with pathogenicity.

They thus hold a key position in the great biological economy, and this is due to the fact that they serve as the initiators of oxidative energy production for function and nutrition. And when not blocked in this action, they do away with the need for parasitism in microorganisms and in tissue cells and thus, when this ability is restored, pathogenicity is eliminated from bacteria and neoplasia can no longer exist in the tissue cells. So the best way to get rid of infectious disease and neoplasia, is to cure the germ or tissue cell of its metabolic deficiency. The purpose now is to show how that is done.

SOLUTION BY DATA FROM THE PARATHYROID INSUFFICIENCY PROBLEM

This study was started over a half century ago when present day techniques of high refinement did not exist, nor did the established theories on atomic structure that are in common practice today. I had to accept the data I met, and it was necessary to interpret it on the basis of the crude results that I was able to elicit.

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It was back in 1912, when this writer was given a position of opportunity at the University of Michigan's Laboratory, by providing the facilities to investigate the function of the parathyroid glands. This subject, previously investigated by the eminent physiologist Carlson of the University of Chicago, as well as by others, had reported that the parathyroid glands controlled the calcium metabolism of the body. They based their conclusion on the finding that the fatal convulsions, which followed removal of these glands could be ameliorated by injections of calcium solutions, and because excessive amounts of calcium were eliminated in the urine during parathyroid deficiency.

However, it was evident to me that other solutions of salts, as sodium chloride and even distilled water also ameliorated the convulsions, but only so long as the kidneys could eliminate and the same fact held for the calcium injections, as well. So it was evident that the benefit came from washing a toxic convulsion producing substance from the blood, until other changes took place, which blocked the liver and kidney functions. I therefore set out to isolate the toxic substances from the urine that caused the convulsions and the other fatal changes observed at autopsy. These were primarily a loss of the colloidal dispersion of the blood contents, so that they separated as striated clots in the large veins and capillaries before death took place.

Analysis of the urine after the parathyroidectomies yielded two toxic bases, Methyl-guanidine and guanidine; both were present in fatal amounts causing the fatal convulsions along with the other pathological changes. The results were published in the Journal of Biological Chemistry of 1912 and 1913, and were fully confirmed three years later by the Department of Physiology of the University of Glasgow, and for the excellency of their work in this confirmation they were awarded the Triennial Prize in Medicine from Harvard University. My work was thereby confirmed, and I set about learning how guanidine did its mischief.

One significant finding was that the urine carried large amounts of lactic acid, which meant that the oxidation mechanism was too badly handicapped to provide the energy for the tissue activities, including the convulsions. So, too, the autopsy findings of striated blood clots meant that the tissue colloids were not sufficiently charged to give them good dispersion, especially in the blood, which let the elements settle out and also reduced their fluidity and carrying power of oxygen, calcium, and other elements. So the sum-total meant that the guanidine bases blocked the oxidation mechanism.

Two facts stood strikingly in mind, namely that the amine groups of guanidine were highly activated by conjugation with the imide group, which made them highly reactive toward condensing with Carbonyl groups to form azomethine condensations, whereas, when the nitrogen atom of the imide group was replaced by oxygen as in urea, these urea amine groups were nontoxic, and did not bother anything. The second striking fact was that Carbonyl groups could inactivate them. So it appeared that guanidine had, with its two-amine groups, condensed with and inactivated two united carbonyl groups. So one provisionally concluded, that guanidine had blocked the tissue oxidations and thus the tissues that survived the longest after parathyroidectomy, were the richest by being provided with a two chain Carbonyl group system that started the tissue oxidations, and the longest surviving tissue was observed to be the heart muscle. So in the heart muscle, I expected to find an activated Carbonyl group, as referred to previously, a group that took the preference over all the other Carbonyl groups as a dehydrogenator, for the double bonds of each adjacent Carbonyl group must activate the other, and increase the electron content in its small area.

So I concluded that heart muscle carried the two adjacent systems of Carbonyl groups, (one may look upon this system as one in which the double bonds of one Carbonyl group are conjugated with those of the adjacent Carbonyl group, by the covalent bond in between.) The next step was to see if such a Carbonyl system aided an inhibited oxidation. It was found that after removing the pancreas no changes

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took place, for indeed the pancreas had to remain in the animal, and that the pathology was essentially there, and not in the tissues in general.

It appeared also that in cancer growth there was no appreciable function, as seen also in their anaplasia, so evidently the Carbonyl system was absent. In-deed the Carbonyl activation could be conjugation with other double bonds as of an ethylenic linkage; so we treated far advanced terminal cases of cancer, in three instances, where early autopsies were expected so I could study the changes that followed administration of the activated Carbonyl groups. Extracts of heart muscle were used and the responses confirmed the Hypothesis. All three patients recovered. Then the smallest possible molecules, with Carbonyl activated by conjugation with other Carbonyl group's double bonds and with ethylenic double bonds, were also fruitful. The heart muscle extracts were reported in the Medical Record of New York, on October 30, 1920. However, any further attempts to publish any subsequent re-ports were blocked, at the request of the Journal of the A.M.A., so that the official medical journals refused me the right to report my findings. This blocked further contact with the profession in the official literature, so when the "Cancer Quack Conventions" of the A.M.A. annually proclaimed that the sign of the quack, is his refusal to report his work in official journals, they were putting on a gigantic fraud. It was so in my case.

The patients treated with Glyoxal and Methyl-glyoxal and by Parabenzoquinone, as the molecules offering least steric hindrance, were put into use in 1918, and especially in 1919, in the "Official A.M.A. Wayne County Medical Society Investigation" of the treatment, and then later were augmented by the use of longer chains of Carbonyl groups as in Rhodizonic acid, triquinoyl, and in other long straight chains, all of which are de-scribed in the text, "SURVIVAL FACTOR IN NEOPLASTIC AND VIRAL DISEASES." The object was to build up the highest Car-bonyl negativity possible, and indeed, in triquinoyl this is attained to such a de-gree that the electron content is so high that the molecule is highly unstable and one of the Carbonyl tends to jump off and reduce the electron tension.

Later, we produced diphenoquinone in which the two carbonyl groups are widely separated, but five intervening ethylenic linkages are in conjugation. This molecule has an oxidation-reduction potential of 0.954 volts, as compared with that of Parabenzoquinone with its good 0.7 volts. Obviously, the dehydrogenating power here is all that is needed to dehydrogenate any member of a biological system, and the dilution of the former must be made appropriately higher than that of Parabenzoquinone for treatment uses.

Using the most vigorous dehydrogenators may cause such a rapid breakdown of the large cancer masses, so that when these products are absorbed more rapidly than the destroyed areas can be healed through normal parenchyma, and when the blood vessel walls are also involved, serious bleeding can take place. It is therefore advis-able to use high dilutions of such substances as Glyoxal, Methyl glyoxal, triquinoyl and diphenoquinone, which are used in concentrations of preferably 10-(9), or 10-(12), and even as high as 10-(30) concentration; whereas, Benzoquinone can be used very nicely in 10-(5) and 10-(6) concentrations.

And even though the cancer tissue undergoes rapid lysis and adsorption, the process is not a destructive one, but a corrective, constructive one. The rea-son for a highly rapid disappearance of a malignant tumor, instead of a slower one, is that more cancer cells are being corrected and absorbed than the healing power can compensate for within a given time. Likewise, in cases that have been heavily irradiated with cobalt isotopes, radium, or X-rays, the rapid absorption of the irradiated material may be too great in amount for the patient to contend with systemically, and such cases should be treated with great care, if at all.

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Recent cases of cobalt application should not be treated, and time must be awaited until the cobalt effects are worn out, as seen by the recurrence of neo-plastic progress, in the treated lesions.

All of these troubles we avoided by taking our time. Indeed, once the recovery is started it tends to go on as a chain reaction until all traces of neoplastic tissue is digested and absorbed, and understanding that the recovery process is based on the phenomena of the Free Radical, we clear the field of all interfering factors, and let the recovery go on leisurely to completion. So it was when I treated the five officially chosen terminal cases of cancer that served as test cases in the 1919 "Official A.M.A. (Wayne County) Investigation;" "I was satisfied to give only one injection of the Remedy and await the results. These results came quicker than the "official A.M.A. surgeon committee" had expected, and upon seeing a man of 72 years of age, once covered and filled with countless masses of sarcoma, one member of the "official committee" panic stricken by the rapid absorption of the cancer growths, advised him to 'hurry back to his home 300 miles away, for if Koch gave him another dose, he would melt away just as the growths did.'" He lost no time in leaving; later it turned out that he was cured, for many years afterwards, patients came from his hometown, because of the benefits he had received from the Treatment.

Likewise, the other four cases made such startling improvements from their suffering hemorrhagic, cachectic conditions, that the rest of the "committee" went panicky and closed the "Investigation" sending the patients back to their distant homes, even to other states, with the warning that they were forbidden to receive any further Treatments from Koch. However, the phenomena of the chain reaction based on the Free Radical properties kept on working and three of these patients were completely cured. One of them, which I observed for 15 years, a stretcher case when brought in to the ward, lived 15 years in perfect health and died as the result of an accident that fractured her skull. But though there were at least 60 percent, or most likely 80 percent of the patients cured, the "official A.M.A. committee" reported that "nothing came of it," and has denounced me ever since as a quack. Then four years later in the fall of 1923, I asked the Medical Society to change their false report to conform to the truth; they refused and abused my effort with further innuendo and falsehoods.

My Thesis suffered further violence following the demonstration of its therapeutic efficiency in Brazil in the summer of 1941, when under the auspices of the Medical Faculty of the University, as led by Professor Renato da Souza Lopez, we cured moderately advanced leprosy, advanced cavitary tuberculosis, terminal cases of cancer of the liver and stomach, terminal cases of rheumatoid arthritis, diabetes, and incurable terminal insanity. The Drug Monopoly led by a representative of a major drug company, Parke Davis, threatened me with utter extinction so that I would never interfere with their affairs any more. Three weeks later, I was ordered by the U.S. Food and Drug Administration to return to Washington to discuss my labels. I went and on Good Friday of 1942, I was indicted in Detroit, by a secret and closed Grand Jury without my presence or knowledge, for fraud and arrested at my home in Florida the same day. It was only recently, from a member on that Grand Jury, that I learned the indictment was won on the testimony of two chemists, working for that same major drug company, who had sworn that my Therapy was a fraud and nothing more than distilled water.

The next morning at the bail hearing, the District Attorney of Miami re-quested a \$10,000 bail, which the judge thought excessive and required an explanation. The D.A. answered, "Last night the D.A., in Detroit who won the Indictment, phoned me to insist on a \$10,000 bail as Dr. Koch had started work in Brazil and we do not want him to go back and finish it." And then turning to me with a grin of glee he said, "And when the U.S. Government gets through with you, Koch, you will be all washed up and not able to go anywhere." The bail was reduced to \$5,000.

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In support of the Drug Monopoly's power over the bureaucracy's corruption, the statement of the Assistant Attorney General from Washington, who managed the first five-month trial, is significant. On seeing that he would lose the case, he shouted at me before a crowd, "Koch, we went after you the wrong way this time, but we have ways that never fail, and we will keep after you until you are dead, or we have you in jail for the rest of your life, and nothing can stop us."

The next event was the attempt to murder my patient, Mrs. Worley, by an FBI agent, who was at the same time the leader of the notorious Detroit's Purple Gang. It is my understanding that the FBI had planned to pin the murder on me. But she recovered from the attack and even identified her assailant; however, he was not bothered and nothing came of it, except that I was out of danger of a murder indictment. (Mrs. Worley was not scheduled as a witness on Dr. Koch's behalf, but the opposition must have assumed such; one day attended the 1st Trial and recognized her assailant sitting in the courtroom. Luckily, she was seated next to her hometown sheriff at the time and informed him of the situation, but as he got up to approach the assailant, the man quickly left through a side door. Several government officials standing in the hallway then stopped the sheriff from following him any further. The sheriff explained the situation, but the agents rebuffed his concerns). The A.M.A. anti-quackery fraud certainly keeps bad company!

The first of all scientists to demonstrate the existence of the Free Radical in Chemistry was Dr. Moses Gomberg and he demonstrated its salient properties. This was back in 1900, when he was Professor of Chemistry at the University of Berlin. In 1910, he was my Professor at the University of Michigan. His finding, which was the most important of the century, was much discredited for years and him with it until the plastic industry, that it is based on, grew to become a financial giant. But up to 5 or 10 years ago, interest in the Free Radical was held practically—only by a few gas-phase kineticists, and plastic experts. The medical and biochemical professions had entirely passed it by and from that year up till now, to speak of, the Free Radical, to them, was an invitation for abuse.

Indeed as recently as 1946 Dr. Willard Dow, President of the Dow Chemical Industries and an expert in Free Radical Chemistry, stated — "Koch is so far ahead of the thinking of his profession that he is not understood and they even ridicule him at times."

So to get my Thesis across was absolutely discouraging and even dangerous. Indeed it was on Dr. Mitchell's advice, (longtime Chairman of the Board of Trustees of the A.M.A. who had personally investigated the Treatment and with curative results) that I kept silent about the Therapy; he told me earnestly in 1924, that I should never tell the basic facts of my Thesis, for they could not be understood by the profession and their experts and they would know no better than to brand them as base frauds, —my most precious truths would ruin me, in a court trial that the Journal of the A.M.A. was waiting to put me through. They would jail me and put an end to the work. In fact, this is what the bureaucratic contingent of the AMA's conspiracy actually tried to do in 1942 and 1946, in two, five-month Federal Court Trials of daily sessions. But fortunately, I had kept my precious Free Radical Thesis under cover and the conspiracy lost in its attempt, both times. Thereafter, I tried out the Free Radical Thesis on men who should have been interested, but it was not until the Great Szent Gyorgyi spoke of a possibility of free radicals having something to do with cancer five years ago, that the profession took a deep interest in it, and now every ad-vanced laboratory world-wide is making wonderful progress with the investigation of Free Radicals. In fact, recently the Henry Ford Hospital of Detroit announced the discovery of a Nitrogen Free Radical as diagnostic of cancer, using the electron spin resonance spectroscopy technique as the means of finding it. So our earliest work of a half-century ago, is meeting with successful confirmation today.

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What is the position of the Free Radical in carcinogenesis and its reversal? Please recall that the activated Carbonyl group of function, the FCG for short, dehydrogenates fuels and pathogens that enter its field to oxidatively destroy them to liberate energy. If now the dehydrogenation of a virus or carcinogen takes place, in the absence of adequate oxygen, the Free Radical that is formed must add to something other than oxygen and the closest position it can take is one of the poles of the double bond's that activates the FCG, and here it makes its addition and thus becomes integrated with the energy-producing mechanism. If it is a virus that makes the addition, it is in a favorable place to take energy from the host cell to support its vegetation, and after the cell is exhausted of energy and material, the viral progeny are set loose to swarm outside and infect other cells.

However, cancer cells, themselves, undergo many reproductions while the virus is living in a state of symbiosis, but these cells liberate a comparatively small amount of the viral progeny. Of course, when the cancer cell dies and breaks up, the viral colony is liberated and free to infect other cells of the same type. Even the paralyzing viruses may not always cause a lytic destruction of the host cell, but may live in symbiosis with it. The Free Radical union inactivates both, they hold as we described.

They behave 'as if dead,' as neither can receive the energy required for activity. This situation is described in the SURVIVAL FACTOR text. However, both are alive and when a sufficiently, energetic, Carbonyl dehydrogenator comes along it dehydrogenates the pathogen at its point of integration, and from here the free radical formed adds molecular oxygen which is then split off leaving the host cell in good functional status, while the virus is further oxidized destructively. The return of function of fully paralyzed and atrophied limbs, in some cases for as long as 20 years, back to their original state of perfect muscle construction, demonstrates this fact.

Evolution is a subject of many conflicting and imaginary theories. But one thing is certain that every physician must know. It is that no species can evolve into another species, as the proteins of each are most exquisitely so different that they mutually destroy each other on contact, either by a lytic or an agglutination process. So no species can develop into another or ever hybridize with it. However, the patterns of many vital processes may be held in common by many different species, each modified somewhat, to accommodate an adaptation to the environment in which it has to survive.

The oxidation process is an example where a common pattern is evident in many species, all the way from the simplest microorganism to the most differentiated cell of mankind. We described it before. This is not an evolved affair but a universal creation common to aerobic life. Then it is also evident that any interference capable of blocking the oxidation mechanism of one species may also have the same effect on some other species. The inactivation of the functional Carbonyl group of a microorganism may also follow the same pattern of interference as in a human tissue cell. And consequently, the pattern of removal of the interference should apply in both, in the like manner.

And then too, the restoration of an efficient oxidation pattern, as we have described, must restore both function and nutrition so parasitism is no longer possible. Virulence is also eliminated, since there is no need to attempt survival by cell reproduction. This Thesis is demonstrated abundantly in the Survival Factor text.

Two examples taken from it will demonstrate the thoroughness of its proof.

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The first exhibit is a culture plate divided into halves to accommodate the test culture on one side and the control culture on the other. Both were seeded equally with highly virulent hemolytic streptococcus taken from a child, and they were also highly antibiotic resistant. The test culture was exposed to a solution of the Reagent, of the text, carrying serial systems of Carbonyl groups, diluted one part to a billion parts of water in an amount of only one cubic centimeter. The control culture was not disturbed. They were incubated for two weeks and thereafter it is seen that the control culture was heavily invaded with the streptococcus, while the test culture was free. Thus the Reagent wiped out the virulence. Many tests of the filtrates from such cultures have been made and while the test cultures are nontoxic, the control cultures in equal dilutions are fatally toxic. So the restoration of the active carbonyl facility restores health to the organism. It no longer shows virulence or pathogenicity. Observations on living animals show a return to normal biological function.

The other exhibit is of a baby girl, of only 4 months of age, who on exploration of the abdomen was found to have a Grade IV primary cancer of the liver, 80 percent of which was involved, and of course, the whole abdomen besides. She was given the same dosage of the same Reagent used on the culture plate. Here the pathogenicity, virulence, and parasitism, of the tissue cells are seen to reverse to normal by a chain process, mediated by the Free Radical sequences, initiated by an activated Carbonyl group. The chain reaction was not completed until every vestige of neoplastic tissue had been reversed to normal, and then digested and absorbed as food material, which of course, nourished the baby. The photographs show the steady progress of this reaction complex to full normalcy, and of course, completely and permanently on only one dose of the Reagent in a terrifically high dilution—one part per billion. Two months ago she was happily married. So here, in animal tissues, the restoration of Carbonyl energy produced function is seen to dispose of neoplasia with its pathogenicity, its virulence, and its parasitism.

THE PROFESSIONAL-POLITICAL SITUATION

Evidently, the Created Pattern of Aerobic Life includes a Redemption Principle of Protection expressed as tissue instinct and issuing from an Infinite Wisdom, which any observing biologist must recognize. The complex is Triune, embracing the cardinal features of Christianity. In fact, the first lessons in therapeutics were given by the Good Creator, Himself, in the Garden of Eden when He told man-kind to look to the plants for their cures of the diseases that would come on them. So I searched for the evidence and found it, in six trees, two in each: Africa, Australia, and Brazil. These are curative in cancer and other diseases, as is evident in the chemical structure of each, as they all conform to the rules of structure laid out in this Thesis, even though the Australian and African products have not been identified with any medicinal properties. But the two Brazilian products have been used from time immemorial by the natives for cancer and all other diseases with success. The chemical structure of the Brazilian product has not been worked out, except as by myself, and published some time ago in the German Edition of the Survival Book, and also in the English edition. They are all chromophoric, quinones, naphthoquinones, and exist as Para and Ortho tautomeres.

They thus present Carbonyl activated by adjacent Carbonyl groups in the Ortho forms and by ethylenic conjugated linkages in the Para forms. These we have found to be curative in cancer and infections for many decades, as well as, in the terrible degenerative diseases such as Friedreich's ataxia and multiple sclerosis, which are recognized as incurable.

So here too the Good Redeemer Creator has given us activated Carbonyl groups, as the first lessons of Religion that we practice as medicine. A leading U.S. Senator a few decades ago appealed to the Lord for help when he was going hopelessly blind. His cure was the practice of Religion, for I gave the injection that cured him. But he feared to identify the humble, dis-credited agency of his blessing, in the face of an

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opposing powerful Drug Monopoly. Hence, men must organize a strong committee to give strength to the legislators who tremble always before the drug racket.

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The Koch Treatment Of Cancer

C. Everet Field, M. D.

Director, Radium Institute Of New York

Abstract: Neoplastic and Viral Parasitism, Their Basic Chemistry: Dr. Koch's 1963 scientific explanation of the Reagents' actions on the pathogen in cancer. Case histories are used to corroborate his findings. An explanation of the Koch Protocol is also included within this text.

IN THE face of the discouraging situation shown in the cancer problem, gauged from the standpoint of permanent results with existing measures of treatment, we are deeply encouraged by the numerous channels of investigation throughout the world that indicates a different trend of thought. It is now an accepted conclusion that the causative features to be considered in cancer will be found in some infectious organism that serves as an exciting stimulus to cancer cell proliferation. We anticipate a definite report on some such discovery in the very near future.

Blindly we have been attacking cancer in its advanced stage for many generations, with surgical effort, only to find prompt recurrence after removal. Radium and the X-rays have brought us considerable encouragement and with the standardization of dosage now at hand, some remarkable advances have been made. When metastases are present, such as are commonly found in the breast, stomach and liver, and in the lower abdomen, practically nothing avails. This is the type of cancer that the world is interested in and for which it feverishly awaits the remedy .

Our belated interest in the germ theory was probably forced upon us by the failure to fully account for the origin of the scourge from embryonal, irrational or nutritional causes.

* Reprinted from the October "Cancer"

Undoubtedly systematic changes where-in metabolism is markedly altered serves as a contributing influence, and nobody will deny that chronic irritation has not a place. The basic cause, however, must be in a micro-organism, similar to the type that functions in plant cancer as well as in that affecting the lower animals.

The German investigators did noteworthy work on cancer in mice and concluded their findings nearly ten years ago. Practically nothing new has been reported, although in this country we still persist in spending millions in similar research. Recent reports tend to dis-prove the infection theory, describe transplant work and present some interesting data on the tracing of malignant strains.

There are natural barriers to any material advance in discovery when the lower animals are compared to the human. The chemistry of man is exceedingly complex and is governed by different modifications. Physiologically, the comparison between the higher and lower animals cannot be made to advantage. Biochemical influences, so delicate in man, bring about processes of disease that are found nowhere else. Such conditions are apparent at the cancer age in every patient. Therefore, the futility of wasting too much study on animal experimentation.

Several treatment measures have recently been reported that have to do with the control and destruction of a recognized micro-organism of cancer. As a rule these agents have been presented in the form of antigens

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or serums. Claims for the results of such therapy have been conservative and are worthy of due credence. Experimental effort with the companion invaders, the protozoa, evidences definite points of interest. It is to be encouraged as of possible worth.

To my knowledge, the first successful attempt to destroy a recognized micro-organism of cancer by the subcutaneous injection of a synthetic chemical substance, is the achievement of Dr. William F. Koch of Detroit, who contributes a notable paper in the preceding pages of this journal.

The reported work of Koch comes to me as the result of ten years of persistent and laborious study of cancer from its physiological side, and I believe his research is to be epoch-making. The Koch formula, as used for the control of the cancer organism is a differential poison, which exerts its destructive influence primarily upon the protoplasmic substance within the receptor, and not directly upon the micro-organism. This substance provides an unsuitable soil in which the germ cannot live. Thus the excitant stimulus to cancer is controlled and the mass soon retrogresses. Three weeks after the treatment has been instituted the mass becomes hard, due to calcification prior to absorption. The cancer effort or growth is a histological expression of nature's immunity attempt. It seems to be one of the wonders of nature. With the drain on the vital forces of the blood plasma removed, a fairly prompt tonic effect is exhibited. Apparently a specific action follows, in that the effects show only on the microbic structure and no other action is noted on surrounding structures. It remains also a notable fact that in all of our personally treated cases (Koch Formula 78 in all) we have rarely seen a new manifestation of growth after the treatment has been inaugurated. The reactions in suitable cases are profound and are of prognostic value.

Let us emphasize our statement of belief in the merit of the treatment by advancing the opinion that such measures should be advocated as a prophylactic measure against cancer in its incipient stage of infection. The pre-cancer period is now recognized in many instances to be associated with signs and symptoms developing over a term of many months, or years, prior to its onset. If the Koch deductions are accepted we should not hesitate in advocating this antitoxin as a routine measure. Such procedure has been adopted by several prominent surgeons and the outcome is anxiously being watched.

Of tremendous value are the contributions that have been started by Doctor Koch, and we know that his reports will receive world-wide consideration. The current paper deals with his early studies of the parathyroid gland and the toxins there concerned. These experiments directed his attention to a similar toxin stimulus in cancer. Every portion of his paper should be carefully studied in order to appreciate the further statements that are promised.

Four years ago, following the first meager reports of Koch's investigation, he was met by most unfair criticism by the local county medical society of Detroit, a defense to which was not permitted. Time has served to dissipate much of the cause for criticism, and we hope an honest expression will now be forthcoming. The weakest mind can criticize but it takes more thought to appreciate achievement.

Through the generosity of Doctor Koch, the Radium Institute of New York has been granted the use of his treatment in seventy-eight cases since October, 1923. Only patients with advanced cancer of the type untreatable by any other method were selected. Twelve cases are apparently in the cure stage. Nineteen have died. Of those who died it can be said they were all of a class that presented the limits of lost vitality. Eight of these had received previous radium treatments of such massive dosage as to alter metabolism and hasten a toxic state. In all but three of our fatal cases there showed a period of improvement with reduction of the masses. No new growth presented in any case.

Although the space granted us is limited, we will report in abbreviated form three typical case records.

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RECTAL CARCINOMA.—Archbishop R. Age 72. Referred by Drs. A. Paquet and T. Robertaille, Quebec, Canada.

Previous History—Several years of constipation. In April, 1923, noticed obstruction. No pain. In March growth in upper rectum.

Diagnosis: Carcinoma. X-ray treatment given with evidence of control. Weight normal at 180 pounds. Colostomy performed in November, 1923. Masses in the lower abdomen located. Rectal mass size of large orange, with the rectum still partially functioning. Loss of weight 20 pounds. No removal of growth possible. Digestion fair. Confined to bed. Pains severe, requiring narcotics.

February 8, 1924—Examination by Doctor Field. Patient's favorable physical condition noted. Exploration of rectum not possible. No fecal matter coming through rectum. Blood stained, watery discharge. Pale and anemic. Pain increasing. Koch formula treatment administered.

May 2, 1924—Stormy reaction, characterized by high temperature, running to 105. Nausea and vomiting. Spasmodic pain all over abdomen. Active discharge. Profound weakness and fear expressed for recovery.

June 21, 1924. — During past six weeks two distinct waves of reaction, with temperature not over 102. Less pain and discharge. Rectal mass reduced to size of lemon and appears to be divided. Some fecal matter coming through rectum. Weight increased six pounds.

August 3, 1924.—Patient out walking and riding daily. Weight increased nineteen pounds. Present weight 183 pounds. Full formed bowel movements daily, during past two weeks. Very little pain. Appetite normal. Officiated at masses daily for ten days. Feels as well as ever, and sure of getting well. Examination shows a hard mass size of egg with no evidence of activity. Abdominal masses hard to locate. Operation for closure of colostomy wound deferred for a few weeks, although the case is probably cured.

GASTRIC CARCINOMA.—Case, B. S., New York. Age 78. Married, native of Bavaria. Cigar maker. Referred by Dr. H. Fineman and Dr. G. D. Browne, New York, N. Y.

Early History.—Irregular meals for years, gastric trouble common. Some loss of weight.

January 19, 1924.—Three months ago developed pain of colic type in stomach. Very severe pain directly on taking food. Tendency to bowel stoppage, and several days pass without any movement. Tenesmus symptom common. Has external and internal hemorrhoids. No venereal sickness. Always well. Blood never examined. No bladder trouble. No X-ray examination made. No weight lost. Complains of pain in back due to injury received in a fall. Examination shows a mass along great curvatures of the stomach, about twelve cm. long, tender on pressure. Pain radiating toward liver; liver extends two inches below free border of ribs. Tenderness around gallbladder region. Mass in lower abdomen about two by two and one-half inches, also tender to pressure. No previous treatment. Koch treatment administered.

February 22nd.—Reported cutaneous eruption around neck and shoulders. No nausea or vomiting. Food intake liberal, with no difficulty. Careful examination shows slight thickening remaining instead of the pronounced mass previously found. General condition greatly improved. Feels no pain or distress.

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March 15th.—Examination shows no evidence of remaining growth. No digestive symptoms of pain of any kind. Patient entirely well. Only abnormality present is the nodule to the right of the umbilicus, which appears to be reduced one-half.

May 24th.—Stomach apparently normal. Digestion normal. No pain. Patient feels no need of further care. This result was entirely due to the single treatment.

August 1st.—Case remains well. No abnormal symptoms.

CANCER OF CERVIX, VAGINAL WALL AND VULVA.

Mrs. M. M. White Plains, N. Y. Age 58,

Previous History.—First referred to the Radium Institute by Dr. Robert H. Shanahan of Yonkers in July, 1910, for uterine fibroid. This condition yielded to radiation and the uterine body was reduced to apparently a normal size. Patient reports laceration during first childbirth. Operated in June, 1919, by Doctor Shanahan and small fibroid removed and cervix repaired. General health good.

August 3rd.—Patient reported persistent bleeding. Examination showed an ulcerated area on the posterior border of the cervix, involving also the vaginal wall, over an area of three cm. Discharges of characteristic odor. Diagnosis confirmed by specimen as Epithelioma of Cervix.

September 13th.—After three weeks observation with evidence of increased ulceration, radium treatment was instituted. From September 13th to November 13th, 1923, patient received three massive radium treatments, totaling 6000 milligram hours. Some relief of pain was secured and apparent control of the process.

November 13th.—Active advance of the nodular growth and ulceration on the labia majora and minora. Area on both sides about 4 cm. long. Unbearable pain evidenced. Heavy characteristic odor. Patient's physical condition poor. Ash gray color. Bowel action poor. Pelvic pressure excessive.

November 20th.—Koch treatment administered. Ulcerated area starting on opposite side of vagina, in one week developing size equal to original area on right side. Old area less painful.

November 30th.—Labia majora show numerous neo-plastic nodules, slightly discolored, with similar nodules beneath skin along the right side of the neck. Ulcer on the right border of vagina practically healed, that on the left improved.

December 20th.—Report covering three visits. Continued reaction showing a multitude of small papular areas on labia majora. Surface of papules black and of melanotic type. Similar reaction noted on arm and neck without discoloration. The ulceration on lateral surface of vagina gradually healing and at present appears cured.

August 1st. 1924—No abnormal condition present. Case cured.

The Koch Chemical Formula In The Treatment Of Cancer

A Report On Its Investigation,

C. Everett Field, M.D., Director, Radium Institute Of New York

Cancer is confined chiefly to two principal forms: Carcinoma and Sarcoma. Under the most approved methods of surgery, radium and the X-ray, relief with hope of ultimate cure may be expected in 40 percent of those afflicted.

Prevalence: In the United States alone it is estimated that at all times there are at least 250,000 cancer cases demanding care and treatment.

When cancer has spread beyond its initial or primary nodule, the possibility of cure under existing methods of surgery, radium, and X-ray is remote. For this reason the world at large is interested in any measure that can hope to relieve or cure such a class. In the United States during 1923 the mortality records show 108,000 lives given to cancer. After many years of service in the care of such unfortunates and with the above picture indelibly impressed on the mind of the author, he has untiringly investigated one after the other, every new method of treatment reported.

For several years in all parts of the world, notable work has been done in studying the causative features of cancer that a real cure might result.

Authorities differ relative to whether or no cancer can be classed as a constitutional or systemic disease. Our opinion, after studying many of the manifestations of the pre-cancer stage, is that without doubt certain changes take place in the resistance of the adult that tend to reduce a natural immunity that they have previously exhibited. At such a time the onset of cancer, coming as an infection, is possible. Science has already vouched for a bacterial organism or germ as responsible for cancer in plant life and in lower animal life such as the mouse. Likewise such causative features may be observed in the human.

To operate, radiate, desiccate or to remove with caustic paste the early lesion, often brings about an apparent curative effect, and full credit is to be given such procedure. To use similar methods with widely spread cancer spells failure in tremendous percentages, simply because the first series of treatments are applied to purely local conditions and in the latter state we contend with a constitutional disease.

DR. WILLIAM KOCH

During October 1923, we were consulted by Dr. A. W. Hoyt of New York, whose purpose was to enlist our interest in the cancer research of Dr. William F. Koch of Detroit, in the effort of securing an endowment in support of his work.

Dr. William F. Koch, A.B., A.M., Ph.D., M.D., Professor of Physiology, Detroit College of Medicine, 1914-1919, with degrees awarded from the University of Michigan. For more than ten years Dr. Koch had laboriously studied in his laboratories, all the manifestations of the pre-cancerous and active stages of malignancy with the object of identifying the cause of cancer and finding a cure.

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Prior to my first visit to Dr. Koch's Clinic in October of 1923, I was informed of his apparent good results with a treat-ment for the hopeless type of cancer, and I was urged to maintain a judicial attitude, withholding decision as to credit, until an opportunity for a complete investigation was had. Furthermore, I was not to be unduly influenced by the fact that in 1919 (at a time when Dr. Koch had treated some twenty-five cases), as a result of an investigation made by the local board of surgeons of the Wayne County Medical Society, Detroit, his work had been discredited, and his medical society memberships and pro-fessorships cancelled.

My first impression on meeting Dr. Koch was most con-vincing. His manner of impressive earnestness, his fairness and his scientific attitude could not be questioned. I at once reasoned, "he may be mistaken in the results claimed, but he is absolutely honest."

CANCER—DR. KOCH'S ACCEPTED THEORY

That the disease is due to a definite microorganism, which serves as an exciting stimulus to cell growth. That such organism is commonly met in the body during a pre-cancerous stage extend-ing over a period of many months or years in latent stage. As a rule its recognition accompanies a definite traumatism, chronic irritation, or disordered function, which has tended to weaken the normal resistance of the area affected. The first evidence of cancer takes on the form of a small nodular growth or open ulcerated area. Such a manifestation is nature's effort to ward off the exciting stimulus of the infectious microorganism.

Dr. Koch's early efforts in cancer investigation had to do with the development of parathyroid work, which was later confirmed by Paton of the University of Glasgow in 1917. Paton's recognition for the same work won for him the Triennial Prize in medi-cine from Harvard University. In the parathyroid work, Dr. Koch observed the necessity of recognizing a receptor control of metabolic activities and studied cancer to isolate such substances. During this investigation, Dr. Koch recognized the influence of an agent, which might chemically alter the receptor of an infectious agent, thereby serving as a means of attack on the cancer germ.

THE KOCH CHEMICAL TREATMENT

The formula was conceived after a further study most ex-tensive in type, of a microorganism resembling the spirochete of yaws and syphilis. Recognition of such an organism function-ing in cancer as a causative factor, brought on the study of agents that might inhibit or destroy. The present treatment is a differen-tial poison that kills the pathogenic organism without injuring the host. It is a difficulty prepared synthetic structure, worked down on a re-crystallization process taking many weeks to complete. The exact nature of the product we anticipate will shortly be an-nounced.

If any destructive agent could be brought in contact with the micro-organism, the underlying causative feature, and exert an influence which would destroy it, the exciting cause of cancer cell proliferation should be ended and the advance cease. Then fol-lows nature's effort to reduce the existing tumor mass by absorp-tion. With the tremendous drain on the patient's vital forces at an end, a tonic effect is quickly exhibited and the patient may be cured. With a varying modification, the treatment is applied with equally good results in both Carcinoma and Sarcoma. In that there is no recurrence after destruction of the cause of cancer, the word cured can be used properly. Such is the province of the Koch chemical cure for cancer.

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EARLY REPORTS INVESTIGATED

Dr. Koch presented the first report of his work as published in the Medical Record of October 30th, 1920. A year previously, an investigation by the County Medical Society of Detroit was ordered. At the request of a committee from this organization, he treated seven cases of inoperable hopeless cancer of their selection. After a few weeks of observation, during which time many causes of offence were offered, the committee reported back to its society that no apparent curative results were witnessed. Their report in part is as follows:

“Dr. Koch’s records were incomplete and that he had submitted no proof that his injections have any particular merit and the committee concluded that the study is entirely experimental and improperly supervised.”

The exact facts of the case show that at this date, July 1924, two of these original patients are alive and well. For nearly five years they have enjoyed good health and apparently stand cured. Two out of seven lives saved from a hopeless group forms a record worthwhile. Credit for such a result is hidden from the records. Dr. Koch’s reward was a complete ostracism at the hands of the medical profession of Detroit.

Further than this the Wayne County Medical Society caused to be printed in the Journal of the American Medical Association, their entire defamatory report. Likewise the latter organization, of which I am a member, listed him in similar accord in their volume entitled, “The Propaganda for Reform”, along with the records of Cancer Fake Cures, Tuberculosis Frauds and the un-wholesome Category of Charlatan Practitioners. More recently, June 1924, an editorial on Dr. Koch’s work entitled, “Exploiting The Cancer Sufferer”, the Journal of the American Medical Association states, “He had been graduated in medicine for only a year when he announced his cure.” They make such a limited statement when their own records show that Dr. Koch was teaching medicine in a reputable medical college from 1913 to 1919, and held his professorship from 1914 to 1919. He was teaching the most fundamental principles of medicine seven years before he announced his discovery. The purpose of such an attitude is evident but hardly commendable.

It is small wonder then, that Dr. Koch should express himself with unbridled terms against any medical organization that would treat his work with such a spirit of unreserved venom. However, for the four years that followed he made no effort to contribute literary effort, to sell his product, or to improperly advance his personal interests. More than four hundred patients have now received the treatment. He labored on diligently in the perfection of his treatment until we now believe he will soon be accorded a liberal degree of acceptance. Were it not for the fact that the clergy of the Lutheran Church stood behind him strongly during the entire period, his investigations might have been lost to the world.

THE UNPUBLISHED FORMULA

One reasonable criticism is advanced by all good medical men, namely that the Koch chemical formula has not been made public in the manner usually followed in the advancement of scientific medical research. Although I personally feel that the profession should be given such data, the following conditions prevail. During the past four years no less than seventeen changes or modifications have been necessary in the perfection of the formula. Originally it required fifteen to twenty separate injections with the remedy. This course was reduced to ten, then to six, and finally as at present we have but one to three treatments during the period of twenty-four to thirty-six weeks.

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Aside from the strained situation existing between Dr. Koch and his medical brethren in Detroit, that may have delayed publication regarding the formula, one can experience how unwilling an investigator might be to release his formula in early development, which might he used only at the risk of criticism and discredit. It is a product of biochemic laboratory research developing delicate chemistry that may not be generally accepted with understanding by one half of the medical profession for ten years to come.

MY PERSONAL INTEREST

When I first met Dr. Koch, I informed him that I was not interested in any department of his treatment, in which surgery radium and the X-ray were giving me creditable percentages of clinical returns. That I wished to judge of his work in a class of cancer cases where my own observations showed one hundred percent bad returns. I further specified such deplorable findings we commonly meet in cancer of the stomach with liver involvement, in general cancer of the entire abdomen secondary to pelvic cancer and in high rectal cancer of extensive type. He informed me that he could show me a liberal group of cures in such a classification. One can appreciate my satisfaction when I affirm that in one day we visited thirty-four such patients who had remained entirely well after treatment for a period of six months to four years. In about one third of the cases, true pathological reports substantiated the diagnosis. In all others, the hospital and independent medical records justified a true diagnosis. The exhibit without doubt formed the most remarkable experience of my medical career. No person, even of prejudiced mind, could fail to be convinced of the unusual merit of such a treatment.

Personally I made it my duty to talk to a number of Detroit physicians with the hope of ameliorating the antagonism expressed on both sides. Further effort was soon discouraged when I found that even the president of the society who had experienced in his practice a cure in a case that he had passed up to die, still held that the hard and fast rules of medical ethics should hold no exception. For my own part, I decided that the life of my patients must be above such a fanatical ethical status and I proceeded to investigate the treatment more critically. For obvious reasons the product had not been placed in distribution, and in fact, with the exception of two or three instances, it had never been applied, except by Dr. Koch. I was therefore deeply grateful when I received promise of a supply for the Radium Institute of New York for the treatment of twenty-five cases of desperate cancer under my own supervision. My series of cases treated since October 1923 to date totals sixty-seven, with nineteen cases showing results that point to a cure, twenty-four cases more are progressing favorably, eleven too recent to report on, five lost to records, twelve have died. It is interesting to note that in all cases except five, definite physical improvement was noted sufficient to supply us with most valuable data.

CONTRAINDICATIONS GOVERNING TREATMENT

In that a tendency toward toxemia follows the absorption of cancer tissue, it is important that metabolic function be not seriously impaired. Cases of extensive involvement that have been subjected to massive radiation with radium or the X-ray frequently undergo a shock to body chemistry that breaks resistance and poor results follow. Cases of extreme anemia or cachexia do not respond well. Good heart and kidney function are essential to the best success. Seriously impaired digestive function must be estimated as a possible deterrent feature. The reactions, which develop, vary in character and intensity in accord with the type of the mass and its stage of degeneration. Large ulcerating areas frequently serve as a cause for high temperature, at times mounting to 105° to 106°. Nausea and vomiting are common in pelvic cases. Crampy pains and nervous twitching are seen. A rash frequently develops on the shoulders and abdomen with tiny seed like nodules beneath the skin. Reaction may start within three days after the initial treatment or at any time during the first three weeks and may recur in three-week intervals.

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The after treatment of Koch cases is supportive and eliminatory. Liberal food intake is encouraged, using meat, vegetables, milk, eggs and etc., but with a rigid abstinence from stimulants, acid fruits, all rich seasonings or condiments, coal tar products and active cathartics. In that cancer patients exhibit a tendency toward defective oxidation personally we advocate the use of the pentaoxide of vanadium. Careful attention is given the bowel and kidney action. Observation of the patient is continued actively over a period of from twenty-four to thirty-six weeks, then a monthly check up for a period of one year.

The treatment can be advocated as an adjunct to surgery. Large masses that are operable should be surgically treated. The Koch Treatment should follow surgery within three weeks. As an early measure of treatment or as a prophylactic, the formula serves a great purpose in that its action is both selective and specific; it exerts no harmful or notable effect in a normal person. Benign tumor masses are in nowise affected.

SPECIAL CASE REPORTS

To permit a better visualization of the clinical manifestations, we are appending several case histories, which may serve to demonstrate the possibilities of treatment. These records are entered in abbreviated form. The first five cases are from the records of Dr. Koch. All of these patients, however, I have personally observed.

CANCER OF STOMACH

Mrs. L. T. age 38. Detroit, Michigan.

Normal weight 104 pounds. Had the usual diseases of childhood and otitis media at 24 years of age, and pneumonia in February 1922, convalescence from which was marked by progressive gastric disturbance in March of that year she vomited blood and had progressive indigestion with putrid eructations, loss of weight and strength and much pain in the back and abdomen particularly in the gastric region. Tarry stools and daily vomiting of blood during March and April when she consulted Dr. G. Field who sent her to Harper Hospital where five X-ray pictures were taken and an exploratory operation performed by Dr. Angus McLean and Dr. Y. D. Barrett. A large gastric cancer was found and a specimen removed and sent to the hospital pathologist, Dr. P. F. Morse. Three days later the family was informed that the disease was cancer and nothing could be done. A few weeks later Dr. Pinckert again explored the abdomen and reported to the family that the intestines were covered with the growths and that she could live only a few days and requested that she be left in the hospital to die so an autopsy could be performed. She was taken home and on August 15th, I was called to attend the patient.

Patient extremely emaciated, the skin literally lay on the bones, unable to hold herself up or raise herself in bed, had no appreciation of surroundings, had taken no food for two weeks but vomited foul material and blood. Abdomen one large mass, size of two heads, lumpy and completely filling abdomen. Family insisted upon my treating patient in spite of advice that it could do no good. Patient treated. Gradual improvement set in with complete recovery by September of next year, when weight reached 106 pounds; all tenderness and tumor mass having disappeared, and a fair nutrition reestablished. Patient is at work daily and well except for attacks of indigestion that follow dietary indiscretions.

CANCER OF UTERUS

Mrs. McG. Age 48. Mount Pleasant, Michigan.

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Well all life till children came. Poor health followed. Ovary and appendix removed by Dr. Max Ballin of Detroit in 1913. Left breast removed for cancer by same operator in 1919. General ill health marked by dizziness and neuritis followed.

In 1920, began to suffer pain in lower back and developed a bloody discharge from uterus. Constipation set in and some urin-ary disturbance. In February 1922, a uterine hemorrhage alarmed her. But another set of symptoms rapidly set in that sent her to a surgeon. Thus in March she started to lose weight and strength rapidly, began to sweat, developed a tremor and noticed that her eyes were too large. Her breathing became rapid and the heart action annoyed her. She became very nervous, ravenous appetite and thirst, and some diarrhea appeared and she noticed a lumpiness in neck. Went to the University of Michigan and consulted Dr. S. C. Runnells who examined the uterus, put her through the usual procedure and gave her a diagnosis of cancer of the uterus. She then consulted Dr. Rubin Peterson, Professor of Gynecology at the University of Michigan who likewise submitted her through a diagnostic course and gave a diagnosis of cancer of the uterus and -advised immediate operation telling the patient that she could not live ten days unless she were immediately operated upon. So having become certain of the diagnosis she came to me for treatment since she knew of others being cured by this treatment.

May 1922 at a glance spotted the case as one of extreme thyrotoxicosis and as the patient was in a state bordering on collapse she was permitted to rest in a comfortable quiet room for several hours before her examination was attempted. After her rest pulse 160, plus respirations 38 per minute. Exophthalmus marked, Steliwag's and Graefe's signs positive, sweat and tremor, high pulse pressure. Loss of weight 16 pounds in last four weeks reported. Left lobe of thyroid enlarged, also several bean and two peach stone size tumors in supraclavicular region close to thyroid on left side. Several small tumors below clavicle on left side over area of breast amputation. Axillary glands enlarged slightly on left side only. Cardiac dullness increased toward post axillary line. Heart action tumultuous. Functional murmur present. Uterus fixed in pelvis extending above pubes three fingerbreadths, as a hard tender mass. Cervix bound down, lumpy, bluish and hard, with ulcerated as presenting typical carcinomatous appearance. Bloody foul discharge. Patient suffered considerable pain in legs and back and abdomen, frequent painful micturition and difficulty in moving bowels unless stools were thin. Treatment was given three times in the course of four months and complete cure accomplished in that time. All masses, those about neck and--in abdomen and uterus completely disappearing. A gain of weight to 142 pounds was made at the end of the year and all thyro-toxic symptoms as well as uterine trouble having lost to date. She now reports that her health is better than before the babies came.

CANCER OF BREAST ASSOCIATED WITH PAGET'S DISEASE

Mrs. A., Theodore Street, Detroit, Mich. Age 36.

Normal weight 116 pounds. In July 1920, noticed a lump in left breast behind the nipple from which a bloody discharge came, and upon which an ulceration developed. She consulted Dr. Bernard Friedlander who sent her to the Woman's Hospital, where he removed the breast radically. Healing did not take place but instead six cancerous areas appeared on the chest and upper abdomen varying in size from a nickel to a little larger than a silver dollar; also a few pea sized lumps made their appearance. Microscope examination of the tissue as well as the amputated breast was reported by Dr. Davis to be medullary carcinoma. Patient referred to me by Dr. Friedlander, August 15th, 1920 and treated in the course of several months three times. Cure was complete by January 1921, all areas healed and lumps having disappeared. She is perfectly well today. Cured.

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CARCINOMA OF LARYNX

Mr. F. Warren Avenue, Detroit. Age 54.

Normal weight 205 pounds. Well-built energetic businessman. Had a nervous breakdown in 1920 since which suffered persistent dizziness until laryngeal trouble set in. Be-cause a hoarseness of voice developed he had tonsils removed by Dr. Simpson in Spring of 1923, but as this did not relieve the trouble, Dr. Simpson examined the larynx in November 1923, found a growth, removed a specimen at Harper Hospital for mic-roscopic diagnosis. Specimen was divided between the pathologist of Harper Hospital, Dr. P. F. Morse and the pathologist of the University of Michigan, Dr. A. S. Warthin, both of whom gave a diagnosis of carcinoma. Patient also consulted leading throat specialists including Dr. R. B. Canfield, of the University of Michigan, all of whom considered the condition inoperable cancer of larynx and advised tracheotomy, to relieve the difficulty in breathing. Patient submitted himself for treatment November 26th, 1923.

Examination of neck region presented one hazelnut size mass on right side and four larger masses on left side of neck, the largest being about the size of ones little finger, reaching from the lower border of the thyroid cartilage to the angle of the jaw. The laryngeal fossa appeared full of polyploid masses, but a good look was not obtained. Patient could not talk above a whis-per, was slightly cyanotic, respiration labored. Pain in left ear and throat.

Treatment was given and in three weeks, breathing was normal; voice much improved. Voice normal in eight weeks; all tumor masses had also disappeared. Examination of larynx June 1924, reveals no abnormality. Patient busy daily as a real estate salesman, talks all day as well as ever in his life. Voice clear and -normal. Weight 218 pounds. Dizziness has all left and he claims he does not get fatigued, and is perfectly well.

SARCOMA OF BRAIN

Mrs. R. Age 38. Normal weight about 200 pounds.

Trouble started in September of 1922 with persistent severe headache. Vision became poor and found -difficulty in milking the cows, a paralysis of the right hand having set in. Soon vomiting persistent and projectile in type developed. She consulted Dr. Charles Brooks who sent her to Harper Hos-pital where she was studied by the staff and a complete examination of the cranial nerves recorded. This was December 1922, when also a decompression was performed and a piece of skull removed from the right side of the skull four by five inches in size. In-tracranial pressure was high and the escape relieved some of the patient's symptoms for a few weeks. She returned from the hos-pital in two weeks and the progress of the disease was much more rapid, all symptoms becoming accentuated. Diagnosis obtained by the exploration was given as sarcoma or possibly glioma; no tissue examination was reported. Patient seen by me in July of 1923 was found to be in extremely bad shape. Paralysis was practically complete; was blind and unable to articulate, projectile vomiting persisted. Examination of head showed a mass six inches long, five inches high and three inches thick projecting from the side of her head. The edges of the skull about the decompression opening were felt with deep hard pressure but the projecting mass contained some-thing hard that could be felt through the fluid about one inch beneath the scalp. No further examination was made; as the pa-tient was in such extremely bad condition accurate data could not be expected. She was very anemic and emaciated. Koch treatment was given in July and recovery was complete by November 1923, at which time the patient gained weight to 180 pounds, all of the tumor

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mass having disappeared and sensory and motor functions returned to normal. Examination May 1924, weight 220 pounds, decompression two and one half inches by two inches, scalp slightly sunken over the opening, patient in perfect health.

The diagnosis of sarcoma or glioma might be modified to sarcoma because of the rapid rate of development of the trouble and the rapid recovery.

CANCER OF THE RECTUM

Mrs. S. of Spokane Street, Detroit. Age 48.

Normal weight around 100 pounds. Was well until Spring 1921, when she started to bleed from the rectum and a progressive constipation set in. Finally pain in the lower spine developed and by the Spring of 1923, bowel obstruction threatened. She entered the Henry Ford Hospital March 17th, 1923 and an operation removing the lower ten inches of the bowel and a cancer mass was performed, diagnosis by microscope proved it to be cancer. The patient nearly died of shock but after two months she could be moved to her home. The condition rapidly grew worse, bleeding, odorous discharge, pain and bowel obstruction returned with violence. Soon small sores appeared around the anus and the feces came through the vagina practically complete. She grew weaker and pain in the upper abdomen associated with vomiting set in. I was called to see her August 7th, 1923, found patient bedfast and thin. Examination of abdomen showed liver enlargement reaching one-third distance from ribs to umbilicus and a hard three lobed mass filling the pelvis and reaching from pubes to one finger breadth from umbilicus.

Examination of anal region showed walls of orifice to be completely covered and closed by cancer tissue so that exploration within the rectum was not attempted. However, through the vagina, a fistula could be explored able to admit three fingers and opening into the rectum. The recto-vaginal wall was non-elastic, thickened and nodular, the whole area was painful, bleeding and admitting a characteristic discharge.

Koch treatment and recovery was complete in fourteen weeks except that the recto-vaginal fistula was not completely healed until January 1924. At present she is strong, can pass a stool as large as ones thumb, has no pain and stools all come through the rectum. All traces of cancer have disappeared, exploration of the recto-vaginal wall can find no abnormality and the patient is perfectly well except for the loss of sphincter control, which we refer to the results of the operation.

CANCER OF CERVIX, VAGINAL WALL AND VULVA

Mrs. M. M., White Plains, N. Y. Age 58.

Previous History. First referred to the Radium Institute by Dr. Robert H. Shanahan of Yonkers, in July 1920, for uterine fibroid. This condition yielded to radiation and uterine body reduced to apparently a normal size. Patient reports laceration during first childbirth. Operated in June 1919, by Dr. Shanahan and small fibroid removed and cervix repaired. General health good.

August 3rd, 1923. Patient reported persistent bleeding. Examination showed an ulcerated area on posterior border of cervix and involving vaginal wall over an area of three cm.

September 13th. After three weeks of observation with evidence of increased ulceration, radium treatment instituted. From September 13th, to November 13th, 1923 patient received three massive

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radium treatments totaling 6,000-milligram hours. Some relief of pain secured and apparent control of the process.

November 13th. Active advance of the nodular growth and ulceration on the labia majora and minora. Area on both sides about 4 cm. long. Unbearable pain evidenced. Heavy characteristic cancer odor. Patient's physical condition poor. Ashy grey color. Bowel action poor. Pelvic pressure excessive.

November 20th. Koch treatment administered. Ulcerated area starting on opposite side of vagina, in one week developing size equal to original area on right side. Old area less painful.

November 30th. Labia majora show numerous neoplastic nodules, slightly discolored with similar nodules beneath skin along right side of neck. Ulcer on right border of vagina practically healed. That on left border apparently improved.

December 20th. Report covering three visits. Continued reaction showing a multitude of small papular areas on labia majora. Surface of papules black and of melano type. Similar reaction noted on arm and neck without discoloration. The ulceration on lateral surface of vagina gradually healing and at present appears cured.

August 1st, 1924. No abnormal condition present. Case cured.

CANCER OF THE STOMACH

Mr. B. S., 306 East 53rd Street, New York City. Age 78. Married. Native of Bavaria. Cigar maker.

Early History. Shows irregular meals for years. Gastric trouble common, some loss of weight.

January 19th 1924. Three months ago developed pain of colic type in stomach. Very severe pain directly on taking any food. Tendency to bowel stoppage and several days pass without movement. Tenesmus symptom common. Has external and -internal hemorrhoids. No venereal sickness. Always well. Blood -never examined, no bladder trouble. No X-ray examination made. No loss of weight. Complains of pain in back due to injury following a fall. Examination shows a mass along greater curvature of stomach about twelve cm. long. Tender on pressure. Pain radiating toward liver. Liver extending two inches below free border of ribs. Tenderness over gall bladder area. Mass in lower abdomen about two by two and a half inches also tender to pressure. No previous treatment administered. Koch Treatment administered.

February 2nd. Reported cutaneous eruption around neck and shoulders. No nausea or vomiting. Food intake liberal with no difficulty. Careful examination shows slight thickening remaining instead of the pronounced mass previously found. General condition greatly improved. Feels no pain or distress.

March 15th. Examination with no evidence of any remaining growth. No digestive symptoms or pain of any type. Patient entirely well. Only abnormality presenting is tile nodule to the right of the umbilicus, which appears to be reduced one half.

May 24th. Stomach apparently normal. Digestion normal. No pain. Patient feels no need of further care. This result was entirely due to the single treatment.

August 1st. Case remains well. No abnormal symptoms.

Is A Cure For Cancer Possible By Antitoxin And Serum Treatment Eighteen Months With The Koch Cancer Antitoxin

**By C. Everett Field, M.D.,
Director, Radium Institute Of New York.**

*Read before the American Association for the Prevention and Cure of Cancer, Atlantic City, N. J., May 27th, 1925.

ALL investigations of cancer center on the ultimate belief of finding a means of cure and prevention.

A brief year has developed an encouraging condition as regards a leaning of the medical profession toward an acceptance of the theory that cancer is traceable to constitutional causes. Notable progress is being made in the study of altered physiological processes rather than pathological findings.

Just now there are many research workers busy in their study of the different types of bacteria, protozoa, and direct toxin-forming substances, each patiently working out their original problem. Soon their effort may be coordinated as we are brought aware of changes in metabolism during the cancer period of life. There must be found both a reason for the broken immunity against malignant invasion and a formation of a suitable soil for cancer cell proliferation.

Plant cancer is comparable with the human type. Certain changes in plant vitality due to environment, age and chemistry are recognized to be similar to the history of malignancy in man. The acceptance by accredited authorities of the parasitic origin of cancer in plant life and in the lower animals seems to apply equally well in the human type. The entrance into the plant crown gall of an infectious parasite excites a rapid stimulation of cell division and proliferation, together with metastatic processes.

Koch (Detroit) has clearly evidenced his belief, after ten years of both clinical and laboratory effort, that the cause of cancer is met in the form of a toxin-forming chemistry associated with metabolic deficiencies that act as an excitant stimulus to an outrageous and riotous cell growth which we term malignancy.

Doctor Koch claims further to have developed a synthetic anti-toxin of chemical nature, which combines readily with the existing chemical processes of metabolism to serve as an active agent of attack. Clinically, within a few days after its application, there develops a train of characteristic reactions that are easily checked up. A primary tonic effect is frequently met, followed by some eight or ten weeks of stormy reactions, which generally reach their height, near the end of the third month. This phenomenon is largely due to the absorption of toxins, and in the more severe cases we find an over-whelming toxic state presenting toward the end of this period.

It has been our experience that the malignant process attacked is brought under complete control so far as further advance is concerned, in at least 90 percent of our cases treated. This state of affairs is so common with us that we feel it well worth reporting. There seems to be no doubt but that the Koch synthetic antitoxin puts a stop to continued cancer cell proliferation.

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Within ten days to two weeks there is a beginning retrogression of the mass, together with a transformation of its structure. Either the mass undergoes a process of degeneration or digestion. Reports from authoritative sources show the tissues undergoing digestive changes. At times the mass becomes exceedingly dense and hard, due to a form of calcific degeneration. Such masses are entirely inactive and can be counted on as taking at least a year to disappear.

Hemorrhage, odor and pain are greatly improved in the large majority of cases. Where pain is present it generally follows along with the temperature reactions associated with the rapid absorption of the cancer tissue. Cases showing open ulceration over wide areas naturally show more definite and troublesome reactions. We have rarely seen death caused by the toxic manifestations during the reaction stage. Fatalities seem to point to a break-up of body chemistry that is so complete that it cannot be renewed or built up. Therefore, our present plan is to accept no case for treatment that exhibits marked anemia, serious kidney deficiency or well-defined cancer cachexia. Such conditions spell failure more surely than does extensive malignant involvement. Patients who have received heavy radiation with X-ray and radium do not do well.

In that the chemical processes established under this treatment continue for many weeks, it is of the utmost necessity that the dietetic supervision, as outlined by Doctor Koch, be carried on carefully for many months and possibly for years.

During the first year of our work with the Koch Antitoxin we refrain from using it except in cases classed as 100 percent hopeless when considered from any other known treatment. While such a procedure is manifestly unfair to any treatment, the cures we have secured have impressed us tremendously. From a classified group of fifty cases of such a type, we show apparent cures in eighteen patients. Improvement in this series was marked with twenty-four patients and death resulted in eight cases.

In one independent group of clinical cases, conducted under the direction of Dr. Robert Shanaban, chief surgeon of St. John's Hospital, Yonkers, New York, who held no faith in the treatment when presented to him, we undertook the care of ten patients. A very poor follow-up treatment was made, and interruptions were frequent. The final results of this work showed three cases of undoubted cancer alive and in splendid health after fifteen months. A copy of a letter from Doctor Shanahan presents an opinion that I think worthy of reporting.

"We are at present using the treatment in a number of cures as a prophylactic measure as well an adjunct to surgical treatment. In that the treatment is entirely harmless to the patient in good physical condition, we strongly advocate its more generous adoption." The ethical cloud that has so unfortunately hovered over this treatment measure has not yet been lifted. No blame can justly be put upon the shoulders of Doctor Koch, and we are all working with the hope that very soon a better feeling will be exhibited by the members of the Wayne County Medical Society of Detroit that will result in the publication of all the true data, formulae, method of preparation and distribution of the Koch antitoxin.

We are presenting the following clinical histories of a few typical cases that will merit careful consideration:

CASE 1. Mrs. Alice B. Carcinoma of Breast. In July 1928, while in the country, noticed a swollen gland in left axilla about the size of a walnut. About the end of August two small glands appeared in left supraclavicular. No pain or tenderness. Went to see a family physician that referred the patient to Dr. Francis Carter Wood, who made a diagnosis of sarcoma. In October 1923, Doctor Wood gave her X-ray treatments for these glands. Treated every other week for two or three months. These glands practically

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disappeared January 1924, a lump appeared in the left breast. Doctor Wood gave her several X-ray treatments for this. Two weeks later treated gland in supraclavicular region. One week later told patient he could do nothing more for her, and referred her to a surgeon for operation, writing note to the surgeon that he had been treating her for Hodgkin's disease. No loss of weight, appetite fine, no constipation. Two years ago Dr. Louis Martin performed a hysterectomy for uterine fibroid.

May 6, 1924: Examination preparatory to operation showed entire left breast solid with cancer, together with well-defined masses in axilla.

May 8, 1924: Gland taken from the area above the breast towards the axilla by Dr. Robert P. Wadhams. Tissue examined and found to be carcinoma by Dr. Joseph E. Connery. Operation deemed hopeless.

May 31, 1924: Koch formula treatment given. The gland in the left breast following operative procedure for specimen shows increase in size. Swelling extending upward above the breast structure.

June 5, 1924: Condition unchanged.

June 19, 1924: Slight increase in the breast area, but a softening of the tissues noted.

July 8, 1924: Slight increase in breast mass. No change in the axillary nodule.

September 23, 1924: Weight increased four pounds. General health perfect. Lump under arm about 5 cm. in diameter, hard and inactive. Mass in breast filling about half of gland and is exceedingly hard.

October 7, 1924: Second Koch Treatment administered. General health and vitality improving. Red cell count 4,500,000. Appetite good.

November 24, 1924: No change in nodule in axilla. Mass in breast increased in size due to increased vascularity. Soft growth almost filling the entire gland. Nausea with some temperature active. Breast feverish and for twenty-four hours was expected to abscess. Heavy reaction lasting from November 6 to 24.

December 8, 1924: Considerable improvement. Patient active in teaching. Appetite again good. Remarkable attitude of the patient in feeling great faith in the treatment. Mass in breast reducing in size. Lump in axilla unchanged.

December 30, 1924: Continued improvement. No nausea. Patient states that she never felt better. Continued reduction of gland in breast. At present, about the size present in October 1924, but more dense in type. No pain or distress.

January 23, 1925: No change except increase in weight. Patient normally all right, has gained ten pounds. Now at best weight.

May 1, 1925: No abnormality found in axillary region. Inactive small mass still present at base of left breast. Very hard, resembling cartilage. No signs of activity. No other manifestations. Splendid health evidenced.

CASE II. Mrs. Sallie B. Wife of a physician, Carcinoma of Sigmoid. —Aged 53 years; mother of three children. Health began failing in year 1923. Lost weight, abdominal pain, constipation. Consulted Dr. Gerry Margan, Washington, D. C., March 1924. X-ray examination showed cancerous mass at junction

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descending colon and sigmoid. This was easily discernible on palpitation. Operation (colostomy) by Dr. Charles White, of Washington, on March 17, 1924. Diagnosis of carcinoma was confirmed. Was given some X-ray treatments after operation. Loss of weight about twenty pounds. Did not seem to gain weight after operation up to July 9, when Koch Treatment was given. Ten days later weight was 114 1/2 pounds, a gain of 4 1/2 pounds. About the end of the third week there seemed to be some more reaction, and for several days did not feel quite so well. Appetite has been better since taking the treatment, and would say there has been a general improvement all around. She has more pep and color, some days looking a little better than others. Has had trouble in keeping the colostomy from closing up. Have to insert tube, and this gives her some pain and makes her nervous, and probably her off days could be attributed to that. Am afraid to let this close yet, as every four days I irrigate through the opening, but practically all-fecal matter passes through the rectum in the past several weeks. Have thought in the last few days the mass seemed smaller, but this may be due to too much enthusiasm. Husband just asked his wife what she thought of her condition since taking the Koch Treatment, and in her own words, "I have improved and there is no doubt about it."

October 21, 1924: Within three weeks following the Koch Treatment the colostomy wound started to heal up rapidly. Weight steadily increasing and appetite excellent. Examination shows rectal mass materially less. Mass at sigmoid region barely palpable but probably about 2 x 8 inches. No tendency to obstruction. Bowel movement good. Developed an abscess on the line of incision, which reached the size of a grapefruit and broke, bringing out a large mass of pus and blood. Temperature up to 103° and marked prostration followed. Ten days later, opening in abdominal wall about the size of a half-dollar, with healthy edges and signs of healing. In December reports showed wound healed, but patient much weaker.

January 12, 1925: Patient continued weak. Bowel actions sufficient but passages rather stringy. Much fermentation. Color not good. More confined to bed. Mass in abdomen unchanged. Second Koch Treatment given.

February 10, 1925: Reports of definite reaction up to third week with fever and nausea. Report from Doctor B. gives evidence of remarkable gain.

March 8, 1925: Normal formed bowel movements. Nothing coming from colostomy wound. Tube removed and allowed to heal in. Weight shows eight pounds gain, with appetite largely restored. Blood and urine normal.

The following letter from the husband, Doctor B., aptly describes the condition of the patient at this time:

May 6, 1925.

"Dear Doctor Field,

According to promise I am writing you about my wife. I have a surprise for you, and here it is. On yesterday she had a very normal stool at least three or four inches in length, at least an inch in diameter, and well formed. This to me bears out your statement of her improved condition, and I firmly believe the growth is absorbing.

My wife is now visiting her daughter in Washington. I saw Doctor C. W., the Washington surgeon, a few days ago and told him of our results, and incidentally asked him about letting the aide close up and he said certainly, but 'we must have been wrong in our diagnosis.' What do you know about that!

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With best regards,

I am, Very truly yours,

D. B. B.”

CASE III. Mr. Henry R.. Carcinoma of Sigmoid. —About one year ago patient noticed that his bowels were slowing. That is, he began to be constipated. This condition gradually increased until the latter part of May when he began to have rectal pain. He became very constipated, and would fill up with gas. Relieved only with enemas and cathartics, which would help the condition from twelve to twenty-four hours. Conscious of a mass causing obstruction in the lower left side. Diagnosis of malignancy of sigmoid was made.

Early in June went to Wesleyan Hospital in Chicago, and had five X-ray treatments, the last treatment being on June 10, 1924. No improvement. Remained about the same state with a little less pain until September 2, 1924, when he went to Detroit and was given treatment by Doctor Koch. At this time a mass following the line of sigmoid apparently 4 x 6 inches was palpable. Growth apparently fixed on outer border and nausea was caused by pressure. Patient slightly anemic and of an ashy-gray color. In the following four weeks improvement was rapid. He did not even use enemas or cathartics. During the past month began to become constipated and again has had to use enemas and cathartics. No pain, but feels distress at times. Normal weight, 180. At time of treatment by Doctor Koch his weight was 180. Gained back to 143 at end of first month. Present weight 189. Appetite good. When bowels do not move has considerable indigestion. Second Koch Treatment administered November 5, 1924, by Doctor Field at the Radium Institute of New York. Mass in lower left border of abdomen about three inches in diameter, and apparently holding back fecal matter, which was accumulated, in considerable quantities above. Patient's general condition improved, with weight about normal. Appetite good.

February 16, 1925: Patient examined and no evidence of mass found. Condition excellent. Considerable tendency towards fermentation present. Patient is normal so far as bowel action is concerned. Actively engaged in business. Discharged as cured.

May 1, 1925: Patient reports splendid health, with no symptoms of note.

CASE IV. Mr. John H. Referred by Dr. R. H. Shanahan, of Yonkers, New York. Gastric and Duodenal Carcinoma—Aged 42, occupation plumber. Parents alive and well. Two brothers and one sister alive and well. No malignancy in family. Normal weight about 138, present weight 116.

Suffered from indigestion for over ten years. Failing in health rapidly during past year. In May 1923, operated on by Dr. Robert Shanahan, who suspected a serious gastric ulcer. An inoperable mass of malignant structure was found, involving the duodenum and glands behind the stomach. Diagnosis of carcinoma confirmed by laboratory. Gastro-enterostomy was performed and a bad prognosis given. After stormy period of convalescence patient became fairly well and gained weight. June 15, 1923, weight was 127 pounds. Since the operation complained of frequent pain and vomiting with general gastric disturbance. General history showed three weeks of improvement and three weeks of setback. Confined to bed six weeks.

March 1, 1924: Examined by Doctors Field and Benedict, with Doctor Shanahan. Distress more acute. Excessive vomiting. Apparently unable to keep down even water. Confined to bed. Given enemas of milk sugar and nothing permitted by mouth. After four days was given water and then sugar solution by

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mouth. Physical condition very poor. Weight 122 pounds and losing rapidly. Case classed by entire staff as hopeless of any known treatment. Examination showed a palpable mass extending across center of abdomen over an area of six inches and downward to one inch above the umbilicus. Kidney elimination fair. Hemoglobin index 70 percent.

March 14, 1924: Koch Antitoxin 1 cm. administered with suitable dietetic regulations. Colonic irrigations suggested.

March 29, 1924: No Special reaction outside of tonic influences reported. No temperature or body discomfort. Free from pain. Increase of strength and appetite marked. Semi-solid food and meat juices taken liberally. Weight 139% pounds. Patient out of bed and fairly active.

April 14, 1924: Patient reports feeling well. Food intake still semi-solid and taken freely. Some referred pain due to fermentation, but no tendency to vomiting. Weight steadily increasing to 142% pounds. Solid food advised with more care of bowels. Blood count materially improved.

May 27, 1924: Weight holding stationary. Reports pain developing during past week over stomach area and extending around to right side beneath liver. Solid food causing distress was discontinued. Liquid diet with meat juices ordered. Second Koch antitoxin dosage of 1 cm. administered.

September 26, 1924: Patient reports feeling strong. Has been working as foreman plumber for five months. Still has pain radiating over stomach but no vomiting. Weight holding good.

December 6, 1924: Patient reported as well.

CASE V. Mrs. B. S. J. Carcinoma of Uterine Cervix. In the early part of January, 1924, began to be bothered with pain in the left groin, dull in character, did not radiate. Between periods would have a little spotting. Pain gradually became worse, being sharper in character, and moved up just below left lower rib. Went to family physician, who advised radium treatments.

In June 1924, was referred to the Mayo Clinic, where a diagnosis of carcinoma of the uterine cervix was made. Doctor Bowing, of the Mayo Clinic, gave four radium and four X-ray treatments. These treatments seemed to relieve the pain in the groin, after which it appeared beneath ribs. Husband was informed of the seriousness of the situation, and that no assurance could be given that there would not be a prompt recurrence. Prognosis bad. Normal weight 118, before radiation 113, went down to 106 after radiation treatment. Appetite and digestion good. Bowels regular. Three children, youngest eight years old. All normal deliveries. Laceration reported with no repair operation. Profound exhaustion followed the X-ray treatments with some nausea and lack of circulation to the extremities.

Patient referred to the Radium Institute for Koch Treatment by Dr. Z. F. Atwell, of Canton, Ohio, on September 20, 1924. Present condition show the patient anemic and a slight tendency towards cachexia. Examination showed wide and flat cervix with nodules of suspicious type. No active areas noted. Marked tenderness under free border of ribs on both sides, more intense on left side. Blood analysis showed red cells 8,200,000. White cells 4100. Urine showed a trace of albumen. Uterus moderately enlarged with no fixation. Tenderness marked on lower left side of abdomen. Two small gland masses mapped out to left of uterus. Although there was no absolute evidence of malignant recurrence, the Koch Antitoxin was advised as a prophylactic measure.

September 23, 1924: Koch Antitoxin 1 cm. administered and acid-free diet ordered.

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December 9, 1924: Following ten weeks of mild reactions patient reported as improved physically, with no disturbing symptoms. Weight increasing almost to normal 114 pounds. Appetite good. Still some abdominal pain associated with fermentation.

February 3, 1925: Report: pain continuing with some loss of resistance. No serious symptoms. Blood analysis taken at Mercy Hospital gives red cell count 4,040,000; white cell count 4600. Hemoglobin index 70 percent. Slight increase in pale area of red cells was reported.

May 20, 1925: Patient improving in weight and general physical condition, and symptom-free.

Favorable outlook assured.

THE CURE OF CANCER, BY THE KOCH SYNTHETIC ANTITOXIN; A REPORT OF THE INVESTIGATION OF THIS TREATMENT.

**By FREDERICK DUGDALE, M.D.,
Boston, Mass.**

*Read before the American Association for the Prevention and Cure of Cancer,

Atlantic City, N. J., May 27th, 1925.

Cancer, Vol. 24: July 1925; pp. 350-360.

As a result of over twenty years' careful study of cancer, during which time many hundreds of sufferers with this disease have come under his care, it is the writer's opinion that there are in the United States, at the present time, over one million people actually suffering with cancer, who are in need of care and treatment; that there are over five million in the potential stage of this disease; that there will be at least two hundred and fifty thousand deaths from cancer in 1925, and due to its rapid increase it will, in the years to come, claim millions of victims.

At the present time, the medical profession frankly state that the cause of cancer is unknown, and that when the disease has spread beyond the areas first involved, the possibility of curing the sufferer through the use of surgery, X-ray, radium, escharotics, or electro-therapeutic means, even in the hands of those of the highest skill, is exceedingly remote.

The profession should, therefore, be interested in any measure tending to relieve or cure such a class of cases.

It has for many years been the writer's opinion that, until those using the methods referred to above realize that the sufferer must be treated constitutionally as well as locally, success in a very high per-centage of their cases will never follow their efforts, for they cannot be cured until the cause and all the elements of which the cancer consists have been removed from their body.

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During these years he has, therefore, interested himself in the treatment of cancer as a constitutional disease and has made a careful investigation of treatments which have been suggested by the profession based along these lines.

In the early part of November, 1920, Dr. W. Wallace Fritz, of Philadelphia, and the writer, were invited by Dr. William F. Koch, who at that time was professor of Physiology at the Detroit Medical College, Detroit, Michigan, to visit his laboratory and discuss with him his treatment for the cure of cancer, a report of which had previously appeared in the New York Medical Record of October 30, 1920.

Doctor Koch, who is a Bachelor and Master of Arts and Doctor of Philosophy, had received his degrees from the University of Michigan, where he had been assistant Physiologist from 1909 to 1911, at which time he became an instructor of Histology and Embryology, which subjects he taught up to 1914. He then became Professor of Physiology at the Detroit College of Medicine, from which he received his M.D. degree, and where he continued to teach up to 1919.

In 1914 he was appointed and still retains the position as consulting pathologist to the Women's Hospital of Detroit.

In referring to his treatment for the cure of cancer, Doctor Koch stated "it was a result of ten years of extensive research work, which had been originally conducted in his laboratory to determine the functions of the parathyroid glands, whose duty he had proved was to protect the body from the effects of certain toxic poisons."

In 1917, Paton working in the Research Laboratories at the University of Glasgow, Scotland, confirmed Koch's previous findings, for which he was awarded the Triennial Prize by Harvard University. Doctor Koch further stated that, "as a result of this research work, he had definitely determined that cancer is a result of a germ infection, that it is an hereditary, constitutional, infectious disease from the moment of its inception, and that the millions suffering with cancer furnish sufficient evidence to prove that the infection is widespread;

"That he has also proven that it was the toxins of this germ which acted as the exciting stimulus to cell growth, and that the development of the cancerous growth is merely an attempt by the body to protect itself against the action of these toxic poisons which are circulating in the blood stream;

"That he had found that the cells of the cancerous growth also produced a toxic material which, when it was isolated and injected, into animal controls, resulted in the appearance of certain specific actions which showed they were affecting the nerve centers in the brain, which controlled this optic and auditory nerves as well as acting upon various nerve centers in the spinal cord.

In referring to the development of his treatment, Doctor Koch stated that, as a result of a careful study of the chemistry of the stimulus toxin and the toxic material thrown off by the cancerous growth itself, he had finally succeeded in identifying the structure of their active groupings, which indicated the type of change which was required to develop a successful antitoxin by which the germ, its toxin, and the toxic material of the growth could be destroyed;

That he had proved that antitoxins are not, as the Ehrlich theory states, new substances built up from the tissue to neutralize the toxin of the germ causing the infection, but are converted toxins, a result of the shifting of certain essential groupings in the electronic structures of the toxin, which change is known as isorrhopesis; that after this shifting of the electrons has taken place, the changed toxin can still combine

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with the toxin of its original source, the infecting agent, and induce further chemical changes within its structure which causes its death and thus brings immunity to the sufferer.

This changed toxin can also induce further isorrhopic changes in the molecules of the toxin already liberated from the infecting agent producing therefore more antitoxin. The toxin is, therefore, the material from which the antitoxin is manufactured, and it is for this reason that toxin-antitoxin mixtures are much more efficient therapeutic agents than antitoxin alone.

Nature continuously tries to convert the toxins elaborated by the germ and the cancerous growth into antitoxin, but its effort is inadequate, and the sufferer is unable to respond to the continued withdrawal of their vitality and eventually succumbs.

The function that the cancerous growth, therefore, attempts to perform is to convert these toxins into antitoxins and establish immunity.

Doctor Koch stated, "that after four years of extensive and intensive research work in the bio-chemical laboratory in which chemistry of the most delicate nature was involved, he had finally succeeded in developing a synthetic antitoxin (not a serum) which had proved to have been successful, by curing sufferers in the advanced stages of cancer."

The electronic structure of the synthetic chemical used in the treatment which acts as the converter of the toxin to antitoxin is of such a nature that it is a late intermediary phase, which automatically passes into the antitoxin stage as a result of which complete conversion of toxin into antitoxin takes place.

Doctor Koch stated, "that it is possible under certain electronic influences to act upon this converter in such a manner that the inter-mediary structure of the antitoxin can be changed back to toxin, but that the electronic structure of the completed antitoxin is such that it can never be changed back to toxin."

He stated, "that the treatment was a difficult and delicately prepared compound, which required great accuracy in the proportioning of the active groupings for correct energy distribution, and required weeks of laboratory work to complete;" "That on account of its unstable nature, he was unable to prepare it for distribution, as a result of which we were unable to obtain a supply of same."

Since the above date, the writer has made several visits to Doctor Koch's clinic, where he has been given full opportunity to personally examine over two hundred of his cases, and he has also corresponded with a large number of patients, who have received this treatment, and during this time Doctor Koch's original findings have been proven to have been absolutely correct.

With few exceptions, the cases, which have received this treatment, are of the type in which surgery, X-ray, or radium show approximately 100 percent failures, and include such cases as cancer of the brain, tongue, larynx, esophagus, stomach, liver, intestinal and pelvic organs, uterus, bladder, prostate gland, and the extensive types of rectal cancer.

Through the use of the Koch Treatment, cases of the above classes have been cured, and are still in perfect health, from one to six years after having received treatment.

In about one-third of these cases, the clinical diagnosis of cancer had been substantiated by microscopic examination of the tissue and the reports from men of unquestioned reputation as experts in pathology, while the hospital and private medical records have justified a true diagnosis of this disease, in all other cases.

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Among the most important results associated with a study of a large number of cases treated by Doctor Koch is the interpretation of the findings previously worked out on the animal controls, which have shown them to have been premonitory symptom of the disease, which are referred to by Doctor Koch as the pre-growth symptoms, and which are called to the attention of the profession for the first time in medical history, for they have never been referred to in either the current or special literature relating to this subject. These symptoms are so definite that, after the sufferer's history has been obtained, it is often possible to tell them when the growth was first noticed and, when they are given the serious consideration to which they are entitled, thousands of lives will be saved by the physicians' having their patients treated in the early stage of the disease.

In a series of 400 cases, which have been closely studied by Doctor Koch, in fully 95 percent the prevailing disturbances, of which the patients had complained prior to the discovery of the growth, showed there had been an interference with the normal function of the optic and auditory nerves and the nerve tract in the spinal cord.

These symptoms varied in their modes of manifestation. One of the most constant symptoms referred to was the various disturbances of vision. Many of the patients stated they had suffered over periods of year with so-called attacks of indigestion associated with migraine or bilious headaches during the attacks of which they would temporarily lose their eyesight, or it would become blurred.

Others stated that all object looked at became hazy, or wherever they looked they persistently saw objects similar to pins and needles. Others stated they would suddenly become blind and run into things.

Many stated that blinding flashes of light or flying bodies or spots danced before the eyes, or various-colored light would travel across the field of vision in a zigzag line. Other cases stated that, after turning out the light at night or when they awakened in the morning, they had dizzy spells. In the former cases, if they turned on the light and looked steadily at one object, it relieved them. In the latter cases, they were relieved by closing their eyes.

Some cases stated that there was a partial loss of control of certain muscles, as a result of which they were unable to talk, walk or properly use their hands or feet and the gait became unsteady. In many of these cases this condition was associated with anxiety and mental confusion.

Other forms of pre-growth symptoms were peculiar abnormal sensations, in which the sufferer stated that in certain parts of the body there was a feeling as if they were being burned, or they were being pricked with pins or needle, or as if insects were crawling beneath the skin; others complained of a sensation of tingling in the fingers, hands, arms and tongue, or a trembling or twitching in various sets of muscle of the upper arms or legs.

Other cases stated that they had suffered with dizziness or vertigo of such a character or degree that they would lose their balance, and it frequently had been necessary for them to sit down during the attack. These attacks were frequently associated with various disorders of hearing, as ringing of bells, or hissing noises, similar to escaping steam, or as if water were running.

Others stated they had suffered with attacks of weak spells, usually associated with a complete loss of control of the muscles of the lower extremities, as a result of which they would suddenly drop to the ground as if dying, but would not lose consciousness. Sufferers with cancer of the stomach, liver, large intestines and pelvic organs, frequently gave a history of having suffered with various forms of skin

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diseases, especially eczema associated with itching in various parts of the body, but especially around the anus (pruritus ani).

In some cases changes took place in the pigment of the skin, while in others there were swellings of both the internal and external lymphatic glands characteristic of Hodgkin's disease. Other cases stated that for years they had suffered with various types of rheumatism, neuralgia, or neuritis, associated with the loss of sensation in certain areas of the body, and a paralysis of one or more groups of muscles.

The close relationship between rheumatism, gout, and cancer has been called to the attention of the profession, by many writers.

Many of the cases who were found to be suffering with cancer of the large bowel and rectum stated that without any apparent cause the bowels had become constipated, which condition continued for various periods of time, to later be followed by attacks of diarrhea or the passing of mucus and blood from the rectum.

In about 2 percent of the cases studied, the histories showed the patient had suffered with symptoms suggestive of a distinct mental derangement which had been incorrectly diagnosed, as paranoia, a mental condition in which the patient suffers with delusions regarding one subject, as having committed an unpardonable sin or of poisoning food, or he had suffered with spells of melancholia.

The histories then showed that after the patient had suffered with these symptoms for various periods of time, they partially or entirely disappeared.

It was during the time in which these symptoms were not so prominent that the cancerous tumor was growing and neutralizing the toxic material given off by the cancer germ, thus the cancer activity resembled the action of the parathyroid gland, which neutralizes and removes toxic material from the blood. So long as the tumor mass continued to grow, it could partially or wholly neutralize this poison and thus control these symptoms.

Within a short period of time after an attempt was made to remove the growth by a surgical operation or by other methods, the patients stated that the former symptoms reappeared. When the growth reoccurred, and was able to again partially or wholly neutralize the toxic poisons, these symptoms again also partially or wholly disappeared.

With few exceptions, up to the present time, the treatment has never been administered, except by Doctor Koch, himself. The privilege of representing his work in the Eastern States, for which he is deeply grateful to Doctor Koch, was granted to the writer on November 24, 1924.

Since that date it has been given to eighty-five patients under his care, who were suffering with cancer of various types, and in various stages of the disease from the most advanced and on their deathbeds to those whose condition is such that they are still able to continue their vocation.

One of the most advanced and desperate cases of cancer of the stomach and liver, who received this treatment, is clinically cured, with every evidence of cancer, having disappeared. Another advanced case of cancer of the intestines (ceacum) is also clinically cured.

Thirty-six cases are progressing favorably. Twenty-seven cases have not had the treatment for a sufficient length of time upon which a report can be based.

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It has been impossible to secure any information regarding eight of the cases, which were treated in this series.

Twelve cases, which were in the most advanced stages, associated with heart and kidney complications, have died. Seven had been previously subjected to several operations, heavy X-ray or radium treatments.

In a careful and thorough study of the histories of these cases the writer has been able to secure in seventy-five a clean-cut description of practically every type of pre-growth symptoms previously referred to, covering periods of from one to thirty years prior to the physical or visible manifestation of the growth, which fully verifies Doctor Koch's findings.

The treatment, which is a clear and colorless synthetic compound, is administered by hypodermic injection. The location selected for administration is the upper part of the arm. The amount injected is one cc. Many cases are cured by two treatments. In others, a third or fourth is necessary. The period between the first and second injection is twelve weeks. If necessary, the third and fourth treatment is given after an interval of several months.

After the injections, reactions consisting of fever, nausea and vomiting may develop at different periods. They are due to changes in the concentration of the toxins circulating in the blood. They may appear for a few hours from the second to the fourth day; from the fourth to the sixth week; about the middle of the ninth week; and during the twelfth week.

The first reaction is due to the rapid decrease in the circulating toxins; the second to the absorption of the material of which the growth consists and the liberation of its stored toxins. The last two are the result of the withdrawal of the last traces of the toxin.

Frequently some anaphylactic effects are present, due to the absorption of bacterial toxins, a result of secondary infection. In some cases, the growth temporarily becomes larger and there is an increase in all symptoms including the pain. In other cases, the growth rapidly becomes smaller and the pain and all other symptoms disappear. Very often a case clears up with little or no reactions.

As soon as the casual infection, its toxin, and the toxin's of the cancer cells are destroyed by their own antitoxin, the cells immediately undergo calcification and digestion, become normal and assume their original electrical polarity.

The cancer material of which the growth consists then revert back to the same element as were taken from the blood in the progress of its growth, which material is absorbed and goes to again nourish the body, and as the result of the in-growth of angioblastic tissue, parts which have been destroyed, causing conditions such as recto- and vesico-vaginal fistulae, are again healed.

In the cases, which are extremely exhausted, before treatment is administered, or where there is an extensive malignant mass to be absorbed, or where heart and kidney complications are present, these patients frequently do not survive the toxic periods.

Cases, which have had heavy X-ray or radium treatments, do not respond so satisfactorily to the treatment as do those who have not received the same.

During the past six years Doctor Koch has proven his treatment to have been equally as effective in sarcoma and epithelioma as in carcinoma. His records show an average of 80 percent permanent

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recoveries in the most advanced cases, and a much higher percentage when the cases are seen in the earlier stages of the disease.

Other very important uses of the treatment are for diagnostic purposes, where the presence of the disease is suspected. If the disease is present, its use will be followed by the reaction referred to above.

For prophylactic or immunizing purposes it is used as a pre-ventative in the development of the disease in those now in the potential stage, or where other members of the family have died as a result of the same. During the time the patient is under treatment, they are not allowed foods or liquids containing acids. Morphine is used to control pain, enemas to keep the bowels active, and large amounts of soft drinking water to assist the activity of the kidneys and skin, and they are put on a vegetable diet.

SUMMARY

Doctor Koch's work is based upon: First. —The identification and isolation of the organism and its toxin, which originally causes cell stimulus. Second. —The identification and isolation of the toxin, elaborated by the cancerous growth. Third. —The successful synthesis of the substance that can convert the toxins of the disease into its antitoxin within the body, thus accomplishing the work, which the cancer growth attempts to do.

After a very thorough and careful investigation of Doctor Koch's work during the last four and a half years, it is the writer's opinion that he has come nearer to the solving of the cancer problem than any other man with whose work he is familiar, and no person can fail to be convinced of the unusual merit of the Koch Treatment, if he will make an honest investigation of same, for it combines every property which a successful treatment for cancer must meet.

The advantages associated with its use are as follows:

First. ---Through its use as a means of diagnosis in doubtful cases, it can be of the greatest service in determining the presence of cancer in its incipency before it manifests itself locally.

Second. —It is both selective and specific. It not only destroys the germ which is the cause of the disease, but it also causes a complete disintegration of it results, the cancer mass and its metastases, while through its powerful antitoxic action, it continues to neutralize the toxemia resulting there from until all the elements of which the cancer consists are removed from the body and blood stream, with the result the sufferer is cured.

Third. —Neither the location of the disease or the existence of secondary metastases affects the success associated with its use.

Fourth. —It is effective in all types of cancer, carcinoma, sarcoma, and epithelioma.

Fifth. —There are absolutely no harmful effects following its use.

Sixth. —It can be used for prophylactic purposes in preventing the development of the disease in those who are now in the early latent stages.

Seventh. ---Its use means the saving of millions of lives and an end to one of the greatest scourges of humanity.

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The Cancer Situation

Editorials And Editorial Comments

By

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WASHINGTON, D. C.

THE MEDICAL PRESS. Inc.

1926

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MEDICAL ETHICS

WHAT ARE WE TO UNDERSTAND BY THEM? A very serious problem now confronts a number of physicians. How are they to treat cancer? The methods now endorsed by Organized Medicine, surgery, X-ray and radium have proven inefficient even in the most skilled hands. Statistical studies show that cancer is on the increase. Local methods of attack having failed and both clinical and scientific observation having shown the constitutional nature of the disease a rational conclusion is that cancer should be treated medically. But Organized Medicine has no such method of treatment to offer. A serum or antitoxin treatment is not consistent with the interests of surgery, X-ray or radium.

Within the last ten years both a chemical antitoxin and a serum treatment have been discovered. Both the "antitoxin" and the serum, in the opinion of some of the leading medical men after clinical observation, have a decided effect on the absorption of cancer tissue and the restoring of the patient to health. Neither of these has had serious investigation by Organized Medicine, yet the Journal of the American Medical Association says that "It cannot be too earnestly asserted that neither one is in any sense established as either scientific or reliable."

How could Organized Medicine pass judgment on a cure discovered by a man of splendid attainments, whose laboratory researches had won the favorable comment of the best internists in the United States and Europe, without having given him proper opportunity to demonstrate to a medical body what his treatment could do? And that is just what did happen. To demonstrate the effectiveness of any constitutional treatment for cancer would take months, yet the investigation accorded Dr. Wm. F. Koch by the Wayne County Medical Society in 1919, lasted only four weeks. And the investigating committee, composed largely of surgeons and roentgenologists, made an unfavorable report. It is said that there were five members on the committee but that only three of them observed the seven hopeless cases brought to Herman Kiefer Hospital for this investigation. Two of these hopeless cases are now alive and well, over six years after the treatment was given by Dr. Koch. Assuming that the other five died, a saving of 29 percent is a remarkable result and should merit attention.

(Dr. Koch's evaluation of the Wayne County Medical Society's Tests is included on this web site.)

It is against the code of ethics of Organized Medicine to use a remedy of which the formula is secret Dr. Koch stood ready to dedicate his discovery to his county medical society had it found a favorable report

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at the time of this investigation in 1919. Twice since then he has indicated his desire to dedicate the formula to medicine, but he will not reveal the formula until his treatment has had proper investigation and endorsement by a medical body. Self-protection is the first law of preservation in matters medical as well as elsewhere. Medical history is full of experiences of men who suffered ridicule by their less learned confreres.

Today nearly a hundred physicians are convinced from personal observation that cancer is being cured by Koch's synthetic antitoxin. This Journal has published the case reports of nearly 50 cured cases, many of them of the worst forms of cancer. Over a score of physicians are so convinced of the efficacy of this treatment that if they were placed in position which required the making of a choice between severing relations with Organized Medicine or renouncing the use of a treatment which has enabled them to save lives that otherwise would have been lost, they would choose to sever relations with Organized Medicine. A number have already done so. To them the oath to save life is stronger than the oath to support the constitution of any fraternal organization, when such support would mean the renouncing of the only means known to them to save the life of a cancer sufferer.

There are a number of ethical physicians in the best interpretation of the term using the Koch Synthetic Antitoxin who have refrained from announcing their position through fear of undue criticism. The experience of a Professor of Surgery of Tulane University is an example of what some men fear should they frankly tell their medical societies what they are doing. This prominent surgeon, after announcing to his medical society what he was doing and after securing the seeming cooperation of some of its prominent members, was brought before the judicial body of the said medical society and denied the right as a member of the society to use a remedy which, in his opinion, would save life in some instances when all other methods of treatment had failed.

This man was none other than Doctor Carroll W. Allen of New Orleans. The September issue of the Journal* of his medical society gave 35 columns to his clinical experience in investigating Dr. Koch's work and of his personal observation from the treatment of 11 cases.

Dr. Allen's communication was presented to his medical society April 27, 1925. In this he states that the previous October he had strongly advised a patient having an inoperable cancer of the rectum to have nothing to do with the Koch treatment as it had been investigated and pronounced worthless.

*(Journal New Medical Surgical Society, September 1925.)

The patient, however, thought differently. Weighing less than 100 pounds and so weak that he had to be taken to the train on a stretcher, he went to Detroit. Two months later he returned to New Orleans weighing more than 130 pounds and, at the time of the writing of the doctor's paper, he weighed 170 pounds and attended regularly to his business, although there was still manifest some local evidence of the trouble. This was less than six months after going to Detroit. Shortly after this, Doctor Allen had an opportunity to see another wonderful result. He became interested and looked up Dr. Koch's early contributions to medical literature. These were found to be of more than passing interest, contributions such as one would expect from a high-class laboratory man. He decided to go to Detroit and of his visit there says:

Arriving there December 27th, I began a systematic study of his cases and saw many in all the various stages of reaction. Everything was absolutely open to my closest scrutiny and Dr. Koch was often not present during my examinations though at all times available to answer all questions, which he did with perfect frankness, both to me and the patients. Results were not always favorable, some were slow and uncertain and he expressed doubt regarding others. He states that 20 percent of his cases failed to react.

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All this was done in a spirit of perfect candor and openness that disarmed at once any feeling of the possibility of subterfuge or eva-sion that may have existed in my mind.

The most interesting and impressive thing was the cured cases: Of these I saw a large number and questioned them most closely. There remained no doubt but that they had had cancer as they all gave a perfect clinical history. Some were primarily inoperable, many had been operated with recurrence, and the majority had had the usual X-ray and radium. They all had been hopeless surgically and had come to Dr. Koch as a last report.

My duty was apparent, I should take some steps to bring this matter to the attention of the profession and I felt that the best means of accomplishing this as well as for further proof for myself was first to treat a few of my hopeless cases here and properly check this work with the aid of the laboratory. This appeared to me to be the best plan of procedure and I accordingly arranged with Dr. Koch to furnish me with as much of the formula as was needed.

Of his effort to bring the treatment of Dr. Koch to the attention of his local medical society, he says:

After my return, I felt I should place the matter before my confreres and accordingly invited 25 of my friends to meet at my house and asked their indulgence in allowing me to use it. I later had some correspondence with Dr. Parban, who was very kind in advising me about this matter and with whom I discussed it very freely. I have seen so much of its use that I believe there is something in this that profoundly affects cancer tissue and have felt that if Dr. Koch alone has been able to accomplish this much with it what might not be accomplished if we could get hold of it and investigate it in some of our great laboratories.

After the presentation of the report and the deductions on the 11 cases, which he had treated with Koch's method, Dr. Allen ended his paper as follows:

I feel that your careful consideration of the above cases must convince you that they have not run a normal cancer course and if Dr. Koch has not discovered what he thinks he has, at least found something which profoundly affects cancer tissue and I feel that it should be accorded a most liberal investigation both clinically and in the laboratory, as it may at least be the beginning of tremendous possibilities.

I have been persistently at work on the two objectionable features in the case of this preparation; its cost and its secrecy. The cost has been substantially reduced and I feel the problem of its secrecy is open to solution.

I beg that you carefully consider what I have said and withhold your judgment on this matter, at least for the present if it is the truth, we cannot stop it and I feel that it is worth the most thorough and careful investigation on the part of the profession. Let me work as I have proposed, join with me if you will and let the result be my judgment.

On May 18, 1925, Doctor Allen was called before the judiciary committee of his medical society. At this time, he requested that he be permitted simply to finish treating the 11 cases then under his charge. The Board of Directors, after considering the report of the judiciary committee, formally called the attention of Dr. Allen to page 9, Chapter 2, Section 6 of the Principles of Medical Ethics of the American Medical Association and requested that he give this matter immediate consideration. The report reads:

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The Board of Directors unanimously calls your attention to the fact that had your recommendations been accepted the whole society would be guilty of an unethical procedure and in all honesty would have been compelled to sever its affiliations with Organized Medicine as represented by the Louisiana State Medical Society and the American Medical Association. If Dr. Allen desires to investigate this remedy further, he should in all fairness to our organization resign.

Dr. Allen's reaction to this ultimatum is found in his renunciation, prepared in legal form, which was received by the assembled judiciary committee on July 24, 1923. How pitiable to find that a man of Dr. Allen's ability should have to comply with a code of ethics which proved to be a bar to his right to use a method which, in his opinion and in the experience of others, does save lives of persons who have been pronounced beyond all hope of recovery by any other method. Doctor Allen's statement reads:

Gentlemen:

Fully recognizing the incompatibility of my duties as a member of Organized Medicine with any professional or business relations with secret or proprietary remedies as opposed to the principles of ethics, which govern a liberal and humanitarian profession. I hereby declare that I have severed all professional and business relations with Dr. W. F. Koch, of Detroit, Mich., as the inventor, manufacturer and promoter of a specific treatment for cancer. I hereby make it clearly and unequivocally understood that I shall have no further connection with the said Koch as one of his advocates and endorsers and that henceforth I shall cease to administer or distribute this treatment or recommend its administration to my patients or to those of other practitioners as long as its composition and manufacture remain a secret monopoly and only resume its use, if I deem proper after its composition and manufacture has been wholly, clearly and definitely revealed to the profession through recognized organs of the medical press.

I wish, however, to qualify in this otherwise absolute renunciation of the Koch Treatment with request that I be permitted to complete the observations on the patients to whom I have administered the treatment in a purely experimental way, and for which treatment there will be no fees, charges, or payments collected for services relative to the Koch Cure.

In making this declaration, I trust that the objection to my continuance as a member in good standing of Organized Medicine will be removed.

I will furnish your committee at an early date the list of cases now under treatment.

Yours very truly,

CARROLL W. ALLEN

Dr. Allen's wishes were overruled. Concerning the publication of his report of the cases, he says, in part, as follows:

Having renounced the further use of the treatment on ethical grounds. I feel that the publication of my paper will only have an unfavorable effect and may bring the Journal into discredit. It will certainly be gotten hold of by the lay press and as there is certainly enough to it to justify anyone trying it and there are a great many arguments that can be used which may be very hard to answer. There is also a great deal else that I feel will come out if it gets in the lay press which I feel is very much better left out.

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It is the general testimony of all physicians who have spent a number of days at the Koch Cancer Clinic, Detroit, that Dr. Koch is really curing cancer of the worst forms. How then, in the light of past events is his treatment to be made available to the medical profession? Dr. C. Everett Field, a Fellow of the American Medical Association and Director of the Radium Institute of New York, who has had two years' experience in the use of the synthetic antitoxin, has just published a book in which he sets forth the facts concerning the investigation of the Wayne County Medical Society and the attitude of the American Medical Association. Dr. Field is of the opinion that the matter cannot now be righted through the Wayne County Medical Society, Dr. Koch having on three specific occasions promised not only to publish his formula but to dedicate it to the Wayne County Medical Society together with the rights of distribution if it would, in turn, honestly investigate the remedy and report honestly its findings. It has shown no disposition to conduct a proper investigation.

The American Medical Association has taken no action as a body to investigate the Koch Treatment on the other hand, through its Propaganda for Reform Department of the Journal of the American Medical Association, it gives instruction that no interest be shown since to do so would in its opinion, "simply serve to advertise Koch and give his 'cure' a dignity which is not in the public interest." Dr. Koch needs no advertisement to increase his private practice. The best advertisement any physician can have is the testimony of grateful patients. But in the interest of the many cancer sufferers who are now being denied this means of help, it would seem the duty of the American Medical Association to appoint a special committee to work co-jointly with a committee of the Koch Cancer Foundation, an organization of licensed physicians, who are making personal observations in their private practice as to the efficacy of the synthetic antitoxin in the treatment of cancer.

Dr. Field suggests a joint committee be empowered to undertake a thorough and complete investigation of Dr. Koch's work during the past ten years, that the committee inaugurate a clinic where a large number of desperate cases could be treated and studied from a laboratory standpoint for, a period of one year, and that the report of this joint committee at the end of the year should have a bearing on the restoration of Dr. Koch to his membership in medical bodies and on the judgment to be rendered by Organized Medicine as to the efficacy of the treatment.

Until something of this kind is done, the formula will be a secret, Dr. Koch and many of his co-workers may be ostracized by Organized Medicine, and cancer sufferers that might otherwise be saved by the use of the antitoxin will continue to succumb from a curable disease. These are some of the things that medical ethics may mean. Life is a precious thing. Is there any law higher than the duty to save life? Every physician should investigate for himself what has actually been accomplished by the medical treatment of cancer by the use of a synthetic antitoxin, a serum, or by the use of drugs and diet. If the truth were known, if hospitals received and treated cancer sufferers by these methods as readily as they do by destructive methods, in the opinion of the Journal, they would soon issue a very different set of statistics as the percentage of cases of cancer that are cured and remain cured over a period of years.

Why not treat by these methods at least the cases, which have been pronounced inoperable and hopeless by those who use surgery, X-ray and radium? If the case is hopeless, there can be no objection using an antitoxin of which the formula is not known. In this way data may be gathered as to its efficacy. The Koch Cancer Foundation has the distribution of 23,000 free doses of the "antitoxin" for charity cases. If the value of the "antitoxin" can be thus proven, Organized Medicine will have to give heed and make it possible for the treatment to be dedicated to the medical profession. To publish the formula for the synthetic antitoxin for cancer would avail nothing in the interest of medical practice for its preparation involves a difficult technique. Those unacquainted with the technique, even though learned in photochemistry, might have to try many, many times before they could produce time after time a

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uniformly potent product. Some might never succeed. For this reason, the Koch Laboratories have been incorporated to manufacture synthetic antitoxins. The synthetic antitoxin for cancer is dispensed through the Koch Cancer Foundation.

Can Cancer Be Successfully Treated By Non-Surgical Methods?

Frederick Dugdale, M.D, Boston, Mass.

"Nobody will pretend that surgical removal is the ideal method of treating cancer, and surgeons all the world over would welcome some better and wholly different means of dealing with it." Charles P. Childe, B. A. F. R. C. S., Pres. Brit. Medl. Assn. in 1923. Cancer and the Public.

"Only by prevention can we reduce, and eventually abolish, the holocaust of unspeakable suffering and martyrdom and death which at present afflicts mankind. Only by prevention can we overcome the most horrible of all scourges (cancer)-Sir Arbuthnot Lane. Introduction to Cancer by T. Ellis Barker.

The writer has always been among those who contend that the clinical history of cancer cases points to its infectious origin and as a consequence to its successful treatment by systemic and not by local measures. Those who think differently have been in the majority and their ideas have dominated medical practice and as a consequence the accepted methods for the treatment of cancer have been those of surgery, X-ray and radium. Time has proven these methods to be failures, for the growths return, and both the prevalence of the disease and the number of deaths from its ravages are annually on the increase.

These facts are leading the laity to inquire "Is there no cure?" "Is it not possible to find a medicine or a serum that will destroy cancer?" "Is there no way of preventing cancer?" Evidence of the constitutional nature of cancer, of its parasitic origin and of the possibility of finding a successful medical treatment has been accumulating for over 20 years. This journal has recently published the facts observed by Glover, Scott, Louden, McCormack, Shaw-Mackenzie, Young, Irwin Smith and others who have contributed conclusive evidence as to the parasitic origin of cancer and some months ago it published several papers with over forty histories of cured cases under the general title "Cancer, Its Function and Cure" by Wm. F. Koch, M. D., of Detroit. *

* (Cancer Its Function and Cure is available on this website.)

The purpose of this paper** is to give a brief summary of the facts concerning a successful non-surgical treatment of cancer, a treatment that has now stood the crucial test of time-over 6 years without a return. I refer to the antitoxin treatment of Dr. Koch who received his first recognition from the medical profession for researches on the function of the parathyroid glands in 1912. Dr. Koch was a teacher in the medical Department of the University of Ann Arbor for four years and after that for, six years in the Detroit College of Medicine. During all these ten years he did much research work in physiology, animal experimentation and chemical analysis. After completing his work on the parathyroids he directed his attention to the study of cancer,-its toxin, its function, its cause, its cure and in 1919 made to his local medical society the first announcement of his "Cure" and about the same time sent a paper on his findings to the Medical Record which was published by that Journal, Oct. 30, 1920.

** (From a paper read at the Fourteenth Annual Convention of the American Association for Medico-Physical Research. Chicago, Sept. 21-26, 1925.)

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The writer first visited Dr. Koch in December, 1920, at which time in referring to his discoveries he said that his observations had proven to him that cancer is a result of a germ infection, the toxins of the germ acting as an exciting stimulus to cell growth.

When this toxin which he had succeeded in isolating was injected into animals they developed symptoms of a character that showed that the toxin acted upon the nerve centers in the brain which control certain portions of the optic and auditory nerves, and on various centers in the spinal cord which control the power of locomotion.

As a result of these findings Dr. Koch concluded that cancer is a constitutional disease from the moment of its inception.

TOXIC SYMPTOMS OF DEVELOPING DISEASE

He had clinically observed that a peculiar group of symptoms which varied in each individual case had usually preceded the development of the cancerous ulcer, tumor, lump or growth, which symptoms partially or completely disappeared when the ulcer, tumor, lump or growth was developing or had become fairly well developed.

These observations led him to believe that the function which the cancerous ulcer, tumor, lump or growth was attempting to perform was to change the toxin of the cancer germ into antitoxin and thus establish immunity. The fact that the ulcer, tumor, lump or growth continued to grow was sufficient evidence that it has not succeeded in its effort.

CANCER FUNCTION MISUNDERSTOOD

The failure to understand what cancer is, and the function it attempts to perform is due, in the opinion of Dr. Koch, to the general misconception of the process by which immunity to disease is produced. Based principally on the Ehrlich theory, the medical schools teach that immunity to infection depends upon the production of antibodies by the cells of the body, which combine with the toxins of the infecting germ and thus neutralizes them. Dr. Koch stated that he had proven this theory is incorrect.

ANTITOXINS ARE CONVERTED TOXINS

He found that antitoxins are toxins which have been converted into antitoxins, as a result of the changing of certain groupings in the electronic structure of the toxin itself. Even after this change has taken place, the antitoxin resulting therefrom can still combine with the toxin of its original source and continue to induce further chemical changes within its structure, producing therefrom more antitoxin. This antitoxin is harmless to the host, but ultimately causes the death of the germ, and thus brings about recovery and continued immunity to the sufferer.

DEVELOPS A SUCCESSFUL CANCER TREATMENT

Having found the cause of cancer and the way in which this cause acted, it was then necessary to find a treatment which could successfully act upon those suffering with this disease and immunize them against any possible recurrence and which could also be used to prevent the disease from developing in others.

After a careful study of the chemistry of the stimulus toxin, Dr. Koch succeeded in identifying its electronic structure. This indicated the type of change which was required to develop therefrom an

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antitoxin through the use of which the desired results would be possible. Four years were devoted to extensive and intensive research work in the biochemical laboratory in which chemistry of the most delicate nature was involved. He finally succeeded in developing a synthetic chemical compound which when injected into sufferers in the advanced stage of cancer was able to do what the cancerous ulcer, tumor, lump or growth tried to do, namely, to convert the toxins into antitoxins. The correctness of his discovery was proven by the restoration of the patients to health.

NATURE OF THE CONVERTER

The electronic structure of the synthetic chemical used in the treatment which acts as the converter of the toxins to antitoxins is a late intermediary phase, through which the toxin automatically passes into the antitoxin stage before a complete conversion of toxin into antitoxin takes place. Dr. Koch says that the electronic structure of the completed antitoxin is such that it can never be changed back into the toxin state.

This synthetic chemical has been called Koch's synthetic antitoxin. It is described by Dr. Koch as a difficult and delicately prepared synthetic compound which requires great accuracy in the proportioning of its active groupings for correct energy distribution and requires months of laboratory work to complete. It is a clear and colorless fluid.

METHODS OF ADMINISTRATION

The treatment is administered by hypodermic injection, the location selected for administration being the upper part of the arm.

The number of injections necessary are from one to four. In 60 percent of the cases treated by Dr. Koch only two treatments have been necessary and in many of these only one was required to effect a cure. In about 40 percent of the cases it has been necessary to use a third or fourth treatment. Cases that have been treated by X-ray or radium may require several treatments, and even then often do not do well. The period of time between the giving of the injections is generally 12 weeks but each case is a law unto itself and the second treatment may be given at a shorter or longer interval. When necessary the third and fourth treatments are given after an interval of several months.

CHANGES IN GROWTH DURING TREATMENT

In some cases, the ulcer, tumor, lump or growth temporarily becomes larger and there is an increase in all symptoms including pain. In other cases, the tumor, ulcer, lump or growth rapidly becomes smaller, while pain and all other symptoms disappear. As the patient sees it, the ulcer heals or the tumor simply "melts away," normal metabolism is restored and the patient feels and is well.

The cancer germ and the toxins are destroyed by their own antitoxins, the ulcer, tumor, lump or growth is dissolved and the material of which it consisted is absorbed and reverts back to the same elements as were taken from the blood in the progress of its growth and goes to again nourish the body.

RESTORATION OF DISEASED PARTS

The former cancer cells become normal and assume their original electrical polarity. In many cases as the result of the ingrowth of angioblastic tissue, parts which have been destroyed causing conditions such as recto-and vesico-vaginal fistulae are perfectly healed without even a scar.

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DR. KOCH'S CLASSIFICATION OF CASES AND PROBABILITY OF RECOVERY

Dr. Koch classifies cancer cases into three groups:

- Group 1.** Those in whom the heart and kidney functions are normal and who have not been operated or treated with X-rays or radium. This group shows a very high percentage of recoveries.
- Group 2.** Those with heart and kidney complications, who have been operated upon, then treated by heavy destructive doses of X-rays or radium. The percentages of recoveries in this class is reduced fifty percent.
- Group 3.** Those with heart and kidney complications who have had several operations, then treated by heavy destructive doses of X-rays or Radium. Cases in this group are those in the most advanced stages of the disease and frequently confined to their bed. The percentage of recoveries in this class is, as would naturally be expected, the smallest.

OBSTACLES TO A SUCCESSFUL TREATMENT

Cases that have been treated by X-rays or radium do not respond to the "Koch treatment," as satisfactorily as those that have not received these forms of treatment. If organic lesions affecting the heart or kidneys, extreme anemia or cachexia exist, a favorable response is retarded. The cases which give the best responses are those in which the functions of the digestive system, heart and kidneys have not become seriously impaired.

FACTORS IN EARLY DIAGNOSIS TOXIC OR PRE-SYMPTOMS

Among the most important results associated with a study of a large number of cases treated by Dr. Koch is the corroboration of the findings previously worked out on the animal controls. In the patients treated in his earlier work these were interpreted as toxic symptoms.

Time has shown that the toxic symptoms of which the sufferer had complained previous to the appearance of the cancerous ulcer, lump or growth, were the early symptoms of the disease, the effect of the action of the toxins of the cancer germ upon various nerve centers in the brain and spinal cord, which results in an interference with their normal functions in a manner similar to those which the animal controls presented when inoculated with the toxins of this germ.

Dr. Koch now refers to these symptoms as the "pregrowth symptoms." He is the first in medical history to call the attention of the profession to the importance of these symptoms in making an early clinical diagnosis of cancer. Never before have they been referred to in either the current or special literature relating to cancer.

LOCATION OF THE DISEASE

This ulcer, tumor, lump or growth has generally been found in an area where the parts had been subjected to an injury or continued irritation which had caused the resistance of the cells of that part to have become lower than normal. It was at that point that the toxic poison resulting from the activity of the cancer germ stimulated cell growth, resulting in a tumor, lump or growth and later recognized as cancer.

PRE-SYMPTOMS ABATE WHEN TUMOR GROWS

The histories studied showed that, after the patient had suffered for various periods of time with the pre-symptoms referred to above, they either partially or entirely disappeared. Many observations have shown that it is during the time in which these symptoms are becoming less prominent that the cancerous ulcer, tumor, lump or growth is growing and attempting to change the toxins given off by the cancer germ into antitoxins and thus stop the further progress of the disease. The cancer activity, therefore, resembles the action of the parathyroid glands which neutralizes and removes certain toxic material from the blood. As long as the cancerous ulcer, tumor, lump or growth continues to grow, it is able to partially or wholly control these symptoms.

WHEN DOES THE TUMOR START TO GROW?

In over 90 percent of the cases these pre-symptoms are so definite that after the sufferer's history had been obtained, it is often possible to tell them when the growth was first noticed.

In a series of several hundred cases which have been closely studied and treated by Dr. Koch during the last seven years, 95 percent of the patients referred to various symptoms which were found to have existed for periods ranging from a few months to as long as 40 years prior to the visible or physical appearance of the disease. And these symptoms become less and less marked or disappear entirely when the growth is discernible. The appearance of the disease in the form of an ulcer, tumor, lump or growth has been proven by Dr. Koch to be but a local manifestation of an advanced stage of the disease.

PREGROWTH SYMPTOMS REAPPEAR AFTER ATTEMPT AT REMOVAL

It has also been observed that within a short period of time after an attempt was made to remove the ulcer, tumor, lump or growth by a surgical operation or by other methods, the former symptoms reappeared and that with the recurrence of the cancerous ulcer, tumor, lump or growth, the symptoms again also wholly or partially disappeared. This proves that the growth can partially change the toxins of the cancer germ into antitoxins.

PREGROWTH SYMPTOMS AND EARLY DIAGNOSIS

Dr. Koch is convinced that if the physician will carefully study the character of the symptoms which are associated with the development of this disease and give them the serious consideration to which they are entitled in each individual case and associate them with other findings which might be suggestive of the presence of malignancy, thousands of lives can be saved. For while the sufferer is still in the early stage of the disease before a tumor develops is the most favorable time for treatment.

PRESENT METHODS

The surgeons in their effort to give the suspected sufferer every chance possible are now advising the removal of the breast in all cases in which there is a suspicious ulcer, tumor, lump or growth, or the opening of the abdomen in all cases in which cancer of the internal organs are suspected, frankly stating that it is far better that a breast be unnecessarily removed, or that an exploratory operation be performed than to wait until a positive diagnosis can be made, for by then the sufferer's chance of recovery had been reduced at least 80 percent.

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ADVANTAGES OF THE KOCH TREATMENT FOR DIAGNOSIS

By considering each case a law unto itself and associating all the findings regarding same, the presence of cancer can in at least 95 percent of the cases be recognized, long before the ulcer, tumor, lump or growth appears, by men trained in the recognition of the pregrowth symptoms. It has been Dr. Koch's experience in cases of this character that his treatment can be used as an aid to determine the presence or absence of the disease so that neither the extensive removal of tissue nor an operation is necessary. If the disease is present, an injection of the synthetic antitoxin is followed by what is known as "focal reactions," that manifest themselves in the areas in which the disease is located.

REACTIONS FOLLOW USE OF KOCH TREATMENT

Reactions frequently follow the use of this treatment, the intensity and time of appearance of which vary according to the type of cancer with which the patient is suffering, its location, the size of the ulcer, tumor, lump or growth, and its stage of degeneration.

These reactions, which consist of fever and, at times, nausea and vomiting, are due to the changes in the concentration of the toxins circulating in the blood stream and the liberation of the stored toxins from the original and secondary metastatic tumors or growths which have frequently affected organs in other parts of the body.

The first reaction is due to the rapid decrease in the toxins circulating in the open blood stream; the second to the liberation of the stored toxins and the absorption of the material of which the cancerous ulcer, tumor, lump or growth consists. The last two reactions are the result of the withdrawal of the last traces of the toxin.

These reactions generally appear for a few hours during the second to the fourth day, during the fourth or sixth week; about the middle of the ninth week, and even during the middle of the twelfth week. They may be delayed the twentieth week.

USE OF KOCH TREATMENT AS A PROPHYLACTIC

Based upon his findings that cancer is a germ disease, and in all probability hereditary, Dr. Koch advises the use of his treatment for prophylactic purposes as a preventive against the development of one of the most subtle and destructive diseases with which the medical profession has to deal. As no harmful effects have ever followed the injecting of this synthetic chemical compound, no reasonable excuse can be offered against its use.

SPECIAL DIET FOR CANCER PATIENTS

During the period of time the patient is under treatment, he must carefully observe certain dietary regulations. The food selected has been found to be sufficient to nourish the patient and will at the same time assist in maintaining a normal alkalinity of the blood. All irritants, stimulants and toxic substances are avoided which would tend to affect the progress of intracellular function of the stomach, bowels, kidneys and skin. Vegetables, except tomatoes, rhubarb, spinach, radishes and onions, can be eaten freely, raw or cooked. Only the sub-acid fruits are allowed-apples, pears, melons, dates, figs and sweet berries. No fried or broiled foods are allowed-no eggs, smoked meats or fish, no condiments. Boiled meats may be eaten. Neither alcohol nor Glycerine can be used either internally or externally. Coffee and tobacco are forbidden.

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TIME REQUIRED TO EFFECT A CURE

The time required to effect a cure varies from three months to two years. The kind of cancer, the location of the cancer, the duration of the disease, the general condition of the patient, the kind of previous treatment and other factors enter into the prognosis as to the time which will be required in any particular case to affect a cure (it being understood that the case is one favorable for treatment).

THE WRITER'S EXPERIENCE

At the time of my first visit to Dr. Koch's laboratory at Detroit in 1920, he considered his work still in the observation stage, and said he was not prepared to furnish the synthetic antitoxin for distribution, and it was more than three years later before he would allow other physicians to use his treatment. Since then I have treated over 125 cases with his antitoxin, the reports of two of the clinically cured cases were published in this journal in October, 1925.

Many of the cases were of the hopeless, death door class; 30 have died, 16 are clinically cured, and all the others are progressing favorably toward recovery. It will require another year before I can give conclusive figures from personal experience in the use of a treatment which I am convinced is a cure for cancer. My investigations of this treatment have taken me several times to Detroit and neighboring cities where I have personally interviewed a large number of Dr. Koch's cured cases, and I have corresponded with many others. Some months ago I copied from Dr. Koch's records the case histories of these patients, all of whom were in good health when I interviewed them this summer. It was my intention to publish these case histories. About half of them have since been published in this journal in connection with Dr. Koch's papers on "Cancer, Its Function and Cure," and if you will secure a reprint of these papers to be had in a little booklet you will find some very interesting reading. Among the cases there recorded which I had included in my investigation are the following:

- Case 1.-Inoperable cancer of uterus, diagnosis by exploratory operation. Cured in 1920.
- Case 2.-Inoperable cancer of Stomach, diagnosis by exploratory operation. Cured in 1920.
- Case 3.-Inoperable Cancer of Stomach. Exploratory operation and specimen diagnosis. Cured in 1923.
- Case 4.-Recurrent Cancer of Rectum following operation. Specimen diagnosis. Cured in 1923.
- Case 5.-Inoperable Cancer of Stomach, diagnosis by exploratory operation. Cured in 1920.
- Case 7.-Cancer of Liver, diagnosis by exploratory operation. Cured in 1920.
- Case 10.-Cancer of Breast with Paget's Disease, diagnosis by pathologist. Cured in 1920.
- Case 11.-Recurrent Sarcoma of Brain after operation and X-ray treatment. Cured in 1923.
- Cases 15 and 16.-Cancer of the Uterus, Surgeon diagnosis. Cured in 1922.
- Case 21.-Goitre and Cancer of Rectum. Both the goitre and the cancer cured by the treatment, 1923,
- Case 29.-General Sclerosis and Cancer of Hand, Specimen diagnosis with recommendation for amputation. Treatment cured both the cancer and the sclerosis, 1922.
- Case 31.-Marked Skin Pigmentation and Cancer of Rectum. Pronounced hopeless after operation, X-ray and radium treatment. Cured in 1923.

The above list shows that Koch's synthetic antitoxin is effective in the treatment of all forms of cancer and has saved many who had been pronounced hopeless after the use of other methods. The cases cited above have remained cured for a period of 2 to 6 years. All are presumably in perfect health today, as they were when last heard from less than three months ago.

The Editor has limited this contribution to five pages of the Journal, and I shall use the remaining space for a few more case histories, selecting those which bring out points not covered by the cases above cited.

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Case 1.-Recurrent Cancer of the Breast.

Mrs. C. A., Detroit, age 36.

History: In July 1920, she discovered a lump in her left breast behind the nipple, but gave it little attention until it began to grow and had become the size of a small egg, at which time smaller lumps had also appeared in the armpit, but from which she had no pain. She then consulted Dr. Bernard Friedlander, who sent her to the Women's Hospital in Detroit where he removed the breast. Microscopic examination by some of the tissue of the breast, which was submitted to Dr. James Davis, was reported by him to be medullary carcinoma. The wound did not heal and six cancerous growths appeared on the chest and upper abdomen varying in size from a nickel to a little larger than a silver dollar, and a few lumps the size of a pea also made their appearance.

Dr. Friedlander referred this patient to Dr. Koch who saw her first on August 15, 1920. At this time, her weight was 116 pounds.

By December, 1920, four months after first treatment, she had made a perfect recovery: all cancer tissue had entirely disappeared, her weight had increased to 129 1/2 lbs. She was later examined by Dr. Friedlander and several other surgeons, all of whose opinions confirmed the above statement. One of the interesting features associated with this case was the fact that, though the cancer had spread extensively over a wide area, she suffered practically no pain.

Mrs. C. A. is now, five years later, in perfect health.

Case 2.-Cancer of the Stomach, following Gastric Ulcer.

Mr. W. F., Lansing, Michigan, age 38.

History: Suffered from indigestion since he was 16 years old, for which he was always taking soda. In 1913, he was told his stomach trouble was due to appendicitis, was operated, but the appendix was found to be perfectly normal.

In 1914, the abdomen was opened by Dr. Wm. Campbell, of Pittsburgh, Pa., who found one large and two smaller ulcers in the stomach. These ulcers and a strip of stomach wall, two inches, wide, were removed, and stomach and bowel joined with a new opening. On being allowed to eat his former food, the severe burning in the stomach, throat, and mouth, returned, there were acid eructations and he again resorted to soda. As time passed he became very nervous, even the opening of a door would cause him to jump up out of his chair. The pain from the abdomen to the back became severe and he was unable to stretch out or ride straight. The bowel movements were frequently black and tarry. Regardless of how careful he was about diet, the stomach trouble grew worse and he had to give up work.

On the night of January 8th, 1921, he had a severe attack of pain associated with the vomiting of a considerable amount of blood. During the next three days he had three severe hemorrhages from the stomach and the stools were tarry. This loss of blood left him dizzy, cold and very weak. It was when he was in this condition that Dr. Koch was called in, Jan. 12, 1921. Examination revealed a small mass in the abdomen above and to the right of the umbilicus about the size of the fist. He was taken to Dr. Koch's private hospital for treatment. His weight at this time was 137 lbs. There was no further bleeding after the first treatment. He received four treatments. When he left for home, five months later, in June, 1921, his

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digestion was perfect, he could eat whatever he pleased, the stools had become normal. He weighed 164 pounds and he was in perfect health. An examination, in February 1923, showed no tumor present. He was in robust health and had no soreness or pain.

Mr. W. F., is now, Bur years and eight months later, in perfect health.

Case 3 -Cancer of the Tongue and Throat.

Mrs. M. B., Martin, Ohio, age 75.

History: (Furnished by her daughter, as Mrs. B. was unable to talk). Prior to January, 1922, she had complained of a spot on the back of the right side of the tongue, for which she consulted and was examined by Drs. MacCormick and Murphy at St. Vincent's Hospital Toledo, Ohio, who removed, a piece of the tissue from the tongue and sent it to a pathologist, who reported the trouble to be cancer. She then received radium treatment for two weeks. This gave relief for a short time. But the cancer soon began to spread rapidly into the throat

In May 1922, she consulted Dr. Willett, of Elmore, Michigan. He advised her to go immediately to the University of Michigan Hospital at Ann Arbor, and consult Dr. Canfield. She was taken to this hospital on May 20, 1922; treatment was refused as they considered her case hopeless, but they supplied her with morphine for relief from the pain. One of the doctors at the hospital had, however, been kind enough to tell her of Dr. Koch and advised her to come to Detroit because he knew of cancer cases that had been successfully treated through the use of the "Koch treatment."

She was admitted to Dr. Koch's clinic three days later, May 23, 1922. Examination showed her to be suffering with a cancer of the tongue, so extensive in size that it was impossible to examine the throat. She could neither close her mouth, talk or swallow. She drooled a bloody offensive smelling saliva, was very, very v weak and suffered terrible pain. She was given her first treatment on the date of admission. (There is no form of cancer which causes more suffering than cancer of the tongue and throat in an advanced stage). Within 48 hours later, her pain had been greatly relieved, and she was able to swallow a little. A week later she could talk quite easily. She was given three treatments in all. All the cancer mass disappeared and the parts healed up nicely.

On November 15, 1922, Dr. Koch took Mrs. B. to the University of Michigan Hospital at Ann Arbor in order .that the surgeons who had turned her away as hopeless might examine her. They all stated after a thorough examination they could find no evidence of cancer, that the healing was perfect and that it was a fine piece of work. A similar statement was made by Dr. Willett who also carefully examined her.

She is, now, three years later, in perfect health.

Case 4,-Cancer of the Leg. (Sarcoma).

Dr. W. E. L., Minneapolis, Minn., a former professor of medicine at the University of Minnesota, age 66.

History: Consulted Dr. Koch March 15, 1922, relative to a growth five inches in length, which involved the upper part of the left leg. He said that X-ray pictures had been taken and a diagnosis made of bone sarcoma. It was thought by surgeons that amputation of the lag would be of temporary benefit only.

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At the time he consulted Dr. Koch, he was suffering intense pain, and it was necessary to have the support of an attendant and a cane. Within three weeks from date of receiving his first treatment, he was practically free of pain, and had discarded the use of his cane. A few weeks later he was given a second treatment and returned to his home where he resumed his practice the following September and has since had no trouble, and has never had to favor the leg in the least.

Dr. L. is now, three years and three months later, in perfect health and successfully treating other sufferers with cancer with the Koch synthetic antitoxin.

Case 5.-Cancer of the Rectum.

Mrs. S., Detroit, age, 48.

History: Enjoyed good health until spring of 1921 when she had bleeding from the rectum and was troubled with constipation which progressively grew worse; pain developed in the lower part of the spine and by the spring of 1923 she presented the symptoms of intestinal obstruction.

She entered Henry Ford Hospital, March 17, 1923, where a growth of the lower 10 inches of the bowel was removed. Microscopic examination of the tissue proved it to be cancer. The shock of the operation was so great that it was two months before she could be removed to her home. Shortly after her return the condition grew rapidly worse; the pain in the rectum was severe, pain in the upper abdomen was associated with vomiting; there was a foul bloody discharge from the rectum, a mass of cancer tissue encircled and blocked the anal region, and an opening appeared between the rectum and vagina through which the bowel movements passed.

It was at this time, August 7, 1923, that Doctor Koch was called to see her. An examination of the abdomen showed an enlarged liver reaching down one-third the way below the ribs to the umbilicus, a hard three lobed mass filling the pelvis and reaching up to one finger's breadth above the umbilicus, and the walls of the anal orifice so completely covered and closed by cancer tissue that exploration of the rectum through this mass was not attempted. Through the fistula to the vagina, which admitted three fingers, the rectal mass was explored, the recto-vaginal wall was thickened, nodular and inelastic and there was considerable bleeding and a profuse discharge of a very foul characteristic odor.

She was given a treatment after the examination. There was no reaction until the 12th week when she ran a temperature of 101° F. for three days. By the latter part of January, less than six months from date of treatment, 1924, recovery was complete-the recto-vaginal fistula was completely healed. All traces of cancer had disappeared, exploration of the recto-vaginal wall showed no abnormality. There was some loss of sphincter control which was the result of the operation. There was no pain, no discharge and all bowel movements came through the rectum.

Mrs. S., now, one year and eleven months later, in perfect health.

CANCER

**A Summary of the Opinions of Eminent Medical and
Surgical Experts of the World, together with the latest
Statistical Findings, and General Considerations of Cancer.**

Arranged And Compiled

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Second Revised Edition

1933

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THE PREVALENCE OF CANCER AT THE PRESENT TIME

The Spectator, a leading insurance magazine, published in its issue of April 27, 1933, a statement of the cancer situation which may be accepted as the latest and most authoritative presentation. It is entitled "The Cancer Record of 1932," by Frederick L. Hoffman, L.L.D., Consulting Statistician for the Prudential Life Insurance Company of America.

We quote a few sentences there from which give a real and authentic synopsis of the cancer problem. Dr. Hoffman said in 1927:

"The cancer record for 1926 is a dismal indictment of the failure of modern efforts to check the ravages of this dreadful disease." (By modern efforts he means surgery, radium and X-Ray.) The tables given show a mortality, he says, which reach "The highest figure which has thus far been collectively reached for American communities."

And in 1933 he says: "Cancer continues to grow in importance as a leading death cause, now being listed second only to heart disease. More than half-a-million Americans have succumbed to its ravages during the past five years."

The American Society for the Control of Cancer was established in 1913 and its slogan was "operate early," which has meant operate on everything, cancers, moles, warts, freckles, birth marks, etc., and the radiumists and the radiologists of the Society have abetted the surgeon with their methods, and yet, in spite of all its activity, the death rate has steadily and continually increased until in 1926 it was higher by 30 percent than it was the year the Society was founded.

As Dr. Hoffman says, "The trend toward a higher death rate is manifested in every direction. The fact remains that we have a vast amount of more malignant disease at the present time than thirty years ago in proportion to the population considered. The increase in cancer has been real and not apparent." Further, he says: — "The vast amount of laboratory research on the one hand, and of cancer propaganda on the other, seems to have had no measurable effect on the cancer death rate. The enormous sums of money which are expended on cancer research seem to have yielded thus far not a fragment of evidence of real value toward the control and cure of the disease."

The underlying facts and conditions of this dismal failure of modern efforts are becoming known to the progressive medical men of the whole world, and the intelligent laymen as well. The Society above mentioned, in its transactions published in 1927, contains the following sentences, which we quote verbatim: — "The aggregate loss of life (from cancer) is appalling." "Considering its continual prevalence and fatality the world has never known such a plague." "One in ten of all deaths are due to cancer." "Cancer mortality is increasing." "During the last 35 years the cancer mortality has doubled."

J. Ellis Barker, of England, writing in 1928, says: — "In 1911 one death out of every 15 was due to cancer; in 1926 one death out of every 8 was due to cancer. In fifteen years the relative cancer mortality has been practically doubled."

This deplorable condition we submit is due to the fact that all efforts, laboratory and operative, were directed to the effects of the cancer disease rather than to the disease itself, and at the present time (1933)

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there is no evidence of its abatement. Excluding heart affections it heads the mortality list in this country, and we believe that it greatly exceeds the mortality from actual diseases of the heart. In every disease the heart ceases to beat at death, and death certificates are not always exact statements of the disease, which caused the immediate death by heart failure.

CANCER IS A CONSTITUTIONAL, NOT A LOCAL DISEASE

Ancient medical authorities always considered Cancer as a constitutional disease. The blood of a person having the cancer disease is not the same as in one free from that disease. As the blood is the vital fluid that circulates throughout the body, nourishing every cell, it follows that healthy blood will nourish properly. The blood of a cancer patient, not being healthy, is likely to cause disease in any or every part of the body. Hahnemann, the founder of Homeopathy, in 1810 well expressed this when speaking of local disease, he said: — “It becomes apparent upon reflection that no external disease can be originated, hold its place, or, least of all, become aggravated without some internal cause, or without the participation of the organism which consequently must share in the morbid affection.”

Sir James Paget maintained that cancer was a constitutional disease from the start having its origin in the blood, due to some specific poison or poisons, and only locally manifested as a result of this toxic condition of the blood. There is no purely local disease known to exist that produces the mortality of cancer, or that is so widely distributed through-out the world as cancer. We need not here discuss the various theories of the cause of cancer, its germ origin, its endocrine origin, its biochemic or other origin. We leave that to the pathologists who deal with death and dead tissues. Our function is to deal with physiology and life, to strive to correct faulty physiology. Faulty physiology is the basis of all constitutional disease, which in the case of cancer is caused by some chronic or prolonged poisoning in almost any form rendering the blood itself toxic or diseased. From this malfunctioning blood, degenerative changes appear as a result.

Following the ancient consideration of cancer came a period of considering cancer merely as a local disease. This we may designate the surgical era with its mania for surgical operations, which we discuss in another chapter as it is quite another story.

Suffice it to say that at the present time, the progressive medical men and honest surgeons, are of the expressed opinion that cancer is a constitutional disease and not a local one; hence treatment must be directed to the disease itself and not the lump tumor, or growth, whatever we may call it, which represents the effects of the diseased blood and not the real disease itself. The diseased blood existed before the lump, tumor or growth was discovered. As a result of this toxic condition the growth appears eventually in some weakened spot in the body, stomach, rectum, breast or elsewhere.

The late Dr. Alfred Scott Warthin, the famous pathologist of the University of Michigan, wrote in 1931: — “Cancer is not simply a local disease; we know now that it is primarily a disease of the entire Organism. An anomaly of the individual constitution. The general constitutional predisposition determines whether an individual can have cancer, its particular site is the organ or tissue, which is most susceptible. The predisposition, not the cancer proper, is probably inherited. The cancer develops when, because of an irritation, age, or other condition the body cannot maintain all cells at normal, and malignant degeneration occurs in some of them.”

Professor Deelman of Groninger has made extensive laboratory experiments showing that cancer is a constitutional disease, a blood disease, and that the actual cancer tumor is merely a local manifestation of that general disease.

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Professor Deelman is at the head of the National Pathological Laboratory of the University of Groningen, established by the Dutch Government. He presented his findings to the Royal Society of Medicine of London in 1927. Similar findings have been demonstrated at the Cancer Congress of Strasbourg, and confirmed by other investigators.

The late Dr. L. Duncan Bulkley, the founder of the New York Skin and Cancer Hospital, and former senior surgeon to that institution for over 40 years, probably saw and treated more cases of cancer than any one man in America. He studied the subject more deeply and more arduously than all his critics, and for 30 years held to the constitutional cause of the disease, and was an advocate of a dietetic treatment to prevent cancer as a logical one. He opposed surgery, and naturally brought down on his head the wrath of the surgeons but at least he made the surgical world think, even if it thinks unfairly. He further wrote: — “Not a shadow of proof has ever been presented that the lump which we call cancer is purely local in character.”

Does it mean anything when we find the blood chemistry of the cancer patient changing, with a persistent loss of flesh, when we note the potassium salts running low even to disappearance? Is not the anaemia and cachexia worth recognition? The barren theory, which teaches cancer to be a local condition following irritation, should not be a difficult one to cast aside, and establish facts in its place.

The proofs of the constitutional basis of cancer are becoming more and more evident every day and are so plain that even the laity easily understands them. The following are a few points that cannot be successfully controverted or set aside: —

1. If cancer were purely a local disease, its immortality would be reduced by surgery. But it has increased tremendously under surgical treatment, so much so that advanced thinkers consider it no longer a surgical disease but a medical one.
2. Recurrences after surgery or the radium treatment are the rule. If the disease were local and removable no recurrence would take place. A recurrence is a positive proof that the disease is a systemic one, for it emphasizes the fact that the tumor is merely the local manifestation of the cancerous state.
3. If it were a local disease, diet would have no place in its treatment, whereas many cures of cancer have been wrought by diet alone or in conjunction with some simple constitutional treatment.
4. Simple operations for warts, moles and birthmarks have by their traumatism stirred up in patients having a latent tendency to cancer a real outbreak of the trouble. Paget says: “The surgeon has unwittingly supplied by the local injury what was needed for the production of the cancerous growth.” It has been truly said that “a constitutional disease cannot be cured by emitting off old warts, moles, etc.”
5. Cancer is curable and preventable by measures, which neutralize the toxin and turn the pathological processes of the cancer disease into healthy physiological functioning of the affected person.

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6. The pre-growth, constitutional symptoms, which may be found in practically all cases, would be absent if the disease were merely local. With blood that is tainted or cancer-bent there are invariably symptoms. Disease is always represented by symptoms and the cancer disease presents its special pre-growth symptoms.
7. When physicians study these symptoms carefully they will be able to cure and prevent the disease. Many physicians have already done this and their success is on record. Medical literature is full of cures of cancer, for a well trained and observant physician will recognize a cancerous case long before the surgeon who has to wait until the growth appears even to diagnose the condition, and much valuable time is lost, so much that one reason at least for the failure of surgery is apparent.

THE FAILURE OF THE SURGICAL TREATMENT OF CANCER

There never has been such a revulsion against surgery in the treatment of all forms of cancer as exists at present among the medical profession throughout the world. During a recent trip, that entitles the writer to eligibility as a member of the Circumnavigators Club, it was observed to exist in all the countries visited.

The only exception to this statement is the assertion of the American Society for the Control of Cancer, a society whose membership is composed almost exclusively of surgeons, radiologists and X-Rayists. We find this society claiming that no case of cancer was ever cured by any means except that of surgical operation.

Its slogan is, "Do your operating early; any sort of growth; pay no attention to the cause. It must be removed even to warts, moles and large freckles."

This society was established in 1913 when the mortality rate from cancer was 87.9 per 100,000 population. In 1924, after 11 years of its activity, the mortality of cancer had advanced to 128.8 per 100,000 and is still going up. There were 500 more deaths from cancer in New York in 1927 than in 1926. The statistics of this society, as to the beneficial results of surgery in cancer, must be looked on with suspicion if they include "warts and large freckles," on which early operation is advised.

The late Dr. Hoyt summed up the whole matter when he wrote, "The assertion of surgeons of 100 percent of cures by surgery of cancer in all localities sounds like the figure of speech in rhetoric called hyperbole."

It has further been the policy of this association for fifteen years to devote its efforts to scaring people into early operations, which in countless instances has had for a result the hiding from physicians their real conditions, rather than submit to surgical exploitation. While this has given them a longer lease of life than they would have had if they had submitted to surgery, it has rendered the ultimate cure by reasonable medical measures impossible.

The Journal of the American Medical Association expresses the idea and stresses it, that cancer is unpreventable, by bidding its readers to wait until cancer has actually declared itself by some growth, and then have this growth resulting from the cancer disease, surgically removed. This is a doctrine beneficial to the surgeon only but most disastrous to the unfortunate sufferers and is a doctrine criminal in the extreme.

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Every disease has a cause, and from the earliest times the first duty in medicine is to remove the cause thus making every disease preventable.

Why are books practicing this doctrine of disease prevention tabooed by the American Medical Association, why does it not admit to the columns of its Journal, in the face of the ever growing immortality, articles from men who have devoted their lives to proving the doctrine of cancer prevention and thus relegating the activities of the surgeon to the oblivion it deserves?

I submit the following symposium by keen observers, as evidencing the absolute worthlessness of surgery in cancer. The British Medical Journal of October 1923, contains the following: — “Can there be any doubt that in many respects the knife is a ghastly failure in cancer?”

Sir James Paget, the well known British authority, said: — “The cases in which cancer does not return after an operation is not more than one in 500,” And again: — “I believe the removal of the local lesion makes no material difference in the average duration of life.”

In an address before the Pathological Society of London, the same authority spoke as follows:

“We have failed to cure cancer as a local disease. Every excision of cancer followed by a return is a failure. If we can have any hope at all of curing cancer, it must be in a study of it as a constitutional disease”.

Dr. Alfred Pearce Gould, one of the greatest of English surgeons, wrote in 1910: — “Cancer is not a disease attacking the body from without.” And again: — “There is a cure of cancer apart from operative removal.”

Mr. J. Ellis Barker writes: — “Our cancer experts preach much to their advantage, that cancer is unpreventable and incurable except by surgical intervention, although surgery has disastrously failed to stem, or even delay, the ever swelling cancer tide.” And again: — “It is a great misfortune that cancer researchers and cancer surgeons consider, as a rule, a cancer victim ‘cured’ if he or she is alive three years after the operation. Of those alive after three years, a very large percentage die during the fourth or fifth years.” And again: — “The advice to look out for any suspicious growth and to have it cut out at the earliest moment may be right in the abstract, but it is practically useless in the vast majority of cancer cases because internal cancers are usually inoperable at the time their presence has been discovered. One might ask, do surgeons follow this counsel as to themselves? If so, why is the mortality among physicians and surgeons vastly higher than that among coal miners, farmers, agricultural laborers and many other occupations?”

Dr. C. L. FitzWilliams in the London Lancet 1927, says: — “There is something that recommends a study of this disease to our close attention, and that is the poor surgical results we have obtained up to the present time.” Dr. FitzWilliams alluded to cancer of the tongue in which operation is a failure even at an early stage of the disease. Dr. Alfred Greil writes in the Wiener Klinische Wochenschrift as follows: — “Both surgical operation and radiological treatment create the most favorable conditions imaginable for the increase of those cancer cells which have remained behind or which have gotten into the system.”

Dr. Samson Handley, a well known cancer surgeon, writes on page 198 of his work, Cancer of the Breast, 1922: — “The literature of cancer therapeutics does not contain the record of a single fact that cannot be paralleled among the histories of untreated cases.”

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What an admission is this! Why continue the horrible muti-lations of the female breast when such are no better than the un-operated?

Dr. A. Rahagliati in his work writes, “In the great majority of cases cancer cannot be cured by the knife. By the time the cancer (growth) has oc-curred, the blood has been for so long a time so loaded with effete material that no mere removal can be of any avail, and the general truth of the aphorism, ‘once can-cerous always cancerous’ becomes too apparent.” And again: —“Recurrence of malignant disease after the freest removal by the knife being unfortunately so common as to be the rule.”

Sir Berkeley Moynihan, one of Britain’s greatest surgeons, deplotes surgery in cancer, and says: “It is a melancholy but indisputable fact that despite the activities of a small body of surgeons in this country, carcinoma of the stomach is almost always an incurable and fatal disorder.”

Drs. Denver and MacFarland state on page 416 of their book on the Breast, referring to cancer: — “All that we know is to remove it, * * * * but we still nothing to cure it.”

A frank acknowledgment by two great surgeons that surgery is a failure.

Dr. James Wood of the Royal College of London says: —

Gentlemen, I have operated on some thousand cases of Cancer, and they all returned but six and they were not Cancers.

Dr. Thomas W. Cooke of the London Cancer Hospital says: — “from 1881 to 1893, there were 413 cases of Cancer operations, and the average time before they returned was only six months.”

Dr. Monroe of Scotland operated on 60 cases of Cancer and only four out of the sixty were successful, which means that fifty-six died.

Dr. Walsh in his work on Cancer says: - “The knife can neither he regarded as a means of curing Cancer nor of prolonging the life of the patient.”

Dr. H. C. Hoe operated on 200 cases of Cancer of the breast with only 13 recoveries. The chances are that these 13 were not cancer and lacked the systematic infection of the disease.

Heurteaux, a French surgeon, followed up 284 cases he had operated on for Cancer and found that all save 7 still had it.

Friedrich collected 500 cases of Cancer of the uterus, operated on by himself and colleagues and found only 13 of them alive after 5 years, a death rate of 97.4 percent.

Dr. G. E. Ward, Howard Kelley Hospital, Baltimore says: — “The acknowledged poor results obtained by surgery in cancer of any sort are well known to the profession.”

Journal of the A. M. A., March 1926, p. 730: — “Cancer of the stomach—Number of cases of cancer of the stomach reported 208. Average survival after gastroenterostomy is seven and a half months; average survival after gastrectomy is two years. Of 91 gastrectomy cases, only six are alive, eight died of recurrence and one of the survivors has pernicious anemia.

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Better results would have obtained by dietary treatment alone, the patients would have lived longer and have escaped the pain and suffering from the operations. American Journal of Medical Science, 1914, states: — “That of 1000 surgical cases of cancer of the stomach collected by Friedenwald, not a single one was alive at the end of one year, the majority having died within six months after operation.”

Dr. Crile in the A. M. A. Journal: — “Cancer of the rectum—the majority of statistics give a mortality of 90 to 100 percent with an immediate mortality of from 7 to 20 percent.”

Levin states that many cases of carcinoma of the breast, after operation, die of metastases in different organs without a local recurrence in the breast.

Long Island Medical Journal, March 1926: — “The average duration of cancer of the breast in operated cases is 243 months.”

Journal of the A. M. A., April 1927: — “The average duration of untreated breast cancers is 40.5 months.”

Dr. Mayo, the best known of America’s surgeons says, “After amputation of a cancerous breast under the most favorable circumstances, I believe that in 99 cases out of 100, the disease returns.”

Dr. Ewen, Liek, Danzig, a leading German surgeon, states: — “Not only in the case of cancer of the breast, but also in the other forms of cancer, I am oppressed by the thought that the knife, even if wielded by an able and experienced surgeon, does not prolong life but greatly shortens it.”

Dr. McFarland, professor of surgery in the University of Glasgow, says: — “The operation never arrests but uniformly accelerates the progress of the disease.”

Dr. E. G. Jones, the author of a large work on cancer, says: — “I have never seen a case of cancer cured by surgical operation. I have seen cancer of the breast operated on from 8 to 12 times before death closed the scene.”

The late Dr. Elnora C. Folkmar, Director of the Anti-Cancer Center of Washington, D. C., said: “Cancer specialists who employ surgery, X—Ray and ra-dium in the treatment of cancer now admit failure to stem the increase of cancer or to effect a cure.”

Dr. E. M. Perdue, Medical Editor of Kansas City, writes: — “After surgery, cancer of the breast is most difficult to cure. Cases, which have been operated on, are the despair of the physician interested in the permanent cure of the patient and in the saving of life. The reasons for any immortality from cancer of the breast may be assigned to neglect, surgery and X-Ray.”

During a medical life of more than 50 years the writer has had the usual share of cancer patients that falls to the ordinary medical practitioner with somewhat extensive hospital connections and with abundant opportunities for observing this disease in its various manifestations at home and in the large hospitals of the old world.

He can truly assert that he has never seen a single case of true malignant constitutional cancer cured by surgical measures, whether taken early or late, among the thousands of cases that have crossed his medical field in these 50 years and he is firmly of the opinion that the advice to operate early has furthered the development of the malignancy and hastened the fatal termination in the majority of cases.

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Cancer researchers and surgeons tell us that Cancer is not preventable, and is incurable except by operation. We would challenge this statement and substitute therefore this sentence:

Cancer is a preventable disease and operation invariably fails to cure the disease. Tuberculosis is preventable, Syphilis is preventable, Gout is preventable, Skin Diseases are preventable, and surgery fails to cure any of these affections.

Would we say the removal of a tubercular joint cured Tuberculosis, the excision of a syphilitic gumma cured Syphilis, the amputation of a gouty big toe cured Gout or the skinning of a patient, a la St. Bartholomew, cure Psoriasis?

An eminent pathologist, cited by Bulkley, sums up the whole surgical side in the following words: **“THE DAY OF CANCER SURGERY IS PAST. THERE IS NOTHING IN IT.”**

If surgery were a successful treatment for Cancer, we would see in large cities a diminishing mortality from that disease. We would see a much smaller mortality in cities than we see in rural districts. But, as Bulkley points out, and as the statistics show, this is not the case. Surgery, as practiced in cities, is ever increasingly skillful and bold, yet, and perhaps for that very reason, the mortality from Cancer is increasing.

Where there is much surgery, the mortality is higher. San Francisco is a surgically bedridden city; it has few physicians but hundreds of surgeons, big and little; it has a large number of almost exclusively surgical hospitals; nearly every patient is operated on early and late, and re operated on; no case of cancer escapes. We are not astonished when we read that the mortality from cancer in San Francisco exceeds that of any other American city. (See Hoffman, “Mortality from Cancer Throughout the World.”) In cities where surgeons are few and physicians are preponderant, as for example Seattle, Memphis, Savannah and others, the mortality is less than one-half that of San Francisco.

The surgical effort at cancer costs the people each year at least \$20,000,000, and the mortality tables show nothing but a greater and greater death rate.

The inevitable harvest of the “operate early” crop is a higher death rate, unending suffering, recurrence after recurrence, and worst of all, impedes a rational therapy directed to the constitutional involvement rather than to the local manifestation.

Tuberculosis mortality under skillful medical treatment and guidance has fallen 30 percent since 1900. Cancer mortality during the same period has increased 30 percent. Both are constitutional diseases, but, fortunately, Tuberculosis is not within the recreation grounds of the surgeon. What is the answer?

1. Cancer is a serious constitutional disease that requires constant medical care from the time it is first suspected. It can be discovered by manifestations, long before the growth, lump or sore appears, which are known as pre--growth symptoms.
2. Cancer specialists who announce the cure of cancer by removing the growth, lumps or sores by surgical operation, X—Rays, radium or pastes should be avoided.

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3. Cancer is not contagious. There is no case on record where Cancer has been contracted by a physician from a patient. The disease is not communicated from one to another, though there is a hereditary susceptible dis-position as in Tuberculosis and other constitutional diseases.
4. Cancer is not a disgraceful disease. There is no reason to be ashamed of it or to hide it.
5. As soon as Cancer is suspected by symptom, lump or sore, it should be at once cared for by a competent medical man. As in all diseases, the earlier treated the sooner cured.
6. It is not an incurable disease if taken early and prop-erly treated by careful dietetic and medical measures. Being a medical disease, surgery should be avoided.
7. Anything suspected to be Cancer should not be handled or squeezed, but kept free from irritation as this increases and spreads the local sore and hinders and often prevents the cure.
8. It is not necessary to operate on Cancer; it does not prolong life nor relieve suffering. The disease invari-ably recurs after operation or spreads to or appears in other more vital parts of the system, and a like result follows the use of radium or X-Ray.
9. The rapid rise in time mortality of Cancer is due to:
 - (a) Operations made early on suspected lumps or tumors, removing lymphatic protective lands, which have important functions, thus rendering the inevitable recurrence mortal.
 - (b) Not recognizing the constitutional basis of the disease.
 - (c) Radium applications or deep X-Ray measures.
10. It is not necessary to incise a cancerous growth to diagnose Cancer. The traumatizing of the tissue does more harm than good.

Being familiar with the foregoing dialogue, the wise physi-cian will advise his patients to stay at home and be treated rather than go to the surgeon for operation on a medical disease. His is patients will be ever ready to avoid the operating table even though it be in style to 'be operated.'

As a fitting epilogue to this article, we call attention to the authoritative and credible report of the Massachusetts Commission which stated that the average mean duration of all types of Cancer for 1921, 1922, and 1923 is 22.8 months for those cases operated on; 20 months for those not operated on!

Here is the great triumph of surgery in Massachusetts. With all the pain, anxiety, mental suffering and financial expense of operation, only 2 months and 24 days of life prolongation! Is this SUCCESSFUL treatment?

The surgeons of Boston and Massachusetts are of the most skillful; they are as zealous of their business to operate as those of San Francisco. Is it improbable that they follow the advice of the American Society for the Control of Cancer and operate on everything, even "warts and large freckles," which might account at least for the 2 months and 24 days of life gained? The mortality in Boston from Cancer is second only to San Francisco in height among the cities of the U. S.

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I submit that the results of surgery in Cancer warrant its total abandonment, which alone would lessen the mortality of that disease.

I submit, further, that Cancer must no longer be considered a local affection. Who can name a local disease that has the mortality of Cancer? If Cancer were local, surgery would not be the **ABSOLUTE FAILURE** it is.

THE FAILURE OF RADIUM AND X-RAYS IN CANCER AND THEIR DANGERS

As a treatment of Cancer, the use of radium cannot be too strongly condemned. Many of the foremost users of radium are now saying that not only does it not exert a cure in Cancer but also that it so poisons the system that patients taking it speedily reach the hopeless stage of the disease.

The sad spectacle of the girls in the watch factory in New Jersey, more than forty of whom died from what are termed its infinitesimal effects, is still fresh in our minds. The numerous cases of Cancer that have come under the writer's attention, treated by radium for relief from their cancerous conditions, were refused treatment for their Cancers until they had eliminated the radium from their systems, but unfortunately, most of them died not from Cancer but actual radium poisoning.

A celebrated French authority, Dr. Cathelin, Chief Surgeon of the Urological Hospital in Paris, writes as follows on radium, and it was in France that radium was discovered: — "Radium and X-Rays are evidently not specifics for cancer. They are powerful coagulators of albumins. They only act by force of their destructive effects, this being true they only act on external tumors, such as on the face, skin, etc. All deep tumors without exception escape their action. Especially do they fail in cancers of the digestive tract, the kidney, the bladder, the prostate, in fact those grave cases are what we have a great interest in curing. Radium and X-Rays have never cured deep cancers."

In an address before the Canadian Club of Winnipeg, Canada, in August 1930, Dr. A. H. Burgess, Professor of Clinical Surgery at Victoria Hospital, Manchester, England, said: — "Radium and Surgery are not cures. To cure means to restore the affected part to its normal functioning, and neither radium nor surgery accomplishes this."

The former President of the British Medical Association further explained that he was confident that a medical treatment would be found which would so profoundly influence the "an-archistic" cells that they will resume their normal work as parts of the body. This, he believes will be a drug or serum which will reach the Cancer cells, not only at their main focus but wherever they had migrated.

"Writers in the Journal of the A. M. A., November 1930, speak of the uselessness of radiation as follows: — "Occasionally one sees metastases decrease in size and in bone metastases the pain relieved, but we have never seen a case cured by any type of irradiation."

The Chicago Press service of London communicates the following under date of October 8, 1930: — "That radium is not yet established as a cure for cancer and is at present a **VERY DANGEROUS** weapon which will do more **HARM** than good unless used with the greatest care is the caution and warning contained in the first annual report of the radium commission issued today. The report emphasized also that it could not too strongly de-prcate the creation of false hopes on the value and efficacy of radium treatment in disease."

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Francis Carter Wood, Journal of A. M. A., October 18, 1930: — “They will learn the regrettable fact that irradiation sufficient to destroy all the cells of a tumor can rarely be put through the human skin without such damage as is irreparable.”*

(* Dr. Francis Wood appeared as a witness for the Government during the FDA trials against Dr. William F. Koch PhD. M.D.)

Other authorities voice the same condemnation of these agents as follows:

Dr. J. P. Lockhart Mummery writes in the London Lancet 1929 on the deep X-Ray treatment of cancer: — “My opinion is that deep X—Rays as a means of curing cancer of the rectum are a failure.”

Dr. N. A. Podkarninsky in the same periodical condemns in no uncertain terms the use of X-Rays in Cancer. They are poisonous to the cells of the body and tend to make the blood cancerous.

Dr. Sydney Thompson and others report a case of radium dermatitis which soon turned into a squamous—cell carcinoma. This in 1923, W. J. MacNeil and G. W. Willis reported a case of Skin Cancer following exposure to radium occurring in a medical practitioner of 16.

Dr. Francis Carter Wood of the American Association for the Control of Cancer summed up radium in the following words:

—(Please note the last three)

“Radium will not cure cancer. It only destroys cancer-ous tissue within a certain radius, but does not drive the disease from the blood.”

Dr. Shiels of the New York Home for Incurable Cancer says:

“The cases we have today are worse than we had years ago before they had tried radium. It seems to me that radium makes them worse.”

Dr. W. W. Fritz of Philadelphia, a well-known specialist in Cancer says: —

“The more powerful the X-Ray, the stronger the radium, the greater the mortality.”

Prof. J. H. Sequeira says: — Diseases of Skin, 1927

“Prolonged treatment by X-Rays unquestionably increases the liability to Cancer.”

As radium acts only on the end products of Cancer, it is not only useless but it invades and destroys the healthy tissues around the tumor, destroying blood vessels and protective glands, which are most necessary in the healing process, and chases the disease to some internal organ, thus so complicating the case that cure is impossible. As a producer of metastases of Cancer to the liver and lungs, and frequently spine and bones, it stands at the head of all substances.

It takes a mental acrobat to harmonize the statements of the radiumists and the surgeons. The latter, in their operative zeal, remove the surrounding healthy tissues as of no use and they fail. The radiumists recognize the danger of this procedure, and yet they apply radium that destroys not only the function of these tissues but drives the disease to other parts. The final landing place of radium cannot be controlled.

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Thus, after radium is used in stomach cancers we see result-ing liver cancer. Breast cancers are driven to the lungs. Cancers of the eye are sent to the brain. Facial and tongue growths are frequently sent to the throat and windpipe and rectal can-cers are disseminated by it through the intestines. Even a uterine cancer may originate from radium applied to a cancerous breast. The literature of radium damage is filled with similar cases. Cancer of the lung has increased tenfold since radium was dis-covered.

If a cancer patient is wise, not even an infinitesimal amount of radium should be allowed. It would be safer to keep away from an office where radium is used for the emanations of radium exercise their baneful effects from a distance of 17 feet. This has been absolutely proved.

Surgery is BAD, there are cases where it might have to be used to prolong life, but radium is WORSE. It kills the patient.

THE TRUE CAUSE OF THE CANCER DISEASE

The theories as to the origin of Cancer are multitudinous and varied. So varied indeed are they that an eminent medical scientist sums them up in this sentence: —“We know nothing about cancers.”

Mr. J. Ellis Barker, an English writer and investigator whose opinions are approved by Hoffman, has shown and proved it an irresistible logic, founded upon an exhaustive research into all the phases of the disease, that the true cause of Cancer is a chronic poisoning, extending over a period of many years, and embracing poisons received from without in almost any form and also poisons of our own creation.

Sir Arbuthnot Lane, the famous English authority, coincides with this view and adds: — “Cancer is a disease of civilization, a disease of faulty feeding. Cancer never affects a healthy organ.” And again: — “We need not abolish civilization in order to abolish cancer.

That it is not caused by innocent growths, warts, moles, and the like, nor by chronic irritation of the ordinary kind, nor caused by old age, nor by some mythological microbe, nor by the hundred and one ever changing theories advanced by labora-tory experts (many of whom have never seen a case of clinical cancer), is apparent from the multiple forms in which it ap-pears, and the varied course of the disease.

Let us look at some of these forms of chronic poisoning:

1. We read of pitchworkers’ cancers, of chimneysweeps’ can-cers, of mineral oil cancers, of tar cancers, aniline cancers, cancers from aspirin, of sun cancers, of X-Ray cancers, of ra-dium cancers. These are caused by the poisoning of the blood by the substances mentioned. With some of these we must associate next: —
2. Burn Cancers. A Cancer creating poison is found in chronic burning in its various forms. DaCosta in his ‘Modern Surgery,’ on page 258, writes, “The blood of burned animals contains toxins.” Other writers verify thus. Burns in any and every form lead to poisoning of the body. Thousands of cases of Cancer have resulted from X-Ray burns whether they were due to “burning” or sonic other unknown effect. Radium has caused more cancers than any known substance except X-Ray. Its cancer-creating poison rays will prevent the success of any treatment, corrective or curative, of the Cancer disease. Chronic burning by the sun’s rays has been mentioned by many authori-ties

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notably by Paul in his work entitled, "The Influence of Sunlight in the Production of Cancer of the Skin." The "Kangri" Cancers of the Hindus and the "Kairo" Cancers of the Japanese are burn cancers. We have Furnacemen's cancer, Enginemen's cancers and Stoker's cancers in those who are constantly subjected to the prolonged application of heat to the thighs. The violet ray and ultra violet rays produce grave results, observable years after their use, according to an article in the London Lancet. As in the case of radium, the poisoning of the tissues goes on longer than we have hitherto believed. There is a toxin formed by burns, which circulates in the blood, which sooner or later is liable to show itself as an end product of the poison, or a cancerous growth. Another form of burning is the internal. Hence we will often find Cancers of the stomach and esophagus resulting from the continued use of drinks, tea, soup, water, etc., swallowed at some 40 degrees higher temperature than that in which we could bear our hands. Dr. William Mayo thinks Cancer of the stomach may oftentimes be due to this feature alone.

3. The metals and minerals and their salts are for time most part distinctly poisonous to the human body, especially is a chronic poisoning by a long continued use of them in small doses, doses too small to cause acute poisoning. Arsenic is known to produce cancerous symptoms and eventually a true skin cancer. Lead so poisons the blood that Cancer results. Aniline poisoning is well known. Workers in Aniline, such as dyers, are especially liable to Cancer of the bladder. Parafine workers cancer is accepted as a reality. In fact there are many occupational cancers due to exposure for a long time to the specific poisons of their work.
4. Alcohol in prolonged inordinate use has long been recognized as a poison to the human system.
5. Syphilitic poison is a fruitful source of Cancer. Especially is this evident if time syphilitic patient has been dosed for many years with preparations of mercury, and arsenic in the form of salvarsan. The microorganism of syphilis permeates and poisons every cell in the body. We might better call them the mercury and arsenic cancers of the syphilitic.
6. One of the greatest cancer creating factors is the drug taking habit. The continuous or habitual taking of drugs eventually so poisons the human body that the observing physician can tell by the symptoms the person presents what drug he is taking. There is no field that can compare with that of treating diseases in variety and luxuriousness of drug store quackery. The desire of people to be rid of pain and discomfort is urgent. They cannot wait for an investigation and diagnosis. They diagnose themselves, treat themselves, poison themselves and the end is tuberculosis, cancer, pernicious anemia, or other chronic affection. They avoid a physician and play into the hands of the impostor and the undertaker.

One has but to refer to the advertising media of our so called drug stores to actually visualize the enormous extent whereby humanity is constantly being poisoned by drugs which are foreign to the human economy and are dealt out indiscriminately by the commercial purveyors. (Today pharmaceutical companies spend billions of dollars advertising their drugs directly to the public. Their obvious goal is to boost sales by the public prescribing their own medications when they visit their physicians.)

A physician who is permitted to prescribe for the sick must study intensely for a period of more than four years, possess a diploma certifying to his qualifications, and pass a state board. He knows then what medicines are needed and what should be avoided, and the why and wherefore of the same. However, under the present system he comes at once into competition with commercial interests in the line of drugstore advice favoring this or that nostrum.

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Thus we find people buying drugs and prescribing for themselves and these drugs so improperly prescribed and taken produce as rule disastrous results, and their continuance poisons the entire system and lays a fine foundation for cancer and other conditions leading to its production.

Such substances as painkillers, nervines, headache medicines which will relieve all pains whatever the cause, laxatives for constipation, kidney pills, lacto-peptic tablets, bile medicines, cough and cold remedies, asthma nostrums, throat lozenges, grippe capsules, pepsin compounds by the score, eye, ear, nose and throat medicines, sinus cleansers, hair tonics, dandruff removers, and the host of preparations ending in al and ol, makes a drug store advertisement read like the catalogue of a pharmaceutical house.

There is, for example, no drug that will more surely poison the blood, and, despite the assertions of extensive advertising of the nostrum, weaken the heart than aspirin. The writer has seen at least one case of Cancer, which could only be due to the prolonged and habitual use of aspirin. The patient died of cancer of the breast that was brought on by its use. The poisoning in this case had extended over a period of many years.

The British Medical Journal, 1927, has the following:

“Probably few even of those who give special attention to the subject are aware of the enormous amount of synthetic drugs on the market. Frankel’s well-known book on the subject contains the names of some 7000 chemical substances.”

Poisoning of the atmosphere with exhaust fumes of automobiles has been charged with the great increase of lung cancer. This and the use of radium are probably the chief causes of this increase.

An English writer in 1923, ten years ago wrote the following:

“For all we know, people working in, or living near garages may develop cancer only in 10 or 30 years from now, and our petrol-fume laden towns may become hot beds of cancer, veritable cancer death-traps. At any rate, the pollution of the town air by petrol fumes cannot be good. Men need fresh air, but we destroy it, and the result must be the weakening of the air starved inhabitants.”

We quote time following from that excellent work entitled “Your Money’s Worth:”

“The domain of modern medicine man is not so much a Wonderland as a rotting miasmatic swamp. It touches the utmost limits of human degradation. For those who trade for profit on the hope and despair of the sick and ailing—who deliberately throw straws to those floundering in pain and anguish—no stricture, no contempt, is too great. They above all are the vultures of modern civilization.”

The old fashioned term “cures” is avoided as illegal and in its place we find, “relievers,” “removers,” “restorers,” “treatments,” “wonderful discoveries,” et id omne genus. Each organ has its medicine, we read of cystex for the kidneys, “Nature’s Remedy Tablets,” as if Nature needed a remedy, “Blood Purifiers,” “Pile Disappearers,” “Liver Pills,” “Balm for Sick Women,” and special “discoveries” for rheumatism, skin diseases, varicose veins, tonsils, and the usual “guaranteed or money refunded,” or “no results or no pay” are frequently added, but never forthcoming.

There is not one of the above fragmentary lists that are given with anything like even an iota of intelligent prescribing. Pain is nature’s signal that something is wrong. To deaden this pain with a painkiller, is to remove nature’s signal that there is a cause of this pain somewhere that needs attention.

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Also the scores of obesity cures, these according to well-established medical knowledge, either contain Thyroidine or Thyroid extract that reduces but which is exceedingly dangerous, or else they do not contain it and will not in any circumstance reduce.

Epilepsy cures all contain bromides often under another name such as luminal. Neither bromides nor luminal have any curative effect on epilepsy. This fact is well known to the medical profession.

All these poisons certainly interfere with nutrition and vita-min functioning and this is what does an irreparable damage.

7. Another set of Cancer creating poisons is found in the chemically treated foods, which we enjoy as a result of our advanced civilization. To cite a few: Sulfites are mixed with beverages and are used by butchers to keep meat free from taint. Chilled meat in carloads and shiploads is fumed with paraldehyde, a very injurious chemical. Butter, cream, margarine and bacon products contain boric acid or borax. Apricots, canned fruit and raisins are bleached with sulphuric acid. Gelatin is sulphurized. Preserved peas, beans and spinach contain copper used for beautifying purposes. Temperance beverages, ginger, beer, lime juice, contain frequently salicylic acid or benzoic acid, often as much as 7 grains to the pint. Flour is bleached with nitrous gases, and rice beautified by French chalk, which contains arsenic. Articles canned in tin containers dissolve off some of the metal depending on the acidity of the article. Acid fruits, tomatoes and rhubarb contain quite large quantities. Tin is a well-known poison when taken into the body. Aluminum hydroxide, which is distinctly poisonous, is dissolved off cooking vessels. Even water from the tap boiled a half hour becomes distinctly milky on cooling and deposits a white precipitate. Any one can try this out in a clean aluminum dish. There is nothing that will clean a dis-colored aluminum dish so well as cooking tomatoes in it.

Thus we are bombarded with chemical poisons at every meal. Is it a wonder that cancer is increasing and has greatly increased over the time that the most part of our foods went direct from the farm to the kitchen and were not beautified by "greening" or whitened by sulphur? Our grandmothers added a little hard cider or even brandy to their mincemeat, a far safer procedure than benzoic acid.

We have our pure food laws to be sure, but one has to be more than a chemist to know the effect of minute doses long continued on the human body.

The following is from Hoffman: — "The pronounced worldwide increase in the cancer death rate must somehow have a connection with our mode of living * * * Natural foods are diminishing everywhere, artificial foods are increasing. * * * What we really eat is but a mere guess for the food consumed may have been months in storage and been subjected to a large variety of processes of modification if not adulteration."

Dr. Harvey W. Wiley devoted his life work to improving the nutrition and consequently the health of the nation. He opposed adulteration of all foods and the introduction of food preservatives of any kind that were unnecessary and injurious to health. His work was opposed and nullified by those engaged in adulterating and misbranding foods. A board of experts passed on some of his work, by a vote of 222 to 29 against the introduction of any preservatives, and approximately in all fields the votes were in favor of the Doctor's contentions. He said, for instance that Duffy's Malt Whiskey was one of "the most gigantic frauds of the age and a flagrant violation of the laws." Yet as late as 1930 we find the druggists dispensing this brand of whisky on a doctor's prescription of whisky, which must have previously received the government's endorsement.

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Dr. Wiley was forced out of his position because he would not unmake any compromise with the commercial adulterators. He especially opposed benzoic acid and borax as food preservatives on two grounds, first because these substances were unnecessary, and second, because their continued use poisoned the system.

The chlorinization of our drinking waters is along the same line of poisoning. Perhaps we will find some day that we are developing a symptomtological picture of chlorine poisoning in some of our cities. The safest drink for a cancer patient is distilled water.

8. We come now to consider another form of poisoning that is of the utmost importance in the cancer creating province.

This is self-poisoning or autointoxication. It is known that many of the waste materials of the body are extremely poisonous, and the excreta are especially toxic.

In a normal condition, nature provides for their being rendered harmless by certain antidotal secretions, and for their expulsion in a regular and harmonious manner at regular periods. Nature acts with great energy against all deleterious substances.

If nature's calls be neglected, postponed or ignored, and if the ingesting of poisoned materials in food or drink be continued, nature gives out, and the symptom constipation makes this known.

Constipation and its opposite, diarrhea, are symptoms, not diseases, though at times it has been found convenient to class them as diseases.

The symptom constipation arises from a slowing up of the secretive and muscular functions of the intestine due to neglect, food deficiency and chronic poisoning, and this goes on until a condition of inaction known as intestinal stasis results. As the exhausted intestine no longer functions, the poisons of its contents are absorbed into the blood and autointoxication is added to the condition.

The symptom of habitual constipation is an invariable pre-growth symptom of cancer, and one would expect this would eventuate itself in some weakened part of the intestinal tract and produce cancer of the rectum, intestine, or somewhere along the digestive tract and so it does.

Sir Arbuthnot Lane says: — “in every case in which I have opportunity of verifying it, I have found that the cancer patient was suffering from chronic constipation and that the infection by cancer was an indirect consequence of this condition.”

The late Dr. Robert Bell, the author of “The Conquest of Cancer,” says:

“I have never come across a solitary case of cancer in which the patient had not been a victim of chronic constipation.”

Dr. Pauchet, a noted French authority, says:

“Nine women out of every ten suffering from cancer of the breast were constipated. If they had been warned against constipation ten or fifteen years before they would never have suffered from tumor of the breast or from cancer.”

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Many other authorities might be quoted bearing out the truth of the assertion that cancer disease shows, as an early symptom, constipation.

It is not only by inattention to nature's calls, deficient foods, and faulty feeding that we weaken our intestinal function, but we add to this irritating poisons in the form of laxatives and purgatives in our asinine endeavors to correct the trouble. These further aggravate the condition, which may have been in the beginning a simple constipation, by substituting a veritable paralysis, or a complete intestinal stasis.

It is estimated that 90 percent of the civilized are constipated and it is true that constipation is a symptom of many diseases. It is an accompaniment of fevers, of many forms of spinal disease, of forms of insanity and other affections. It is further said that since only ten percent of the civilized die of cancer, it cannot be an important symptom of the cancer disease. Only eight percent of the people die from tuberculosis and yet all the people breathe in "uncountable millions of bacilli of tuberculosis."

But constipation is not the only pre-growth symptom of the cancer dyscrasia, although it is perhaps one of the more important. When we become familiar with the whole group of pre-growth Cancer symptoms and are able to classify them, we shall take an important step forward in preventing and curing the disease. This will be learned, not in the laboratory, but in the study of the individual with the disease or with the danger signals showing. Cancer research has practically excluded the clinical side.

Dr. L. Duncan Bulkley's writings are full of agreement with the foregoing views. He says, and we quote: — "It would surprise you if you knew how almost invariably cancer patients are constipated and have long been so. * * * * I have come to look upon this feature of imperfect intestinal excretion of intestinal stasis, as it is now called, as one of the prime elements in the causation of cancer."

The excrescencies of civilization have given us universal indigestion, universal constipation, universal self-drugging, universal autointoxication and universal cancer dyscrasias as potential pre-growth indications to the malignant cancer disease.

PRE-GROWTH SYMPTOMS OF CANCER

We have stated that poisoned and altered blood would give rise to symptoms. Arsenic poisoning in the acute form is readily recognized by the symptoms it produces. We know the symptoms of strychnine poisoning and a host of other poisons of bacterial or chemical or animal origin.

The attention of the medical profession was first called to the fact that cancer presents a train of pre-growth symptoms by Dr. William F. Koch of Detroit. Dr. Koch is a highly trained physiological chemist as well as a physician of keen discernment. He has applied a Synthetic Chemical Antitoxin to the cancer disease, and some three or four thousand physicians in the country are using the same with satisfying results, better than have been heretofore had by any treatment that had been used.

In an examination of 400 cases of cancer applying to his clinic in Detroit, he found pre-growth symptoms in 80 percent and he thinks he might have found them in the other 20 percent had he had the patience and time to devote to the minute examination necessary to elicit them.

The writer has minutely examined the case histories of 284 patients diagnosed as cancer cases and found their presence in every one of this number.

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These pre-growth symptoms vary greatly with the individual, as we should expect. We might expect their absence in some cases owing to individual resistance. For example, not all cases exposed to Rhus or ivy poison are poisoned; some can even handle it with impunity and rub it on their skin. The smoke poisons others when it is burning.

It has been noted also that the pre-growth symptoms might be arranged into classes. For instance, there are symptoms arising in the obese that are different from those of the thin and spare. There is a thyroid group presenting its special symptoms. Another might be termed the mucous group, presenting symptoms that the Homeopath would recognize as hydrastis symptoms; and still another presenting a different train of glandular troubles that the same Homeopath would recognize as conium symptoms. We also find Sir Lauder Brunton, the eminent English Therapeutic authority, mentioning these remedies as cancer remedies.

It is interesting if not significant that both hydrastis and conium are prominent cancer remedies, and the question arises. Is not the success of Homeopathy in cancer, and that they do have success cannot be denied, due to their recognizing the disease earlier than those physicians who must await the appearance of the tumor to diagnose the disease?

There is a strange group of pre-growth symptoms referring to the nervous and sensory organs and organs of special sense.

These pre-growth symptoms may be interconnected. Dr. Pauchet found constipation as a pre-growth symptom of breast cancer.

Much real research of value will be had in making a clinical study of these pre-growth manifestations to classify them and be able to present them in an orderly way to the profession and even the laity by teaching them to observe any divergence from their normal feelings and course of life.

They will enable us to fulfill the first desideratum of treatment: —Remove the Cause, and thus prevent the disease.

The scientific knowledge of cancer is confusion.

From Hippocrates to Virchow, Cancer was considered a dia-thesis, or a faulty bodily condition favoring the localization of the tumor.

The causes of Cancer are plain and obvious—faulty feeding, over feeding, it is a disease of faulty living.

It is in the body's fight against cancer that we find the significant symptoms of the disease, long before the tumor appears or has started to grow.

The efforts of the cancer research experts have gradually but surely proved themselves of no avail. The reason is simple for they do not deal with anything but the end products of the disease and it does not take an expert to recognize a cancerous tumor.

A healthy body will destroy the incipient Cancer disease just as it destroys incipient tuberculosis. Improvement in health is a protection against all diseases.

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Medicine instead of becoming scientific has been commercialized and mechanicalized. It is the commercial travelers from the pharmaceutical houses who direct the treatment. The failure of Surgery in Cancer proves conclusively that Cancer is not a local disease.

DIET AND NOURISHMENT IN CANCER

Errors in diet are elements of modern civilization that are contributory causes to the general poisoning of the blood stream found in Cancer.

Statistics show that the increased use of meat, coffee, strong alcoholics and other foods and drinks greatly tend to the in-crease of cancer by hindering elimination. It may be set down as an axiom that if we keep the eliminative functions of our bodies working properly there will be no disease tendency any-where in the body.

Hurried eating, imperfect mastication, overindulgence in bad-ly selected foods and indolent physical habits are also favor-able to this poisoning, and so the most important indication is to REMOVE THE CAUSE.

The object of diet in cancer is to nourish the individual sufficiently to maintain a normal blood alkalinity, which is done by feeding in proper amounts such materials, as that are con-ducive to the best digestive activities and bowel action, avoid-ing irritative and toxic or poisonous substances.

In general, foods must contain vitamins, mineral salts, fats, carbohydrates, protein and water. If these are not properly supplied, disorder and disease results, and the continued lack of any one of these is made apparent by symptoms. Thus lime deficiency manifests itself in rickets or softening of the bones.

We may supply the deficiency by giving lime if it be an actual simple deficiency, but if it be due to a lack of the power of the system to assimilate the lime, the mere giving of more lime will only add to the trouble, which can only be corrected by first putting the assimilative functions of the body in order.

In the Cancer disease the greatest safety lies in an absolutely vegetarian diet with only butter and cream added from the animal kingdom. Ehrlich showed that animals fed on rice could not be inoculated with Cancer and the same animals after-wards put on a meat diet were readily inoculated with the dis-ease. This has also been confirmed by many other investigators.

All laboratory tests have shown that cancer is hindered in its production and slowed in its course by vegetable feeding. Where the consumption of meat has doubled during the last fifty years as it has done in the United States and in England, Cancer has increased fourfold.

Dr. Adolf Theilhaber, a German authority on cancer, says: — “Although vegetarians are apt to suffer from Cancer, they are less exposed to that disease than meat eaters. A vegetable diet seems to act as a protection against Cancer. That view is confirmed by my statistical studies.”

Dr. J. H. Kellogg of Battle Creek, Michigan, says: “An anti-toxic diet, that is, a diet which discourages the development of putrefactive poisons in the intestine, is specially to be commended as a means of combating Can-cer.

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Tuberculosis, a constitutional disease, has been reduced 30 percent in the last 25 years by proper feeding, living and medical treatment.

Cancer, a constitutional disease, increased 30 percent in the last 25 years through lack of proper feeding, living and medical treatment.

Much of this condition is due, and has been shown, to the idea instilled by surgeons that surgical treatment of cancer was the only hope and that diet was secondary in importance and even a negligible quantity.

However, Cancer can be reduced and stayed as well as tuber-culosis. Tuberculosis is favored by undernourishment and over-work. Cancer is favored by over nourishment and under work.

The first thing to be done in a Cancer patient, whether he be in the pre-growth stage, or presents the growth in any of its forms and severity, is to thoroughly detoxicate him, and the method of Koch is here supreme.

This having been completely done, he should be placed on a correct vegetarian diet so arranged and proportioned as to afford perfect nutrition and be attractive and acceptable at the same time.

A diet that is scanty in animal protein, (Flesh foods, such as meat), scanty in fats, and low in carbohydrates, (starches and sugars), plentiful in fruits and vegetables, high in mineral salts and high in vitamin content is to be sought.

Something raw with every meal, the more raw or uncooked foods the better, no foods that have been treated or preserved in any way, in other words, NATURAL FOOD is the thing desired.

THE CORRECT VEGETARIAN DIET IN CANCER

It is not an easy matter to enforce a regular stated diet for a long time. The questions of temperaments, of idiosyncrasies, of capacities, vary with each individual. Ages and seasons have their influences for there is a difference in foods taken out of season. Peoples who have been used to certain foods all their lives do not adjust themselves to changes. Each Cancer case requires a special study to tell what diet is necessary to correct the dietetic errors, as these errors are by no means the same in all cases.

The practical physician will know how to individualize diet and in a large measure conform to the patient's peculiarities without deviating from the general principles. He will know how to vary it judiciously.

Then the diet must be balanced with caution. This can often be done not by disregarding the patient's appetite and cravings but by gratifying them with guidance. In Cancer, as a general timing, the more the patient eats the less strength he has, the sooner he gives out and the more he poisons himself. It is extremely rare that an insufficient amount of food is harmful.

The cooking of foods very frequently has as a consequence, the abolishment of mastication, and consumption of excess foods and so it is advised to eat a certain amount of raw foods in the form of green salads and fresh fruit and thus preserve a neces-sary balance. Cooking destroys the vitamins requiring consumption of excess calories to get enough vitamins.

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Many writers on diet in cancer have presented many lists of foods, which are either allowed or forbidden. Dr. L. Duncan Bulkley's list that he used in the New York Skin and Cancer Hospital for many years with success contained the following articles: —

Breakfasts: Cereals, Corn Meal, Rice, Hominy, Cracked Wheat, Graham Toast or Bread, Butter, some Sugar, Oranges, Postum, Hot Water and occasionally a Boiled or Poached Egg.

Dinners: Soups, Vegetable, Pea, Celery, Sago, Corn. Lima Beans, Baked Potatoes, Spinach, Corn, Carrots and Onions, String Beans, Cauliflower, Asparagus, Mac-aroni, Spaghetti, Graham Bread, Butter, Apples, Dates, Figs and Raisins, Stewed Celery, Baked Beans.

Suppers: Rolled Oats, Cream of Wheat. Farina, Baked Apples, Stewed Prunes, Crackers, Wheatena, Rice, Sliced Oranges, Figs. Graham Toast with Butter and occasionally Weak Tea.

From these lists the patient could select the articles that appealed to his appetite for each meal. The idea being to stick to the foods thus listed. Interchanges may be made to suit the appetites or even conveniences of patients so long as they do not depart from general principles.

Other writers' present lists that are on the whole similar to the above, including or removing certain articles.

Still others present diets excluding those articles which would be likely to interfere with the medication advocated. Perhaps the most practical and at the same time most scientific is that advised by Dr. Wm. F. Koch in connection with his Treatment for cancer by Synthetic Antitoxin.

We give it in full, as in our opinion it is the most complete of any, and fulfills the requirements of the cancer case no matter what the treatment be. Many of the articles on the forbidden list are manufactured substitutes for the real article; in fact, there is a reason for the exclusion of every one of the articles marked forbidden.

WHAT TO EAT

Fruits: Apples, Pears, Bananas, Dates, Huckleberries, Blueberries, Muskmelon, Watermelon.

Cereal Foods: Oatmeal, Cornmeal, Cracked Wheat, Rice (un-polished), Barley, Bran, Shredded Wheat.

Soups: Vegetable, Barley, Bean, Corn, Cream, Celery, Pea (fresh), Rice. (No canned soups permitted and no spices or tomato flavors, and no meat stock used in preparing same.)

Vegetables: Cabbage, Brussel sprouts, Lentils, Butter Beans, Carrots, Celery, Cucumbers, Lettuce, Onions, Turnips, Beet Greens, Swiss Chard, Peas (new, not canned), Potatoes, Baked or Boiled; New Beans, Pumpkins, Squash, Sweet Potatoes, Baked or Boiled Wax Beans.

Dairy Foods: Butter, Sweet Cream.

Breads: Graham, Bran, Corn, live, Whole Wheat, (also toasts of these), Bran Muffins, Whole Wheat Biscuit.

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Beverages: Apple Juice, Cream diluted one-half with water, Distilled Water, as much as desired. Avoid city waters, which are chlorinated.

Desserts: Whole Wheat Bread Pudding, Whole Wheat Cakes, Rice Pudding, Honey.

MUST NOT EAT WHILE UNDER TREATMENT

Fruits: Raisins, Cherries, Cranberries, Currants, Gooseberries, Grapefruit, Grapes, Loganberries, Figs, Pineapple, Prunes, Lemons, Limes, Oranges, Peaches, Plums, Quinces, Strawberries, Tangerines.

Vegetables: Artichokes, Eggplant, Parsnips, Parsley, Pepper Grass, Peppers, Asparagus, Rhubarb, Salsify, Sauer-kraut, Spinach, Tomatoes, Water Cress.

Cereals: Processed cereals.

Dairy Foods: Buttermilk, Cheese (any kind), Malted Milk, Sour Milk, Sour Cream, Sweet Milk, must not eat Meats or Fish, or Eggs.

Candies: No Candies

Condiments: Bottle Sauces, Catsup, Ginger, Horse Radish, Mustard, Pepper, Spices, Vinegar.

Beverages: Alcohol, Beer, Champagne, Cordials, Coffee, Cocoa, Carbonated Water, Chocolate, Ginger Ale, Grape Juice, Lemonade, Mineral Waters, Tea.

Tobacco: No tobacco in any form.

During the treatment of cancer, it is necessary to avoid all medication of drugstore or household articles, of which the following is an important list as any of them are likely to add poisoning to the system or to interfere with any and all treat-ments:

Aromatic Spirits of Ammonia, Aspirin, Cold Tar Products, Cathartics, Castor Oil, Cold Creams, Cough Syrups, Sleeping Medicine, Pain Killers, Hair Tonics, Alcohol Rubs, Witch Hazel, Fever Mixtures, Hypo-dermic Injections, Iodine, Glycerine, Glycerine Suppositories, Patent Medicines, Salicylates, Vaseline, Cosmetics, Rouges, etc.

- For a more complete explanation of the Koch Diet, refer to the KOCH COOKBOOK on this web site.

The dietetic treatment of cancer and its general management should be under the direction of the physician. Self-dieting by the patient in this disease is as disastrous and inadvisable as self-drugging. Both work injury that cannot be remedied.

HOW SHALL WE TREAT CANCER?

The dictum, "Cancer is incurable except by operation." is UNTRUE and UNTENABLE, because cancer has been cured by medicines, by diet, and there are records of many spontaneous cures.

We have seen that Cancer is not a local disease, but a con-stitutional disease due to a systemic poisoning extending over a long period of time.

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We have seen that the change in the blood caused by this poisoning will produce symptoms which will likely continue until the growth begins, and very often we will see these symptoms subside on the appearance of the growth.

We have seen that surgery is a failure because it cannot remove by operation the poison that causes the disease. We see recurrences invariably after operation.

We have seen that radium and X-Rays and other methods directed to the growth likewise fail, and in addition we have shown that these treatments have a real danger in distributing the toxins and driving the growths to vital points.

Therefore the indications for treatment seem clear. We might tabulate them in the following way: —

FIRST. Remove the cause of the disease.

SECOND. Correct the damage already done by:

- (a) Restoring normal physiological functioning to the body and its organs by dietetic measures, physical measures and hygienic measures.
- (b) Antidote the effects of the poisoning by antidotal measures, by medicines that will restore the blood to its normal state; here the usefulness of the Synthetic Antitoxin of Koch both as a prophylactic and curative measure warrants recognition.
- (c) Stimulate the recuperative powers of the patient and above all avoid depleting the patient by continued operations.

THIRD. In early Cancerous cases the removing of the constipation and restoring intestinal action will rob the disease of two of its chief pre-growth symptoms and the cure will be easy.

FOURTH. Make a study of the pre-growth symptoms in every case, which will necessitate the study of the individual patient, his idiosyncrasies and peculiarities. In other words **TREAT THE PATIENT INDIVIDUALLY.** In this way will be stopped the ravages of this dreadful disease, which under orthodox and official treatment has been rapidly increasing for more than forty years.

ADDITIONAL OPINIONS

At the meeting of the California State Medical Society in May 1929, “Dr. William Mayo the famous Rochester physician and surgeon pointed out that healthy tissues are never attacked by cancer, and that instead of concentrating on the cause of cancer, as in the past, the profession has shifted to preventive chemistry in an effort to conquer the disease.”

Dr. Mayo would find upon investigation that this movement has been going on for some years in the clinic of Dr. William F. Koch in Detroit and his followers throughout the country.

“We believe that cancer is primarily a systemic condition, and that it manifests itself locally at some point of irritation or interrupted circulation. We also believe that it has a fundamental chemical cause as its producing agency,” Armstrong in “Medical Therapist”, Kansas City.

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Annie Riley Hale, a very incisive and charming writer, author of the book entitled "These Cults," which received universal praise from the reviewers, has this to say referring to Surgery in Cancer: "If Cancer is a local disease, then surgery should apply in at least half the cases. But though they have been cutting and burning since Babylon was young, the records still show over 90 percent of those once affected with it dying of it, and that it is steadily on the increase in all civilized countries."

Dr. Dieulafoy of the Faculte de Medicine Paris made the following statement: "I have twice seen cancer of the lung in patients who had undergone operations." This was in referring specifically in one case to an osteo sarcoma, and the other to a testicular disease where an operation was followed by the disease attacking the lung with of course fatal results.

Dr. J. W. Catheart of El Paso says: — "Radium waves are capable of going through the human body much as a bird flies through a forest. They attack the cell nuclei killing the cell. Certain death creeps steadily on the affected part. Cells destroyed by radium are never replaced."

The late Dr. Ochsner one of the most distinguished of American Surgeons said: — "The percentage of cases that can be cured by surgical operation must always remain small. This is an implied belief that the disease is not local."

The late Dr. Elnora C. Folkmar of Washington, D. C., before cited, further says: — "Clinically both X-Rays and radium have been weighed and found wanting as effective means for the cure of cancer. The observations of Luckisch, Pacini, and Crile give the scientific data that explains this failure. The lesson to be learned is that radium and X-Ray, are dangerous and inefficient weapons to use in the treatment of Cancer."

The Associated Press reports that Dr. S. Von Sochocky, the inventor of the luminous paint, which has taken the lives of six women and afflicted a number of others with a bone destroying disease, died recently, the seventh known victim of his invention. Radium poisoning received wide publicity last summer when the suits of five women, aggregating one and a quarter million dollars, against the U. S. Radium Corporation were settled out of court.

DR. W. A. DEWEY

Koch Cook Book / Indian Sun Symbol Dedication

To Our Dear Mothers who were sick unto death with that which all living mortals so fear and dread—CANCER. To your Mother or Father, brother or sister: To all members of the human family that wish to loose their fear and dread of CANCER; This Koch Cancer Cook Book is affection-ately dedicated.

FIRST EDITION COPYRIGHTED, 1935

INTRODUCTION

In the enclosed volume the author wishes to ex-press what she feels are the first steps on the road to correct eating, to gain and maintain a life that is pulsating with joyous health.

In offering this small Koch Cancer Cook Book to the thousands of hungry seekers of health, the author is simply answering the demands of thousands upon thousands suffering with Cancer and its allied dis-eases who ask over and over again each day, **“WHAT SHALL I EAT?” “HOW SHALL I PREPARE IT SO AS TO MAKE IT BOTH TASTY AND NUTRITIOUS?”**

In the preparation of this Cancer Cook Book, the author wishes to thank her many friends for their aid and willingness to spread cheer to the thou-sands that will read and use these recipes. Among those who h a v e made suggestions, Mrs. Florence Crabb is especially thanked. She has fed thousands of Cancer Sufferers using the Koch Cancer Antitoxin and after using her recipes and proving their worth, they are grouped with the author’s and passed on to you for enjoyment. The Koch Cancer Foundation is thanked sincerely for their cooperation in making this Koch Cancer Cook Book possible.

Actual experience gained from the handling of hundreds of Cancer Sufferers over a period of seven years and a careful study of foods convinces the au-thor that those in distress, those seeking aid from the Koch Treatment or any other remedial agent do not have anything reliable to which they can turn and find easy and specific instructions as to what to eat and how to prepare it. The problem of feeding is a big job. The sufferer has for years eaten the “American Substantial Daily menus of—meats gravies, white bread, pies, condiments, coffees, teas, desserts, etc.,” so long they are absolutely lost when they find that to regain their lost health they must forsake their “old standby daily rations.” This fact and truth startles them. They are absolutely lost. They are unable to think of other combinations of tasty, palatable, and nutritious foods. For this reason the author has taken much pains and study as well as years of actual preparation of these proven recipes and these groups of foods in getting material for this Koch Cancer Cook Book and securing this Cook Book published for your benefit and aid.

There are hundreds of cookbooks on the mar-ket, but they are absolutely of no value to the Can-cer Sufferer. This is the first Cook Book of its kind and it is with pleasure and much pride that the au-thor asks that you read carefully, follow its instruc-tions rigidly, as every recipe has been used dozens and dozens of times and the combinations of foods carefully selected of those foods that are permissible for the user of the Koch Cancer Antitoxin. It is this combination of “permissibles” that has taken so much time and work to make this book possible. You will note there are many cereals or grain prod-ucts used and permitted. These grains should always be used as “whole grains, flours, meals, cereals, etc.” Never

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use the bolted meals and flours. Note care-fully—**THE LESS STARCHES YOU USE**, and all cereals are starches, **THE BETTER OFF YOU WILL BE AND THE LESS GAS YOU WILL HAVE. CUT YOUR CONSUMPTION OF BREAD AND STARCHES TO THE MINIMUM.**

Pay close attention to the combination of foods— **GOOD COMBINATIONS**, and **BAD COMBINATIONS FOR THE HEALTH SEEKER** that follow.

You are especially cautioned not to make your recovery harder and longer than it should be by telling yourself, “I can’t follow this old horrid diet.” “This is terrible,” “I must have my coffee.” “My eggs and milk are my staff of life.” “I cannot eat whole-wheat bread.” and a dozen other such useless sayings. You must not fail before you try. You must realize that. “If what you have been eating all your life was correct you would not now be sick.” You must remember that your body is the sum total of “what you eat, drink, and how you think.” Your mucous forming foods will in time clog your system and give you grief. They break down your eliminative organs, as they increase their work. All starches are mucous and gas forming. Eggs, meats, and such are putrefactive foods, besides being “second-handed foods.” You are neither a bird that eats seeds and grain nor are you a lion that eats meat only. You are a combination of all animals below you and you will do well not to emulate any one species in your eating habit.

Get a clear picture of yourself in perfect health: well, happy, and useful—as you were once in life. Take this mental picture of what you want to be and set it before your mind’s eye and keep it there all the time. Make up your mind to do everything possible to bring about the manifestation of the perfect “you” which you have made for your “men-tal eye” to look at all times. Give up all past habits and ways of living that have made you “what you now are”—Quit the “tasty” so-called foods, the things you like best, and the pessimistic thoughts and your own weakness and habit of saying “**I CAN’T.**” Learn this little poem and say it every day—

“ One ship drives east and one drives west,
While the self same breezes blow:
‘Tis the set of the sails and not the gales
That determines the way they go.
Like the birds of the air are the ways of fate.
As we journey along through life
‘Tis the set of the soul that determines the goal. And not the storm and the strife.”
Lene.

Become master of yourself and your taste. Be an image of the Creator that made you. Reflect a credit to your maker. Make yourself over in the likeness of the Spirit that made, repairs, and keeps you. You can if you will only think and act the part. Follow the foods as herein outlined. Refuse to be a quitter. Remember the Creative Intelligence that made you in the beginning is still with you and is remaking you of the things you eat, drink and the thoughts you think.

If you follow your foods, drinks, and keep happy creative and determined thoughts before you—stick to your doctor that has recommended the use of the Koch Treatment—use as many treatments as may be necessary—taking time for the God within you to remake you—you will get well. The author has seen the useless made useful, the hopeless made hopeful, the dying made to live again—not in one case, but in hundreds, and knows that you too have a wonder-ful chance to become useful to yourself and loved ones again. The author has prepared thousands of meals for such as you and has every confidence in the world that the only Treatment worth using is the one you have used and that your doctor is worthy and capable

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of directing you all the way back to health and happiness. You must be willing and fight for the realization of that picture of yourself, as you want it to be.

The joy that comes in handing this Special Koch Cancer Cook Book to you is greater than you shall ever know, You read, study, follow instructions, and a greater joy—HEALTH will come to you.

May the book serve the purpose for which it was intended, i.e., a bright light to make easy your problem of eating and rebuilding your body. My ardent desire is that the joy of living might once more become the possession of all sufferers.

Sincerely,

Olga C. Compete.

DIET

The idea of the diet is to nourish the patient sufficiently, and at the same time maintain a normal blood chemistry, to avoid all irritants, stimulants, and toxic substances in the sense that they hamper the progress of normal intracellular reactions, and to feed such materials that are conducive to best digestive activities and bowel action.

FOOD ESSENTIALS

In order to maintain life and health, foods must contain vitamins, mineral salts, protein fat, carbohydrates and water.

If our food is lacking in vitamins, deficiency diseases result, such as neuritis, scurvy, rickets, paralysis. Some of these vitamins are destroyed by heat. Therefore, some of the food must be eaten raw. The foods rich in vitamins are the fresh fruits, the green vegetables and the dairy products.

Our bodies contain 16 different mineral salts. If our food does not supply these, disease results. The source of mineral salts is fruit, green vegetables, the skin of fruits and tubers and the germ and hulls of the cereals. Therefore, we must eat whole cereals, eat the skins of fruits and vegetables, and save and drink every bit of pot liquor in which the green vegetables are cooked.

CLASSIFIED LIST

After the antitoxin has been given the diet should consist of the solid, raw or cooked foods, outlined below. This selection is made after much experience and is designed to include the non-injurious materials and to omit those, which tend to interfere with the recovery chemistry.

1. The restricted juice diet, together with the daily enemas, should continue for three or four days.
2. After the injection has been given, the patient can go on the classified diet but the daily enemas should be continued together with a little unmedicated mineral oil, if that should become necessary, until two natural bowel movements a day are procured. After this result is obtained the enemas should be given twice a week.

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3. No medication of any kind is necessary or permissible; no cathartics, nothing but hot or cold applications to control pain, or the smallest amount of morphine BY MOUTH only if that should be-come necessary.

CLASSIFIED LIST

What to Eat

Fruits (Ripe Only)

Apples	Loganberries
Bananas	Muskmelon
Dates	Ripe oranges
Cantaloupe	Pears
Figs	Pineapple
Grapes	Peaches
Fresh blackberries	Strawberries (picked ripe)
Fresh blueberries	Raisins
Fresh huckleberries	Watermelon
Fresh raspberries	

Nuts

(All Must Be Chewed Well)

Soft shelled pecans	Peanuts, if agree
Hazelnuts or filberts	English Walnuts, if skin over kernels, remove by scalding till loose.
Almonds, unsalted	Cashew, unsalted

Grains and Cereals

Barley	Petty john
Ban	Post Toasties
Cornmeal	Puffed rice and wheat
Corn Flakes	Rice
Cracked Wheat	Rolled Oats
Cream of Wheat	Spaghetti
Grape Nuts	Shredded Wheat
Hominy	Vermicelli
Macaroni	Wheatena
Noodles	Whole Wheat
Oatmeal	

Soups

Barley	Fruit
Bean	Pea (new or dried)
Celery	Rice (unpolished)
Corn	Thick soup
Cream	Vegetable NOTE—Do not use any spices, tomatoes or cubes in making
soup. Must not use any canned soup.	

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Vegetables

Artichokes (Jerusalem)	Peas (new)
Beet tops	Peas dried
Brussels sprouts	Potatoes, baked, boiled or mashed (sparingly)
Butter beans	Pumpkins
Shelled new beans	Salsify
Cabbage	String beans
Cauliflower	Squash
Carrots	Sweet potatoes (baked or boiled)
Celery (raw or stewed)	Turnips (white)
Corn (new)	Turnip tops
Cucumbers	Radishes
Kale	Swiss chard
Koirabi	Wax beans
Lentils	Watercress
Lettuce	Pure olive oil for salad dressings
Dried lima beans	
Greens (all kinds Except spinach)	
Onions (for flavoring)	

Dairy Foods

Butter	Sweet Cream
Whole Milk	

Bread

Bran	Pancakes (if no sour milk is used)
Bran muffins	Rye bread and Rye Crisp
Biscuit (whole wheat)	Whole wheat bread
Corn bread	Whole wheat wafers
Graham bread	Whole wheat (toasted)
Graham wafers	

Beverages

Apple juice (made fresh)	Grape Juice made without preservative
Pear juice (made fresh)	
Cream, one-half water	Cereal Coffees as:
Distilled water, all you can drink	Moko Cereal Coffee Postum Cereal

Desserts

Whole wheat bread pudding	Vanilla ice cream
Rice pudding	Fruit ices
Whole-wheat plain cake	Jams

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Pure honey	Preserves (from permitted fruits)
Pure maple syrup	
Brown sugar	Ice cream with fruits, allowable frozen
Jellies of allowable fruits	
Santa Clara prune whip with vegetable gelatin	

Where fresh vegetables are unobtainable, dried vegetables or vegetables which have been put up in glass containers (cold packed) are permissible.

Condiments

Dilute hydrochloric acid diluted with water to taste, may be used as a vinegar substitute for those desiring such.

MUST NOT EAT

While Under Treatment

Fruits

Cherries	Lemons
Cranberries	Limes
Currants	Plums
Gooseberries	Quinces
Grapefruit	

Vegetables

Egg plant	Rhubarb
Parsley	Sauerkraut
Pepper grass	Spinach
Asparagus	Tomatoes

Dairy Foods

Buttermilk	Sour milk
Cheese (any kind)	Sour cream

Must not eat poultry, fish, eggs or meat except on advice of physician.

Desserts

Chocolate ice cream	Nut ice cream
Chocolate pudding	Junket
Egg custard	Spanish cream

Candies

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No candies, chewing gum, nuts, fruit or choco-late. etc.

Condiments

Bottle sauces	Mustard
Catsup	Pepper
Ginger	Spices
Horse radish	Vinegar

Beverages

Alcohol	Ginger Ale
Beer	Lemonade
Champagne	Mineral waters
Cordials	Spirits
Coffee	Tea
Cocoa	Wine
Carbonated water	Postum (Instant)
Chocolate	

BRIEF HEALTH GUIDE

1. Get plenty of fresh air day and night. Oxy-gen is necessary to all body functions. Breathe deeply.
2. Sip a glass of warm water, or water with orange juice upon arising, helps clean the stomach for the meal to follow. Orange is an alkalinizer. This habit aids elimination of body wastes.
3. Drink plenty of water during the day. Water is needed for all body processes.
4. Bathe daily or rub the skin with a coarse, dry towel. Some of the body wastes are eliminated through the skin. Pores must be kept clean to facili-tate elimination.
5. Let the diet lean toward alkaline foods. The body is not healthy if the blood and tissues are acid.
6. Masticate all foods thoroughly, especially starches. The digestion of starches starts in the mouth.
7. Exercise daily. Exercise all muscles in some sport especially enjoyed. Unused muscles lose their tone.
8. Keep the bowels clean. Eat plenty of rough-age. When necessary use mineral oils, which are lubricants. Laxatives are usually harmful,
9. Try to keep the mind free from worry. Take up an interesting hobby or study.
10. Hold your temper: don't let it hold you!

TABLE OF WEIGHTS AND MEASURES

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Always Use Level Measurements

3 teaspoons	equal to 1 tablespoon
1 6 tablespoons	equal to 1 cup
1 cup	equal to 1/2 pint
2 cups	equal to 1 pint
4 cups (2 pints)	equal to 1 quart
2 tablespoons butter	equal to 1 ounce
1/2 cup butter	equal to 1/4 pound
4 cups (2 pints)	equal to 1 pound
2 cups granulated sugar	equal to 1 pound
2 2/3 cups powdered sugar	equal to 1 pound
3 1/2 cups confectioner's sugar	equal to 1 pound
2 2/3 cups brown sugar	equal to 1 pound
10 eggs, without shells	equal to 1 pound
8 eggs, with shells	equal to 1 pound
1 square cooking chocolate	equal to 1 ounce
1/3 cup chopped nuts	equal to 1 ounce
1 pint chopped meat, solid	equal to 1 pound

How to Measure in Cooking

Measuring Utensils: Use standard glass measuring cup with numbers showing fractional parts of a cupful. Have a set of measuring spoons in tablespoon and half tablespoon, teaspoon, half teaspoon, and salt-spoon size. These are accurate and not expensive.

To Measure Dry Ingredients: Fill cup or spoon and level off the top with blade of knife. Always sift flour, powdered sugar and confectioner's sugar before measuring.

To Measure Liquids: When cupful or spoonful is called for, fill to the very top. Use standard measuring cup to measure fractional parts of a cupful.

To Measure Fats: Butter, lard and other solid fats should be packed solidly into the cup or spoon and leveled off with a knife. When the recipe calls for a certain quantity of melted butter, measure after melting. If it calls for butter melted, measure first, and then melt.

FOR THE PLEASANT AND PERFECT HARMONY OF LIVING

COMBINATIONS TO AVOID

Meat and starches; sweet fruits and starches; meat and sweet foods; starch and acid fruits or acids.

STARCHY FOODS

Irish Potato	Dry Beans
Sweet Potato	Dry Lima Beans
All grains and cereals	Macaroni
Winter squash	Bananas
(Whole grains less starchy)	Peanuts

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Flour	Lentils
Bread	Pumpkin
Rice	Yams

FOODS HEAVY IN SUGAR

Raw sugar	Dried Fruits:
Molasses	Figs. Dates. Raisins
Honey	

ALKALINE-ASH FOODS

Olives	Potatoes
Dried beans, all kinds	Dried peas
Raisins	Apricots
Oranges	Pineapple
Bananas	String beans
Cauliflower	Peaches
Swiss chard	Cabbage
Almonds and almond butter	Apples
Parsnips	Pears
Sugar beet leaves	Radishes
Dates	Watermelon
Beets	Turnips
Brussels Sprouts	Milk
Carrots	Onions
Cucumbers	Green peas
Celery	Figs
Muskmelon	Mushrooms
Lettuce	

ACID-PRODUCING FOODS

Egg yoke	Peanuts
Oysters, fresh	Corn, green
Cereals	Cranberries
Sardines	Pork, lean
Egg whole	Veal, loin
Beef, porterhouse	Ham, smoked
Chicken	Beef ribs, lean
Salmon, canned	Mutton, leg
Barley, pearl	Rice
Perch	Prunes
Corn	Halibut, fresh
Cheese, cheddar	Trout, salmon
Lentils	Crackers, soda
Bacon	Walnuts
Egg white	Breads

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The ash of prunes and cranberries is alkaline in nature, but because of the un-oxidizable acid contained in them, they increase the acidity of the body.

NEUTRAL FOODS

Butter	Cornstarch
Cream	Cane sugar
Lard	Tapioca

FRUITS

Use in the Body

Fruits take an important place in the diet and must not be neglected. Some are alkalizers, all are rich in minerals and vitamins, contain roughage and a large volume of the purest water nature provides. It is sometimes called living water. All ripe fruits also contain sugar in the natural form, the best way in which it can be taken into the body and used in the system. A large fruit bill is much better than a large doctor bill. Keep the system clean all winter with fruits and vegetables and a special spring house-cleaning with strong drugs and herbs will not be necessary.

DRIED FRUITS

All dried fruit should be washed thoroughly. Cover the fruit with hot water and allow to soak over night. Next morning fruit may be warmed if desired. No sugar or other sweetening need be added. Do not drain off water. The morning meal should consist of some fruit dried fruit, fresh fruit or home canned—fresh or dried preferred. Eat all you want.

Those in ill health will be greatly benefited by an all fruit breakfast. Well-browned dry toast may be added, whole-wheat waffles, or cakes. A warm drink is desired by some, and Mo-ko is highly recommended, served with cream.

BAKED BANANAS

Fine For Breakfast.

Wash firm bananas and do not peel. Place in a shallow pan in medium oven (350° F.). Bake 20 to 30 minutes; remove skin and serve with butter and a sprinkling of sugar or serve in the skin.

BAKED APPLES

Wash, core and fill centers with raisins or dates. Allow 1/4 cup of sugar for 6 apples. Cover half way with water. Baste apples while baking. Raisins and dates can be omitted if one so desires.

Cantaloupes and watermelons are natural foods and can be eaten with practically all combinations. (Caution: Do not eat them chilled at breakfast, especially hyperacidity.)

BREADS

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Use only: Sweet certified or raw milk
Shortening—pure lard, butter or Ma-zola Oil
Rumford's Royal Baking Powder, or
Dr. Price's Baking Powder.

DISTILLED WATER

LIMA BEAN MUFFINS

1/2 C. Whole wheat Flour	4 t. Brown sugar (or raw)
1/2 C. Lima bean flour	4 1/2 t. Butter
2/3 Cups sweet milk	2 t. Dr. Price's Baking powder, or Royal Baking Powder
1/2 t. Salt	

Mix dry ingredients.

Add milk and melted but-ter. Bake in a moderate oven (350° to 400° F.). Makes 10 muffins. Nuts, raisins or dates may be ad-ded. The Lima Bean Flour may be secured from the California Lima Bean Growers Association of Ox-nard, California.

HOT BISCUITS

1 1/2 C. Graham flour	3 t. Baking powder
1/2 C. Whole wheat flour	1/4 t. Soda

Sift together in a bowl. Make a nest in middle of flour, drop in 2 tablespoons shortening. 1 cup milk, add 1/2 to shortening mixed well and gradually draw in flour. Add rest of milk, mixing whole as quickly as possible. Roll and cut. Bake in moderate oven (375° F.).

HONEY RAISIN BISCUITS

2 Cups flour
4 t. Baking powder
1/2 t. Salt
1 cup of Milk
4 T. Shortening

Honey paste

1/4 cup of honey
1/4 cup of Butter
1/4 cup un-sulphured raisins
1/4 cup chopped nuts

Honey Paste: Cream butter and honey and add fruit and nuts.

Biscuits

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Sift dry ingredients together. Work in shorten-ing and add liquid gradually. Mix to a soft dough. Put on floured board, about 1/4 inch thick. Spread the Honey Paste over the dough and roll like jelly roll. Cut in 3/4 inch slices and bake in buttered muf-fin pan. Bake 25 minutes at 400° F. This makes 12 biscuits.

WHOLE WHEAT MUFFINS

1 1/4 cups milk	1 1/4 cups whole-wheat flour
3 T. brown sugar	1/4 cup white flour
3 T. Mazola oil	1 salt

Bake in moderate oven (400* F.) 20 minutes.

NO. 1 CORN MUFFINS

1 cup corn meal	1 1/2 cups milk
1 cup flour	2 T. melted butter
1 T. brown sugar	2 T. melted lard
1/2 t. salt	1 T. baking powder

Mix dry ingredients and stir in milk. Add short-ening, beat well. Bake in muffin tins 25 minutes.

NO. 2 YELLOW CORN MEAL MUFFINS

1 1/2 cups sweet milk	1 1/2 cups corn meal
2 T. brown sugar	1 cup white flour
2 T. Mazola oil or butter	1/2 t. soda
3/4 T. salt	3 t. baking powder

Bake 25 minutes in a moderate oven. Serve with honey or maple syrup.

BRAN MUFFINS

1 3/4 cups milk	4 t. Dr. Price's baking powder
4 T. melted butter or shortening	1 t. salt
1/2 cup brown sugar	1/4 cups Pillsbury Best flour
	2 cups Pillsbury Bran

Sift all dry ingredients, and then add milk and melted shortening. Bake at 400° F. for 35 minutes.

GRAHAM FRUIT AND NUT MUFFINS

1/4 cups milk	3/4 cup chopped nuts and raisins
3 T. melted shortening	
3 T. brown sugar	1 1/4 cups graham flour
3/4 t. salt	1 cup Pillsbury White Flour
3 t. Dr. Price's baking powder	

Bake in a moderate oven for 20 minutes.

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BOSTON BROWN BREAD

1 cup Graham Flour	1 3/4 cups milk
1 1/2 cups sifted Pillsbury	1 level t. salt
White flour	3/4 cup pure cane syrup
1 cup corn meal	4 t. baking powder

Sift dry ingredients three times, add moist ingredients. Steam 3 1/2 hours in well-greased steamer. One-cup raisins may be added if desired.

PRUNE BREAD

2 cups Pillsbury's Graham flour	1/4 cup brown sugar
1 cup Pillsbury's Bran	1 cup prunes
1 t. salt	1 cup milk
2 t. baking powder	1 T. shortening

Soak and cook prunes, drain, stone and chop.

Sift three times the dry ingredients, add milk and beat well. Add prunes and melted shortening. Pour into greased loaf pan, and bake in a moderate oven, 350° F., about one hour.

ICE BOX WHOLE WHEAT ROLLS

1 pint warm milk	1/2 cup cubed potatoes
1/4 cup brown sugar	1/2 yeast cake
3/4 cup melted lard	1 t. Dr. Price's baking powder
1 T. salt	1/2 t. soda

Enough flour to make a soft dough, half white flour and half whole-wheat flour. Put in covered dish in icebox or frigidaire. Will keep several days. Roll dough to about 1/2 inch thickness, cut out with biscuit cutter. Spread melted butter over each and fold over making pocketbook shaped rolls. Let raise 1 hour before baking. Bake 20 minutes in 400° F. oven.

WHOLE WHEAT BREAD

1 cake Yeast	2 T. lard melted
1 cup scalded and cooled milk	4 cups Whole-wheat flour
4 T. raw sugar or brown sugar	1 cup sifted white flour
1 cup lukewarm water	1 t. salt

Dissolve yeast and sugar in lukewarm liquid. Add lard or butter and salt, then flour gradually. Add enough to make a soft dough that can be han-dled. Knead thoroughly being sure to keep the dough soft. Cover and set aside in a warm place to rise for about 2 hours. When double in bulk, turn out on kneading

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board, mold into loaves, put in well-greased pans, and let rise for 30 minutes. Bake 1 hour in 375° F. oven.

WITH A YEAST “FERMENT”

The yeast “ferment” method given below is suited to farm homes since it makes use of noontime potato water. Rolls are ready for the next day’s din-ner and yet there is not the danger of poorly flavored bread, which sometimes accompanies an overnight sponge method.

Make a yeast “ferment” or starter as follows:

1 cake dry yeast soaked in
1 potato mashed, and water to make 1 quart.
1 T. sugar
1/2 cup lukewarm water

Add sugar to potato water (and 1 t. salt if potato water is not salted). Cool to lukewarm before adding soaked yeast. Keep in a warm place (80° F.) 12 to 16 hours, before using. Stir well before taking out part of it. This amount makes about four loaves of bread.

CRACKED WHEAT BREAD—2 LOAVES

1 pint yeast ferment 2 T. fat
1 cup milk, scalded 2 t. salt
2 cups cracked wheat 3 cups each white and graham flour
1/4 cup dark corn syrup or brown sugar

Pour hot milk over cracked wheat, sugar and fat in a bowl. Cool to lukewarm, add yeast ferment, graham and white flour and knead to a soft dough. Let rise to double, divide into loaves, roll into shape and put in greased pans to rise until half again as high. Bake one hour, first in hot, and then reduce to moderate oven.

WHITE BREAD—2 LOAVES

1 pint yeast ferment 6 cups sifted flour
1 T. sugar 1 1/2 t. salt
2 T. melted, cooled fat

Mix in a bowl, adding yeast, sugar, and shorten-ing to flour and salt. Knead lightly until dough is smooth and elastic.

VEG-NUT BREAD

1 cup ground or finely grated carrots
1 cup whole wheat flour
1/3 cup white flour or enough to hold dough together
1 apple, shredded fine
1/4 cup ground nuts and some raisins, if desired
Bake in slow oven about 300° F. about 1 hour and 20 minutes.

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OAT MEAL BREAD

1 cup Oat Meal

Add enough water to cook. While warm add 1 cup raw or brown sugar, butter size of walnut and 1-teaspoon salt. Dissolve 1 yeast cake in 2 teaspoons warm water. Add to above mixture and let rise. Then add sufficient whole wheat or graham flour to knead. Keep a soft dough. Let raise for 2 hours and mold into loaves. Bake in moderate oven 375° F. for 3/4 hours.

RYE BREAD

2 cups of scalded milk 1/2 cup lukewarm water
1 t. salt 4 cups of Rye flour
2 T. raw sugar Enough wheat flour for kneading
2 T. shortening
2 cakes of yeast or 3 cakes
Let rise about two hours. Makes two loaves.

Bake in moderate oven.

WHOLE WHEAT NUT BREAD

4 cups Whole Wheat flour 1 cup chopped raisins
1/3 cup brown sugar 4 t. baking powder
1 cup chopped nuts 2 cups sweet milk

Mix dry ingredients, add liquids and let stand one half hour. Then bake one half hour in moderate oven.

OAT MEAL BREAD

Makes Two Loaves

1 cake Fleischmann's yeast 2 T melted shortening
1 1/2 lukewarm water 4 cups sifted flour half whole wheat
2 cups boiling water
2 cups rolled oats 1 t. salt
1/4 cup brown sugar

Pour two cups of boiling water over Oat Meal, cover, and let stand until lukewarm; or Oat Meal left from breakfast may be used. Dissolve yeast and sugar in 1/2 cup lukewarm water. Add shortening, yeast and sugar to oatmeal and water. Add one-cup flour, beat well. Cover and let rise for one hour in moderately warm place. Add remainder of flour and knead well. Let rise until double in bulk, about 1 1/2 hours. Mould into loaves, let rise again 3/4 hour. Bake in hot oven 45 minutes.

BUTTER BREAD

Serve Hot With Soup or Salad.

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Remove crusts from one loaf of bread and slice in one-fourth inch slices; place slices together again and tie them loosely with a string. Spread with liberal amount of butter on top, about one-fourth inch thick: lay in a covered dish and bake in a hot oven (450° F.) for 30 minutes.

NOTE: A clove of garlic, grated and mixed with the butter gives the bread a delicious flavor.

OLD-FASHIONED BUCKWHEAT CAKES

Dissolve 1/2 cake yeast in 1-quart lukewarm water. Add enough buckwheat flour to make a soft batter. Set in warm place over night. Pour out desired amount and thin with lukewarm water. Dissolve 1/2-teaspoon soda for each cup of batter. To remainder of batter add small amount of salt and sugar and 1 teaspoonful of white flour every third night. Keep in cool place.

HUCKLEBERRY GRIDDLE CAKES

1/2 cup graham or whole-wheat flour	3. T. baking powder
1/2 t. salt	1 cup milk
2 T. brown or raw sugar	2 T. melted lard or butter
	1 cup huckleberries

Sift the flour, Baking Powder and salt, add sugar, then the milk to make a smooth batter. Add short-ening and berries last. Fry on griddle, not too hot.

CORN GRIDDLE CAKES

1 cup sweet milk	3/4 cup yellow corn meal
1 T. brown or raw sugar	3/4 cup white flour
3 T. pure lard or Mazola oil	3 t. baking powder

Sift all dry ingredients; add sugar and flour and shortening. Beat to a smooth batter and fry on grid-dle, not too hot. 1/3 cup of cooked brown rice may be added.

WAFFLES

1 cup milk	2 T. corn starch, sifted with
2 1/2 t. Mazola oil	3 t. baking powder
3 T. syrup	1 cup whole wheat flour
1 egg, well beaten	1/3 cup white flour
1/2 t. salt	

Bake in waffle iron until a golden brown.

SOUPS:

CORNMEAL GRUEL

Wash six tablespoonful of yellow cornmeal through cold water several times. Last time let settle and pour off water. Take four tablespoonful of this meal, add one-quart boiling water, simmer slowly for two

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hours, strain and place in icebox. To serve, take 2/3 cup gruel, beat, add salt to taste and two tablespoonful whipped cream. Stir two minutes.

BARLEY SOUP

1 cup whole barley 1/2 cup chopped celery
4 cups water 2 cups beef bone stock
1 chopped onion

Cook the barley for 1 1/2 hours, then add onion and celery, and cook 30 minutes more. Last add beef bone stock and reheat. Season to taste.

PUREE—SPLIT GREEN PEA SOUP

Soak over night in half quart water one cup of dried split peas. Then cook slowly for one hour, press through sieve. To one cup of pea pulp, add soup stock or rich milk until ingredients have the consistency of soup. Add one tablespoonful butter and a little salt.

LENTIL SOUP

To 2 cups of cooked and mashed lentils, add soup stock or rich milk to give desired amount. A teaspoonful of butter may be added. Salt to taste or use celery salt. Barley, rice and beans may be used in-stead of lentils.

CELERY SOUP

Dice fine one bunch celery. Cook well in one pint distilled water until done. Add salt to taste and 1/2 pint cream with a little butter and flour to thicken.

CREAM OF POTATO SOUP

3 or 4 potatoes
1 small onion

Cut fine. Cook in distilled water until potato can be mashed. Add 1/2 pint cream. Serve with toasted whole wheat bread.

BEAN SOUP

Bean soup, made with pork hock, celery and onion, is every good. Follow recipe for Puree or Pea Soup.

BARLEY GRUEL

Put half pint of milk in double boiler; add one level teaspoonful of barley flour moistened with a little cold milk. Soak one hour and cook at least twenty minutes. Add salt to taste. Serve with cream.

SOUP STOCK

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To make good nutritious soup, a stock made of soup bones, which can be gotten at any meat market, should be used. Put in large Columbia ware kettle, cover with water and cook all of two hours. Put in fruit jars and keep cold. Then any vegetable may be added with salt to taste. Serve hot.

VEGETABLE SOUP

Shred vegetables on Wonder Shredders medium sized shredder two carrots, two turnips, one potato, one large onion, diced small, one stalk celery, one cup of string beans cut small, salt to taste. Add these to above soup stock and cook until tender. The soup is made more attractive when vegetables are shredded.

The same vegetables may be boiled in 1 1/2 quarts of water to which has been added 1/4 cup butter. Serve with vegetable crackers.

PUREE OF PEA

Soak one-pint yellow or green split peas over night: cook in water enough to cover, with one small onion and a little chopped celery. Let simmer gently for two hours, and then rub through colander. Reheat; add water to make two quarts. Let boil a few min-utes season and add butter. Serve with tiny squares of well-coasted whole wheat bread.

SALAD DRESSING

BOILED DRESSINGS

2 T. flour	1 cup rich milk
2 T. butter	1/3 cup orange juice
2 T. brown sugar	1/2 t. or more of hydrochloric acid (dilute)
1 t. salt	

Melt butter and add flour. Mix with other, dry ingredients and then add milk slowly. Cook in a double boiler until thickened. When partly cool, add orange juice and (dilute) hydrochloric acid. One cup of whipped cream may be added when cold.

OIL DRESSINGS

1 cup pure olive oil	1 t. sugar
1 t. (dilute) hydrochloric acid	1/2 t. celery seed
1/2 t. salt	

Beat all together. This dressing is good to use for cabbage salad or slaw for endive salad or kidney bean salad.

RAW CAULIFLOWER SALAD DRESSING

One cup whipped cream and one crushed banana make an excellent dressing. Separate cauliflower and place in ice water in which some salt has been added. Serve when crisp with whipped cream banana dressing.

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COFFEE CREAM DRESSING

1 pint coffee cream 1/4 t. salt
1 T. brown sugar 1/2 t. celery salt

Cook in double boiler, adding one tablespoonful cornstarch to thicken. When cool, beat until light and add 10 drops of hydrochloric acid (dilute).

NUT BUTTER DRESSING

Use 1/2 cup of any permissible nut butter. Add enough milk or water to make the consistency of dressing. Honey or sugar may be added. Good for fruit or lettuce salad.

SALADS:

NO. 1 BANANA SALAD

4 bananas, diced 1 small bunch celery
4 large apples, diced

Mix well together, serve on lettuce leaves. Use sweet apple juice for dressing.

NO. 2 BANANA SALAD

Cut each banana in half lengthwise and place on lettuce on a salad plate. Cover with cream dressing. Sprinkle freely with chopped nuts or make a dressing from Almond or Pecan Butter by adding enough cream or water to make a dressing consistency.

CELERY, NUT AND APPLE SALAD

Cut into small pieces one apple and one half cup tender part of celery, diced. Chop one half-cup nuts any kind except salted. Mix and serve on lettuce or romaine leaves with mayonnaise or cream dressing.

STUFFED PEAR SALAD

Place cored halves of pears on lettuce leaves. Fill the cavities with dates cut fine, mixed with chopped nuts; serve with cream dressing or nut butter dress-ing.

NO. 2 STUFFED PEAR SALAD

Place cored halves of pears on lettuce leaves; fill the cavities with dates cut fine, mixed with chopped nuts; pour over this a mayonnaise dressing thinned with cream.

DATE AND CELERY SALAD

Use equal parts of chopped dates and celery. Serve on lettuce leaves or endive. Use dressing to suit the taste. Cream dressing is very good.

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GRAPE SALAD

Select large sweet grapes. Cut or chop 1 cup full. One large sweet apple, diced, 1/2 cup chopped dates and 1 cup chopped celery. Serve with mayonnaise dressing on lettuce leaf.

FRUIT SALAD

1 cup diced apples 1 cup diced bananas
1 cup diced oranges 1/2 cup chopped nuts

Mix well, put in molds and cool. Serve with nut butter or cream dressing.

DATE AND NUT SALAD

Wash and stone dates. Place one whole nutmeat in center of each date. Place four or five lettuce leaves in a circle, place spoonful of cream dressing in center and top with a raisin.

APPLE AND RAISIN SALAD

3 cups diced sweet apples 1/4 cup orange juice
1 cup cut or coarsely ground, chopped nuts, if desired raisins.

Mix well and serve.

VEGETABLE SALADS:

CABBAGE SALADS

Shred a firm head of cabbage on medium shredder. Chop fine one cup of celery, mix well, and add dressing as desired. Serve on lettuce leaves.

LEFTOVER SALAD

Equal parts of cold carrots and peas. Place on lettuce leaves and serve with cream dressing and chopped nuts.

CUCUMBER SALAD

Cut firm cucumber in thin slices almost all the way through. For thirty minutes place in water to which has been added a little salt. Spread the slices apart and drop thin slices of red radish between. Serve with mayonnaise dressing or pure olive oil.

CARROT AND CABBAGE MOLDS

Grind fine equal parts of carrots and cabbage, and add to carrots chopped raisins, or grind them with carrots. Add to each part cream dressing enough to moisten and press in molds first carrots and raisins, then cabbage and fill the molds. Chill and remove from molds on crisp lettuce, topped with tablespoon-ful of dressing.

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CABBAGE SALAD

Shred 1/2 small head cabbage, 1 large sweet apple, some chopped nuts. Add mayonnaise dressing or apple juice dressing. Mix well and serve on lettuce leaf.

CARROT SALAD

Wash carrots, shred fine or grind. One-half cup raisins and two cups carrots. Pineapple may be used instead of raisins. Mix with dressing and serve.

APPLE, CARROT, AND RAISIN SALAD

1 cup raw grated carrots 1/4 cup seedless raisins

1/2 large apple, chopped or Lettuce
cut in small pieces

Mayonnaise

Mix all ingredients well, add mayonnaise and serve on crisp lettuce. A tablespoonful of groundnuts over all.

Note—Do not overlook those early tender rad-ishes and watercress. Our bodies are in need of these after the winter months.

SLICED CUCUMBER SALAD

Serve thinly sliced cucumber and onions on lettuce leaves. Slit radishes part of the way through, cutting towards the top end. Pull apart slightly and use to garnish the salad. Boiled dressing or mayonnaise can be used.

SUMMER SALAD

1 cup chopped watercress 1/2 cup diced celery

1/2 cup diced cucumbers

Add olive oil for dressing or mayonnaise. Shred radishes over all.

RAW CAULIFLOWER SALAD

Separate firm, crisp cauliflower, place in ice water for three-quarters of an hour, to which has been added a little salt. Serve on crisp lettuce leaves with crushed bananas and whipped cream dressing.

SERBIAN SALAD

1 cup coarsely chopped celery, 1 cup finely shredded cabbage, 1 small onion chopped fine, 1 bunch of radishes, shredded.

Mix well with olive oil. Serve on lettuce.

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PINEAPPLE, CARROT JELLO SALAD

Fill Jell-O cup with finely shredded carrots and crushed pineapple. Prepare Hain Vegetable Jell as directed. When partly cooled, pour over the carrot and pineapple cups and cool. Serve on crisp lettuce with either mayonnaise or cream dressing.

DECORATIVE SALADS

The following recipes for decorative salads combine fresh and canned foods in a very delicious way.

BUTTERFLY SALAD

Cut canned sliced pineapple in sufficient semi-circles and wedge-shaped pieces so that you have two semi-circles and two wedges for each salad. Place the two semi-circles of pineapple on a green glass plate, to form the wings of the butterfly. Just below the wings place a wedge-shaped piece of pineapple on each side of the butterfly's body. The body is made by using a small firm banana, and decorating with stripes of pimiento to form the feelers and the stripes on the body. Cut out round pieces of pimiento to represent the eyes. Decorate the wings with strips of pimiento and slices of stuffed olives.

CANDLE SALAD

Place two slices of canned pineapple on a salad plate. On top of the pineapple place a ring of apple with a round hole where the core has been cut out, leaving the red skin on the apple slice. Through this round hole in the pineapple slices and the apple, stand a banana for the candle, with a red cherry on top to represent the flame. If you like, a green handle may be placed on the candleholder, by using half a ring of green pepper. Garnish with crisp lettuce.

ORANGE ROSE SALAD

Remove peeling from oranges, and then carefully re-move all the tough white membrane as possible. Separate the corpeles, opening them to almost all the way, so that it will have the effect of petals. Fill in the center a tablespoonful of the filling: 1/4 cup raisins, 1/4 cup nuts, 1/4 cup honey. Mix these well. Serve on lettuce leaves.

LIQUID VEGETABLES—RE VITALIZE, RE-CHEMICALIZE:

The Sep-Ro-Siv is excellent for all food grinding. Also, for extracting juice from fruit.

VEGETABLES— THEIR PREPARATION

All vegetables should be un-peeled if possible.

Wash thoroughly. Use these vegetables just as Nature has provided them. If they are boiled or steamed, use as little water as possible, and do not over cook them,

Save all the liquid for drinks or soups.

VEGETABLES

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Vegetables our bodyguards and protectors, physicians and nurses, policemen and janitors, builders and faithful servants!

They bring to us the fountain of youth and give us abundant life.

USES IN THE BODY

Vegetables are the natural foods, the true health foods. They serve the body in many ways. They are alkalizers or sweeteners of the blood stream and body tissues. The minerals they contain help regulate the body processes and help protect from disease. The roughage or indigestible cellulose aids in elimination of wastes. The vitamins give vim and vitality by their protecting and regulating work. They help keep the blood pure and maintain youth. Some vegetables also contain carbohydrates, protein, and small quantities of fat. Thus they aid in the building and repair of tissues and in furnishing heat and energy. The vegetable proteins are easily digested. Beans, peas and lentils, contain proteins, starch and some fat. Potatoes are richest in starch.

PREPARATION

Food and eating are the foundation of health. Therefore one should acquire a working mastery of the art of simple and wholesome cooking. Serve plenty of raw vegetable salads, as there is always some loss of vitamins in cooking. However, care in cooking saves much that is lost through careless handling or lack of knowledge in the fundamentals of vegetable cookery.

Don't commit the great American sin of cooking vegetables in quantities of water and then throwing away the water. Use small amounts of water for all vegetables. What remains after vegetables are cooked pour in glass containers and use in soups or for a drink for the family.

The minerals contained in vegetables are soluble in water and when you throw them away in the cooking water, you are throwing away your family's health, their good dispositions, their greatest possible success in life, and your money. All too precious to lose. Cook vegetables in Columbia ware utensils and Pyrex ovenware for baking. Be sure to cover oven dishes to hold all natural moisture of vegetables.

When Wonder Shredders are used, peeling may be left on vegetables. The skin and the layers just under the skin are rich in minerals, especially potassium, the great healing agent of the body.

Scrub the skins with a stiff brush or chore girl, wash well and cut out blemishes so the skins may be eaten with relish.

Do not over cook your food—any vegetable that can be shredded requires less cooking and can be baked in Pyrex ovenware or steamed in kettle with small amount of water.

VEGETABLES—BAKED AND STEAMED

How many of you were told to eat all the carrots on your plate, so that you would have a beautiful complexion? Did you do it? Your elders may not have known the mineral and vitamin value of these golden roots as we do now, but they did know that they were beneficial—as they still are.

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We don't want to bore you with details but you should know that one medium-sized carrot contains an excellent share of calcium and sufficient amounts of phosphorus and iron. Along with that, cooked young carrots contain a very large amount of that anti-infection vitamin called A. It is also a good source of Vitamin B, and contains some Vitamin G.

CARROT AND RICE LOAF EN CASSEROLE

1 cup cooked rice	1 cup milk
1 1/2 cups grated carrots	1 egg
1 cup chopped nuts	1 t. salt
1 finely chopped onion	

Mix and bake 45 minutes in moderate oven.

CARROTS

Wash and use vegetable brush to cleanse thoroughly. Shred with medium shredder, place in steamer and add two cups of water. Cook for 20 minutes. Add butter when served, or mash and add cream and a little salt to taste.

CARROTS, INCOGNITO

6 large carrots	1/2 cup hot, thin cream
6 large potatoes	3 T. butter

Cook the potatoes and carrots until thoroughly done. Drain and mash separately. Combine and add cream and butter.

BAKED CARROTS

Clean carrots with vegetable brush. Slice length-wise or slice in circles or cube. Place in Pyrex casse-rolé with butter and 3/4 cup water. Cover and bake in moderate oven 1 hour.

DRIED CORN

Dried corn may be obtained from Carques' Pure Food Company, or Hain Pure Food Company. Soak corn in warm water 1 hour then cook slowly. Add cream and butter. Very delicious in winter.

ESCALLOPED CORN

1 can No. 2 corn	1/2 cup cracker or bread crumbs
1 egg	1 cup chopped and cooked celery
2/3 cup milk	

Alternate corn, celery and cracked crumbs. Top over with plenty of butter. Bake in moderate oven 35 minutes.

STEAMED CORN ON COB

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Prepare corn. Place in a steamer and steam 25 minutes, after water comes to a boil. Serve with butter.

BAKED BEET TOPS

Boil equal parts beet tops and Swiss chard. Drain and chop. Braise large onion. Add two cups chopped celery. Mix all together well. Put in casserole. Cover with bread or cracker crumbs and dot with butter and bake 30 minutes. Cover the dish. Remove cover the last ten minutes of baking.

BEET GREENS

Boil until tender, about 20 minutes. If there are any tiny beets at the end of the stalk, cook them with greens. Chop and season with butter. One chopped onion may be browned in butter and lard, and then added to the chopped greens. It lends a delicious flavor.

BAKED BEETS

Wash and shred on medium shredder beets enough to fill baking dish. Add a little salt and 1/4 cup water, and top with butter. Bake 45 minutes.

DANDELION GREENS

Wash and remove all sand from greens. Pick the coarse and discolored leaves out. Cook in a large amount of water twice to remove bitter flavor. Drain and add salt and butter and a few drops of hydro-chloric acid (dilute).

SWISS CHARD

This is a vegetable that is very little known but is very valuable and is somewhat on the order of spinach. It grows on tall stalks and has large leaves. It really belongs to the spinach family and in fact, as spinach is out of season, the Swiss chard comes in. Swiss chard is the ideal green for the city garden on account of the large supply that can be raised on a small amount of ground. The old way of using chard would be to pull out the plant. The best way is to cut off just as many leaves as you wish to use and let the plant grow. Cut off the outer leaves. You will be surprised how quickly the plant produces new and tender leaves. Chard can be planted real early in the season but must not be sown too close together. In fact, the plants should be at least two inches apart, as they grow to quite a large size, and can be thinned out later on. Since the leaf is large, the green part of the leaf is cut off and can be used the same as spinach or even cut very fine and used in raw salads. The ribs of the leaf and stem can be used as a separate vegetable. It can be cooked like asparagus. It has a very delicious flavor, prepared in this manner. Just remember the green of the leaves provides a good substitute for spinach for the children if the spinach season is over. The chard will grow without much care and under adverse conditions, although with proper care you will be surprised at the heavy foliage, the mass of stems and leaves. Be sure you do not over cook chard as in that way you lose the valuable food elements. If it is cooked too tender, it loses its most valuable flavor. Every home garden should have Swiss chard and use it often for every member of the family.

SWISS CHARD

Wash well and cut out all blemished leaves. Cut if you like before cooking in very little water, or better steamed with water held by leaves. Cook about 15 minutes. Serve with butter or brown some chopped

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onion, drain chard and chop fine. Mix with onion.

BROCCOLI

Is cooked the same as cauliflower and served with lettuce.

GREEN KALE

Cooked with a piece of boiling beef, green kale is very delicious.

BRUSSELS SPROUTS WITH CELERY

1 quart Brussels sprouts	1 1/2 cup celery, chopped
3 T. flour	1 1/2 cup milk
Salt to taste	

Cook sprouts until tender. Wash celery and cut in small pieces. Melt butter, add celery, cook three minutes, and then add flour. Pour on gradually the scalded milk and cook until thickened, and then add sprouts and seasoning.

CHINESE CABBAGE

Chinese cabbage may be cooked like cabbage and buttered.

RED CABBAGE—GERMAN STYLE

1 large head cabbage (red) shredded fine	1 T. lard 2 T. butter
2 large-size onions	1 t. salt
2 tart apples	

Do not cook cabbage too long. Put lard and butter in bottom of kettle. Cut onion fine and cook in fat until slightly browned. Then add the cabbage and two cups water. Peel apples and cut fine, or shred and add to cabbage. Cook with cover until tender, about 20 minutes.

This is very good and enjoyed by all.

OAT MEAL WITH APPLE

Oatmeal which has been left over can be made a good dish. Mold it in alternate layers. Slice and steam tart apples, lightly sugar and place between the layers. Serve with cream. Ripe peaches, sliced or stewed fruit may be used.

BROWN RICE WITH FIG SAUCE

Steam the rice. A tasty sauce may be prepared as follows: Cut enough figs to fill a teacup and stew in a pint of water, with one tablespoonful of sugar. When cooked, run through a colander. Dish the rice with ice cream dipper and put a spoonful of sauce with each dish and serve with whipped cream. An excellent dish for breakfast.

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RICE

Brown rice is a very easily digested food. It should be rinsed thoroughly and in cooking the water changed frequently until it remains clear.

NEW POTATOES AND STRING BEANS

Steam potatoes and peel. Cook string beans with as little water as possible, to which add 1 cup chopped celery. Make a cream sauce of 2 cups of rich milk, 1 T. butter, and 1 T. cornstarch. Add potatoes and beans to sauce and stir slowly. Top with butter.

GREEN BEANS

Green beans may be cooked like the red cabbage, German style.

CREAMED GREEN BEANS

Cook green beans in small amount of water. When tender, make a cream sauce of 2 T. butter, 2 T. flour, 1 1/4 cups of rich milk. Pour cream sauce over beans and serve hot.

BEANS SAUTE

Cooked beans or home canned 1 quart, 1 chopped onion browned in 3 T. lard or butter. Add 1 T. flour and reheat.

BOILED ONIONS

Choose the small white onion. They are not too strong. Cook in boiling water, add salt when nearly done. Drain and serve with butter or cream sauce.

BAKED ONION

Onion may be peeled if desired. Place medium onions in casserole. Add 1/2 cup water and some butter, cover and bake 45 minutes. Onions with peeling may be placed in an open pan and baked, cut open as baked potato and served with piece of butter. Very delicious.

OKRA

Select nice new small okra, cut off top end. Can be steamed or cooked in a little water until soft. Drain, and have cracker crumbs browned in butter. Toss the okra into pan of browned crumbs and serve with butter. Some chopped onion lends a de-lightful flavor to okra.

OKRA STEWED

Prepare Okra, being sure it is young and tender. Add 1 cup chopped celery and one chopped onion. Stew in small amount of water. When tender, drain and have skillet ready with 1/4 cup melted butter and bread crumbs. Pour the okra, celery and onion over the buttered breadcrumbs and brown well. Serve while hot.

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STEAMED CUCUMBERS

If cucumbers are young and tender, do not peel. Wash and cut in rings 1/4-inch thick and place in a saucepan with 1/4 cup water. Cover and cook slowly until tender. Add butter and salt. Serve some chopped onion cooked with the cucumbers, adds a pleasing flavor. A sprinkle of flour will take up some of the moisture.

CREAMED CELERY

Clean celery and dice, or cut in long strips. Cook in little water about 20 minutes. Add a cream sauce or serve with butter. Creamed celery served on warm buttered toast is a real treat for a quick lunch.

STEAMED CAULIFLOWER

Place cauliflower in salt water for 15 minutes. Then cut apart and use all the leaves you can. Cook in very little water or use a steamer. Serve with butter or cream sauce. Cauliflower may be tossed in well-browned cracker or breadcrumbs browned in butter.

PEAS

Early new peas may be steamed and served with a cream sauce or just cream and butter is excellent. When boiled, use small amount of water. Save the liquid.

SUCCOTASH

Take 1 pint of cooked lima beans, 2 pints stewed corn. 1 pint string beans and add a little cream. Let simmer for ten minutes. Add butter and seasoning. Teaspoonful of Celery salt is splendid seasoning. 1/2 clove of garlic may be added to the beans while cooking.

KOHLRABI — TURNIPS — RUTABAGAS

Kohlrabi, white turnips and rutabagas are pre-pared alike. Either shred or bake in a casserole with cupful of water and topped with butter and covered while baking. Shred and steam, or shred and cook slowly in very little water. Add salt and butter. When mashed, some cream may be added. Dice them and make a cream sauce to pour over them for a change. Season while cooking.

STEAMED SUMMER SQUASH

The round white summer squash is best steamed with a small chopped onion, served with butter, or mashed with butter added.

BAKED SQUASH

Bake squash whole, as it loses its flavor when cut and some of its moisture. When done, cut, remove seeds and scoop out squash, mash and add butter and salt. Cream instead of butter is very good. Then put back in oven to heat.

PEAS

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Home-canned peas may be heated and served with butter. Cream sauce may be added for creamed peas. Leftover peas and carrots may be combined, making a colorful and wholesome dish.

BAKED BEANS

Soak beans over night with a little soda. In the morning, drain and boil until tender. Put in baking pan or crock. Add a little chopped celery, a little onion, celery salt and molasses, and a little butter or lard mixed. Bake for four or five hours. Keep add-ing enough water to keep them moist.

LIMA BEANS WITH PEARS

Soak lima beans over night. Drain. Boil until tender. Salt and put in baking dish with a little chopped celery and onion. For the top layer, slice pears lengthwise and arrange all over top. Sprinkle little brown sugar on pears. Dot with butter and bake.

LENTILS—RICH IN PROTEINS

Wash and soak lentils over night. Cook until tender. Onions may be added when nearly cooked, or chopped celery. Serve with butter. Lentils cooked with fresh pork hock have a de-licious flavor.

LENTIL NUT CROQUETTES

1 ½ cups of cooked mashed lentils	18 walnuts, chopped or ground
1 t. salt	3 T. melted fat or butter
1 t. chopped onion	1 1/2 cups breadcrumbs

Mix all ingredients as given above, little water may be added if not quite moist enough. Divide in eight parts, shape into rolls, sprinkle bean flour over them and roll in breadcrumbs. Bake 20 minutes, until brown. May need to turn them.

LENTILS WITH CARROTS

Wash 1 cup of dry lentils, add 5 cups of boiling water, 1 cup of very finely shredded carrots. Cook 1 hour. Add seasoning. 1 1/2 t. salt, 1 small onion cut fine, 1/2 t. celery salt, 4 T. butter or Mazola oil.

VEGETABLE STEAK

Make a stew of chopped celery, onion and car-rots; stir in 2 cups of mashed peas. 2 cups beans and 1 cup of breadcrumbs. Form in a loaf or place in a bread pan or casserole. Bake for 1 hour. Slice and serve like a steak. A mushroom and onion sauce adds greatly to the steak. Garnish.

MOCK ROAST

1 cup breadcrumbs	1 cup raw carrots, ground
1 cup raw potatoes ground	2 chopped onions, or
2 chopped apples	2 stalks leek

The apple and onion may be ground and the bread lastly. Mix well. Add 1 t. salt. Bake in a loaf pan 1 hour.

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NUT ROAST

1 cup whole wheat bread 1 /2 cup butter crumbs 1/ cup milk
1 cup steamed peas or lentils 1 egg
1 cup ground or chopped nuts 1 t. salt
3 T. minced onions or leek

Mix well and press into greased until a rich brown. Should be served room or other sauce.

POTATOES

Baked potatoes are always the favorite.

POTATO CROQUETTES

3 cups hot riced potatoes 1/2 t. salt
2 T. butter 1/2 t. celery salt
1 grated onion

Roll croquettes in cracker crumbs and fry in butter until light brown.

SCALLOPED POTATOES

If new potatoes, they need not be peeled. Shred on large shredder or slice thin. Place in Pyrex ovenware, add salt and fill dish half full of rich milk. Dot with butter, cover and bake one hour in moder-ate oven.

POTATO ON HALF SHELL

Select uniform potatoes, bake, while still hot cut in half lengthwise. Scoop out in bowl and mash adding butter and cream to make creamy, salt, and then fill each peeling. Dot with butter and put under broiler until browned.

CREAMED POTATOES

If new potatoes are used, they need not be peeled. Cook until tender. Make cream sauce of 2 cups rich milk, 1 T. butter, 1 T. cornstarch, and 1/4 t. salt. Melt the butter, add flour and seasoning and mix until smooth. Add the milk gradually, stirring until mix-ture is smooth and thick. Then add potatoes and stir gently so that potatoes are not broken up.

SWEET POTATO WITH PINEAPPLE

6 small sweet potatoes 1 /3 cup honey
1/3 as much pineapple. 1/4 cup water crushed or diced

Boil the potato with the skins on. When cool, peel and cut them in pieces 1/4-inch thick. Mix honey and hot water. Just cover the bottom of a baking dish with the mixture, add a layer of sweet potatoes with the pineapple. Pour the remaining honey mix-ture over them and bake for ten minutes in oven.

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CANDIED SWEET POTATOES

Boil sweet potatoes until almost done. Cut in quarters, lengthwise. Spread on a greased baking dish, sprinkle with brown or raw sugar and dot with butter. Bake in a moderately hot oven until brown, basting often with the liquid in the pan.

BAKED SWEET POTATO

The baked sweet potato, no doubt, is the best. Scrub well with vegetable brush. Oil the potato with Mazola oil, place in baking pan and bake in moder-ate oven.

MASHED SWEET POTATO

Boil and peel sweet potatoes, mash while warm. Add plenty of butter and enough orange juice to give desired moisture, a little salt and 1 cup of chopped nuts or 1/4 cup of nut butter. If more moisture is desired, add a little cream. One tablespoon of brown sugar improves the flavor. Place in Pyrex ovenware and dot with butter. Bake 20 minutes.

SWEET POTATO PUFFS

4 baked sweet potatoes 1 T. brown sugar
1/2 t. salt 1 T. rich milk or cream

Cut sweet potatoes in half lengthwise, scoop out potato while warm. Put in mixing bowl and add seasoning, milk, butter and sugar. Mash and beat until creamy. One-quarter cup chopped nuts may be added. Pile into the potato skins, dot with but-ter, and return to the oven to brown.

POTATO NEST WITH PEAS

Mash and season six boiled potatoes, being care-ful not to add too much cream. Line well-greased muffin pans with the potatoes, leaving a nest in the center. Brush with butter and brown in oven under broiler until a golden brown. Remove carefully to a platter and fill nest with creamed peas or carrots. Garnish with parsley.

SANDWICHES

Fresh wholesome nut butters may be obtained from the Hain Pure Food Company, or Carques' Pure Food Company, Los Angeles.

NUT SANDWICH

Slice bread quite thin. Spread one slice with but-ter, on it place two crisp lettuce leaves; on the other slice spread the nut butter. Then fold together and cut crosswise or in fourths. Nice with a vegetable salad, for an evening meal.

NUT AND PRUNE SANDWICH

1 cup chopped pecans or other nutmeats
1 cup chopped or ground sun dried prunes

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3 T. salad dressing

Arrange lettuce leaf on buttered toast or plain whole wheat bread and spread filling on bread.

NUT AND FIG SANDWICH

1/3 cup butter 1/2 cup ground or chopped figs
1/2 cup chopped nuts

Mix well and spread on sliced bread and place crisp lettuce leaf between slices, cut in triangles and serve. Bread may be toasted.

NUT AND LETTUCE SANDWICH

Use permissible nut butter, spread on plain or toasted whole wheat or rye bread. Place several crisp lettuce leaves between slices. Cut and serve.

SIXTEEN ELEMENT SANDWICH

Equal parts of celery, cabbage and carrots, ground very fine. Add salad dressing enough to make a spread. Place between two thin slices of bread and crisp lettuce leaf. Onion may be added if desired. Brim full of the necessary vitamins and mineral salts the body is calling for.

CUCUMBER, CELERY AND ONION

Equal parts of cucumber and celery. Small onion. Put through food grinder. Grind very fine. Add enough salad dressing to make a spread. Put a crisp lettuce leaf on each slice of bread before spreading on this mixture.

RAISIN AND NUT SANDWICH

One cup seedless raisins, 1 cup nuts. Run through food chopper, and then mix thoroughly. Add orange juice until spreadable or other fruit juice may be used.

SANDWICH FILLING

1/2 cup figs 1 cup pitted dates
1/2 cup nuts 1/2 cup orange juice

Put fruit and nuts through grinder. Add fruit juice and mix well. Ready to use.

DATE BUTTER

Mash or grind 1/2 pound of seeded dates. Then pour over them two tablespoonful of warm water and beat to a pulp. Add 1/4 pound of nut butter and blend well with the mashed dates. When whole nuts are used, the dates and nuts may be ground to-gether and then mashed. This is a very satisfying spread for the Ry-Krisp cracker or on split bananas, for dessert.

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RAISIN SANDWICH FILLING

1/4 cup chopped nuts 1/4 cup ground raisins
1/4 cup butter 1/4 cup honey

The raisins and nuts may be ground together. Mix well and add butter and honey. Ready for use. An excellent spread.

PUDDINGS

BROWN BETTY—NO. 1

Pare and slice apples. Put a layer of whole wheat bread squares or crumbs into baking dish, then add a layer of sliced or shredded apples, sprinkle with raw sugar. Then another layer of breadcrumbs and apples and so on until the dish is filled, making the last layer of shredded apple, over which sugar has been sprinkled. Dot well with plenty of butter and pour over all 3/4 cups of sweet apple cider or water. Bake 45 minutes. Serve hot with a simple sauce or apple cider sauce.

APPLE CRUMBLE

Fill a baking dish half full of sliced apples. Add raw sugar over all, then more apples until the dish is filled. Over all sprinkle the following mixture:

3/4 cup flour 1 cup raw sugar
1/2 cup butter

Bake 1 1/4 hour in moderate oven. May be served with whipped cream or a fruit sauce.

APPLE DUMPLINGS—NO. 1

Wash as many apples as required according to dumplings desired. Core. Fill cavity with chopped nuts or raw sugar. Roll out enough short cake dough or biscuit dough to cover apple, pinch together, place the rough end to the pan and bake in a moderate oven. Serve with a fruit sauce if desired.

BAKED APPLE DUMPLINGS—NO. 2

2 cups flour 1 1/2 c. baking powder
1/2 t. salt 1/3 cup butter
2/3 cups milk 6 baking apples

Sift dry ingredients together. Cut in butter and add diluted evaporated milk. Roll thin on floured board. Cut in four inch squares Place a pared and cored apple on each square. Sprinkle with Cinnamon and sugar. Pinch corners together bake. Serve with orange sauce. Bake 35 minutes at 375* F. This makes six dumplings.

ORANGE SAUCE

2 cups sugar 1/2 cup butter
2 cups water

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Mix ingredients and cook until slightly thick-ened. Remove from fire and add one tablespoonful orange juice.

DATE PUDDING

2 cups warm milk	1 cup grape nuts
1/2cup dry breadcrumbs or graham cracker crumbs	1/4 cup raw or brown sugar
1/4 t. salt	1 t. baking powder
1/2 cup chopped nut meats	1 cup chopped dates
	1 egg

Bring milk to a scalding point. Pour over grape nuts and breadcrumbs. Let stand 15 minutes. Beat well with fork. Stir in sugar, baking powder, beaten egg, and salt. Add chopped nuts and dates. Pour into buttered pan. Set in pan of hot water and bake in moderate oven (325° F.) about ¼ hour.

CORN STARCH PUDDING

4 cups scalded milk	1/2 cup cornstarch
1/4 cup brown sugar	1/4 t. salt
1/2 cup rich cold milk	1 t. fruit flavoring

Mix cornstarch, sugar, and salt, add 1/2 cup cold milk. Add to scalded milk, stirring constantly until mixture thickens. Fresh crushed fruit with enough sugar to sweeten makes an excellent sauce and flavor-ing for the pudding.

RICE SURPRISE

2 cups cooked rice	1 cup heavy cream
2 cups diced pineapple or	1/2 cup brown sugar

orange. Mix the chilled rice with whipped cream and add diced fruit. Sweeten to taste. Add enough pine-apple or orange juice without making it too soft. Should be mixed very lightly. Serve on glass plate.

RICE AND DATE PUDDING

2 cups of cooked rice	1/2 cup chopped dates or raisins
1 cup milk	
1/2 cup honey	1 egg, lightly beaten

Mix the slightly beaten egg and milk. Arrange alternate layers of rice and dates or raisins in baking dish. Drizzle honey over each layer of rice. Over top pour the egg and milk and bake 45 minutes in moderate oven.

RICE PUDDING—NO. 1

1/2 cup rice	1 pint sweet milk
Pinch of salt	

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Wash rice, add salt and milk. Place in oven and bake until tender. Serve with honey and cream.

RICE PUDDING—NO. 2

Boil rice with plenty of water, when water looks milky drain off and put more water on it. Let boil until tender. Turn into strainer and place under cold-water tap to make light. To two cups rice, add 1 1/2 cups rich milk, 1 egg, 1 cup brown sugar, 2 table-spoonfuls of maple syrup. Bake 30 minutes in mod-erate oven. Serve with caramel sauce or whipped cream.

CARROT PUDDING

1 cup brown sugar or graham flour	
1 cup ground or grated raw carrots	1 t. salt 1 t. soda
1 cup ground or grated raw potatoes	1 cup ground suet 1 t. baking powder
1 1/2 cups whole-wheat flour	

The raw vegetables and suet may be ground to-gether. Then add salt, sugar, flour, baking powder and soda. Bake 3% hour at 350° F.

APPLE CIDER DRESSING

1 pint sweet cider	1 dessert spoon butter
1/2 cup brown sugar	2 T corn starch

Boil until it thickens. Pour over each serving of pudding. Fruit sauce will do.

STEAMED

2 cups graham flour	1 cup brown sugar
1 T. butter	1 cup dates
1 T. lard	

Steam for two hours.

ORANGE PUDDING

4 cups boiling water	2 cups brown sugar
Grated rind of 2 oranges	2 T. butter

Enough corn starch to thicken (Not too thick)

Let the above mixture cook for fifteen minutes, stirring frequently. When cool, add orange juice, pour into individual molds. Chill and serve with a fruit sauce or whipped cream.

WHOLE WHEAT BREAD PUDDING

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3/4 cup apple cider or water 2 apples
2 bananas 1 cup sugar

Cut in cubes 4 slices of whole wheat bread. Place in well-buttered casserole a layer of diced bread sprinkled with brown sugar. Next a layer of shredded bananas and a layer of shredded apple. More brown sugar. Then a layer of diced bread and so on until desired amount is obtained. Lastly the shredded apple, sprinkled with sugar and topped with plenty of butter, Three-quarters of a cup of apple cider or some fruit juice. Bake 3/4 hour 350° F. Serve with a fruit sauce. The apple cider sauce is very good.

STEAMED CARROT PUDDING

2 cups graham flour 1 cup milk
1 T. butter 2 cups bread crumbs
1 T. lard 1/4 t. soda
1 cup brown sugar 2 t. baking powder
1 cup ground or grated raw 1/4 t. salt
carrots 1/2 cup maple syrup

Steam three hours.

DATE PUDDING

1 cup milk 2 t. baking powder
1 cup bread crumbs 1/4 t. salt
1/4 C. soda 1/2 cup Maple syrup

BANANA BREAD PUDDING

Mash 3 ripe bananas; add 2 tablespoonful of brown sugar and 1/2 cup cream. Cut whole wheat bread in squares and dip in above mixtures. Place alternately layers of bread and cut dates until dish is filled. Bake in moderate oven and serve with whipped cream,

BAKED BANANAS

Remove skins from six bananas and cut in halves lengthwise, and put in shallow pan with 2 T., sugar, 1 T. orange juice, few drops of hydrochloric acid (dilute). Dot with butter and bake 20 minutes in slow oven.

SOUTH SEA ISLAND DELIGHT

For Children or Grown ups

Crumble four graham crackers, place in buttered casserole and slice two scraped bananas over them. Mix juice of one medium orange and one-half lemon with two tablespoons brown sugar and pour over bananas. Sprinkle with graham cracker crumbs; dot with butter and bake in moderate oven for 20 min-utes. Serve warm or cold, plain or with custard sauce or whipped cream. Serves 4.

RICE AND APPLE PUDDING

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Steam one-half pound brown rice until very soft and add one-half pint-scalded milk. Core and slice thin, about three apples. Place in pudding dish; sweeten with brown sugar or honey. Fill the dish with rice and bake one-half hour. Serve with cream or any desired sauce.

FRUIT PUDDING

2 1/2 cups whole-wheat 1/2 cup chopped
1/2 cup chopped and seeded dates
1 cup cream
1/4 cup chopped nuts or 1/2 cup seedless raisins
nutmeats.

Moisten with the cream, and then mix all ingredients well and steam in a double boiler for 40 minutes. Serve with banana dressing.

BANANA DRESSING

2 very ripe bananas 1 T. honey
2 T. cream 1 T. orange juice

Mash the bananas in a bowl with a spoon. Thoroughly mix the ingredients and let the finished dressing stand for 15 minutes before serving. This is an excellent dressing to use for different kinds of salads.

APPLE PUDDING

Slice apples, line bread pan. Sprinkle with 1/2 cup brown sugar and bread or graham cracker crumbs. Add a little water, about 1/4 cup.

Batter
1 cup milk butter size of walnut
5 T. flour little salt
1 t. cream of tartar 1/2 t. soda

Pour batter over apples and bake. 30 minutes in moderate oven, 375° F.

BUTTER SCOTCH RICE

1/2cup rice 2 cups scalding milk
1 cup brown sugar 1/2 t. salt
2 T. butter

Wash rice, add scalding milk and put in double boiler. Cream butter, sugar and salt, place over heat, and stir carefully until sugar is melted. When rice is almost tender, add the above mixture and continue cooking until tender. Pour into chilled molds and cool. Turn out and serve with whipped cream,

STRAWBERRY SHORT CAKE

Make a biscuit dough of:

1 cup graham flour 3 t. baking powder

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1 cup white flour
2 T. brown sugar
1 1/2 cups sweet milk

3 T. butter
1/4 t. salt

Bake in hot oven, 450° F., for about 15 minutes. Split the biscuit and butter, spread with crushed strawberries and serve with whipped cream. Any fruit may be used.

RICH SHORT CAKE

2 cups flour, half white,
half whole wheat
1/2 cup shortening
1/2 t. Salt

1/4 cupful milk
1 T. brown sugar
4 t. baking powder

Mix dry ingredients, sift twice. Work in short-ening with fingertips or cut in with two knives, and make into dough with milk. Toss in well-greased pan and pat into place and bake 12 minutes in hot oven, about 450° F. Top with butter when done. Crush and sweeten fruit slightly and put between layers and on top of short cake. Serve with whipped cream or a fruit sauce.

PEACH COBLER

2 cups pastry flour
1/2 t. salt
3 T. flour
6 medium sized peaches, sliced

3 t. baking powder
1/8cup shortening
1/8 cup water, mixed with
1/3 cup evaporated milk

Sift flour, then measure. Resift with baking powder and salt. Rub shortening into flour. Add diluted milk and mix quickly but thoroughly. The dough should be soft. Combine sugar and flour with sliced peaches. Turn into a buttered baking dish. Cover with biscuit dough rolled about 3/8 to 1/2 inch thick. Cut openings to permit escape of steam. Dough should be drawn firmly to edges of baking dish. Bake about 30 minutes in a hot oven (400° F.)—Six to eight servings.

PEACH BROWN BETTY

Pare and slice about six peaches. Put a layer of breadcrumbs into baking dish, and then add a layer of peaches. Sprinkle with very little brown sugar. Con-tinue filling dish with alternate layers of breadcrumbs and peaches, having the top layer of breadcrumbs. Dot with bits of butter. Pour over 1 cup of hot water and bake 3/4 of an hour. Eat warm with plain sauce.

PEACH SHORTCAKE

1 cups flour
2/3 cup brown sugar.
Pinch salt
1 egg beaten
1 T. melted butter

1 quart fresh peaches, sliced
2 t. baking powder
Sweet milk

Sift flour, sugar, baking powder, salt, together two or three times; put egg, melted butter in cup and fill with sweet milk. Pour this into dry ingred-ients and stir well. Put enough batter in bottom of buttered

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baking dish so peaches won't soak through to the bottom. Now put in your peaches and sweet-en to taste; spread remaining batter over top; bake in medium oven until peaches are done. Serve either hot or cold with whipped cream or nutmeg sauce.

DATE SHORTCAKE

1 lb. cooked dates. Cool	1 1/2 cup rolled oats, put through food grinder.
1 cup white flour	
1 cup graham flour	1/2 t. soda
1 cup brown sugar	1 cup butter

Mix dry ingredients. Place half the crumbs in a pan, then cooked dates, cover with balance of the crumbs. Bake in a slow oven. Cut in small squares and leave in pan until cool. These are very good.

FILLING

Cook 1 lb. dates with 3/4 cup water and 1/4 cup brown sugar. Add 1/2 cup chopped nuts if desired.

CANTERBURY TARTS

2 cups raisins	1 1/2 cups sugar
5 T. orange juice and grated orange rind	4 graham crackers, rolled

Cook raisins, sugar and orange rind. When done, add orange juice and cracker crumbs. Line pattie tins with rich pie crust paste and bake. Fill with above mixture and serve with whipped cream.

MOCK GINGER BREAD

1 cup molasses	2 cups flour, half whole wheat half white
1/2 cup brown sugar	
1/2 cup shortening	2 small teaspoons soda
1 egg	1 cup boiling water

Mix ingredients in order listed, dissolving soda in boiling water. Bake in shallow pan in moderate oven. Serve with whipped cream.

PIES

HOT WATER PASTRY

1 cup sifted flour	1/4 cup shortening
1/4 t. salt	1/4 cup boiling water
1/2 t. baking powder	

Put shortening in a bowl and pour boiling water over it. Beat until water looks creamy. Add dry ingredients sifted together, all at once and stir until mixture forms a ball and can be handled. Place in frigidaire until thoroughly chilled. Enough pastry for bottom crust of a pie. Bake in a hot oven (450 F.) for about 13 minutes.

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WHOLE WHEAT PIE CRUST

1 1/2 cups flour, half whole-wheat
3/4 cup shortening

4 T. cold water
1 t. salt

Mix quickly and lightly.

GRAHAM CRACKER PIE CRUST

Take 10 double graham crackers and roll into crumbs. Mix with 1/2 cup butter and 1 teaspoonful sugar. Line pie tin with this. 2 tablespoonfuls water may be added. Very good.

GRAHAM CRACKER APPLE PIE

Enough apples for one pie
1 cup brown sugar

2 T. butter
1/2 cup water

Cook the apples in the sugar and water slowly until nearly done. Add 1 cup of graham cracker crumbs to apples and put into the Graham Cracker Pie Crust. Bake slowly for 1/2 hour. Serve hot with whipped cream.

BANANA CREAM PIE

2 cups milk
1 T. butter

3/4 cup brown sugar
Grated rind of 1 orange

Scald milk in double boiler. Add other ingredi-ents and thicken with 4 tablespoons cornstarch. Have a pie shell baked, or a graham cracker pie crust ready. Line the bottom with sliced bananas. Pour mixture over top of bananas and bake 30 min-utes if graham piecrust is used. Serve with whipped cream.

PUMPKIN PIE

2 cups cooked pumpkin
1 cup brown sugar
2 T. molasses

1 cup milk
2 T. corn starch

Mix well. Line pie plate with pie paste and put filling in. Bake until set. Serve with whipped cream.

BUTTER SCOTCH PIE

3 T. butter
6 T. flour
2 cups rich milk

1 T. brown sugar
1/4 t. salt

Cream the flour and butter together. Add the brown sugar and salt. Pour the milk on gradually and cook in a double boiler 15 minutes, stirring con-stantly until thickened. Turn into a previously baked pie shell and when cool, top with whipped cream.

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RAISIN PIE

1 1/2 cups seeded raisins
1/2 cup finely chopped or ground nuts
1 1/2 cups boiling water
1 T. flour
1 T. orange juice, grated rind of 1/2 orange
1/2 cup brown sugar

Wash and cook raisins in boiling water until tender.

Mix the flour and sugar and add to the cooked raisins, stirring until it thickens. Add the grated orange and nuts, cool slightly, and then add orange juice. Bake in a double piecrust in oven at 425° F. Reduce heat during last 10 minutes.

ORANGE CREAM PIE

4 cups boiling water Grated rind of 2 oranges
2 1/2 cups brown sugar 2 T. butter

Enough cornstarch to thicken, not too thick about 7 T.

Let cook for 15 minutes, add the brown sugar, 2 T. butter and the cornstarch, until it thickens. When partly cool, fold in 1 cup of whipped cream and pour into a previously baked pie shell. Cool and serve.

HUCKLEBERRY ROLL

1 cup flour, half whole-wheat, and white flour or graham
2 t. baking powder
1 3/4 cups milk
1 t. salt 1 cup shortening

Mix all dry ingredients; add liquid to make a soft dough. Roll out, thin, and put on berries and sprinkle with brown sugar. Roll up like jelly roll and bake in moderate oven. This can be made with any kind of berries and fresh permissible fruits in season. Serve with a fruit sauce or whipped cream.

APPLE FRITTER

1 1/3 cup flour 1/4 t. salt
2 t. baking powder 2/3 cups milk
1 egg 1 T. sugar

Mix dry ingredients; add milk and egg, well beaten. Slice apples into batter and drop by spoonfuls into deep hot Mazola Oil. Serve with sauce.

BANANA FRITTERS

1 cup flour 1/4 cup milk
2 t. baking powder 1 egg

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1 T. brown sugar 1 T. orange or pineapple juice
1/4 t. salt 3 bananas

Mix and sift dry ingredients. Beat egg until light, add milk, and combine mixture. Then add fruit juice and bananas forced through a sieve. Drop by spoonfuls into deep hot fat or Mazola Oil. Fry until a golden brown and drain.

CORN FRITTERS

2 cups corn, drained 1 beaten egg
2 t. baking powder 1 t. salt
1/2 cup flour 1/2 cup rich milk
1 T. melted butter

Sift dry ingredients together, add liquids and corn. Beat well and drop by spoonfuls in deep hot fat (365° F.). Brown well and serve with maple syrup.

CARROT FRITTERS

2 cups of shredded cooked carrots 2 T. baking powder
1 cup of carrot liquid 1 T. sugar
Flour 1/2 t. salt

Add enough flour to liquid to thicken, and then add the above ingredients to the batter. Cook in deep fat, "Pure Lard."

CEREAL CROQUETTES

To 1 cup of leftover cereal. Add 1 cup chopped peanuts or any other nuts. 1/2 cup toasted breadcrumbs. 1 well-beaten egg. Mix and moisten with milk to desired consistency. Shape into croquettes and bake in oven until brown on both sides. Serve with jelly or thick fruit sauce.

CAKES

PLAIN CAKE

1 cup brown sugar 1 banana crushed
1 T. butter

Cream the above ingredients together.

1 cup milk 1 cup graham flour
1/2 t. soda 2 t. baking powder

Add to first part and bake in moderate oven.

Filling

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One and one-half cups brown sugar and a little water. Boil until it will form a ball in cold water: add a little cream and beat.

BANANA CAKE

1 heaping cup brown sugar	1 cup crushed banana
3/4 cup butter melted and creamed	1 1/2 cups whole wheat flour
2 T. sweet milk	2 t. baking powder
	1/4 t. salt

Mix in order given and bake in moderate oven.

DATE CAKE

1/4 cup butter, melted	1 package dates
1 cup brown sugar	2 cups whole wheat flour of graham flour
1 cup sweet milk	
2 t. baking powder	

Cream butter and sugar. Mix dates, beat well and bake in moderate oven. Left over cake may be reheated, cut in squares and served with hot apple cider sauce as a pudding.

SUPREME ICE-BOX CAKE

1/3 cup butter	1 cup drained crushed pineapple
1 1/2 cups brown sugar	
1/2 cup chopped nutmeats	20 Supreme Honey-flavored Graham Crackers
3/4 cup whipped cream	

Cream butter and sugar. Add nuts and pine-apple, and blend thoroughly. Cover bottom of loaf pan with the crushed graham cracker and whipped cream. Then a layer of the fruit mixture, alternating layers until pan is full. Top layer should be crackers. Chill in icebox five or six hours, and serve with whipped cream.

APPLE SAUCE SUPPER

3 cups applesauce	1 cup chopped figs
1 cup raisins	1/4 t. anise seed
2 cups chopped celery	

Cook all together for 30 minutes. Chopped pecans are sometimes added. When you have had an un-usually heavy dinner, this makes an ideal supper meal for both old and young.

APPLE SAUCE CAKE

1/3 cup shortening	1 cup white flour
1 cup brown sugar	1 cup whole wheat flour
1 1/2 cups thick sweetened apple sauce	1 c. soda
1 cup raisins	1/4 t. salt

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Cream shortening and sugar together, and then add the applesauce. Mix and sift flour, soda and salt, then add raisins dredged lightly with flour. Mix well. Bake in well greased loaf pan at 375* F. for about 40 minutes.

ICE BOX COOKIES

2 cups brown sugar	2 cups whole-wheat flour
1 cup butter or pure lard or half and half	2 cups white flour
3/4 cups raisins and lots	1 t. soda dissolved in water

Mix well and mold in rolls. Place in ice box for an hour then cut thin slices and bake, 450° F. for about 12 minutes.

PLAIN COOKIES

2 cups brown sugar	2 t. baking powder
1 cup butter	1 1/2 cups whole wheat flour
Pinch salt	1/2 cup white flour

1 cup hot milk, poured over ingredients.

Mix these together well ingredients. Stir all the flour you can into mixture and let stand over night. Roll out and bake in moderate oven.

WHOLE WHEAT FRUIT COOKIES

4 lbs. whole-wheat flour	1/2 cup honey
1/2 cup vegetable oil	2 oz. chopped nuts
4 oz. shortening	1/2 lb. chopped figs pitted dates and seedless raisins, mixed
1 cup hot water	

Melt shortening and honey with hot water. Stir in flour, nuts and fruit. Add more hot water if necessary to form a stiff dough. Bake in rock form in a moderately hot oven about 45 minutes.

OATMEAL COOKIES—NO. I

3 1/2 cups oatmeal	1/4 t. soda
1/2 cup lard	1 cup brown sugar
1 cup white flour	1/2 t. salt
3 t. baking powder	1/2 cup butter
1 cup graham flour	

Mix all dry ingredients and add milk last.

Filling

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1 lb. dates
1 cup water
1 T. brown sugar

OATMEAL COOKIES—NO. 2

1/2 cup butter	1 t. soda
1/4 t. cinnamon	1 t. baking powder
1 1/4 cups brown sugar	1 t. vanilla
3/4 cup coconut	1/2 cup raisins
2 eggs	2 cups oatmeal
1/2 cup Libby's Evaporated Milk	

Cream butter and sugar. Add beaten eggs. Sift dry ingredients. Add alternately with milk to first mixture. Add vanilla, oatmeal and raisins. Stir to mix. Drop from spoon to buttered baking sheet. Time for baking, 10 to 12 minutes. Temperature 400° F. Amount—45 cookies.

FRUIT SAUCES FOR PUDDINGS

Save any fruit juice that you have, strawberry, pineapple, cherry. etc.

One cup fruit juice mixed with a cup of water and a tablespoonful of butter thickened with two tablespoonfuls of cornstarch will make fruit sauce for any kind of pudding.

APPLE CIDER SAUCE

1 Pt. sweet cider	1 dessertspoonful of butter
1 cup brown sugar	2 T. cornstarch

Heat the cider; butter and sugar, then add the cornstarch, to which has been added 3 tablespoonful of water.

MAPLE NUT SAUCE

1 cup coffee cream	2 T chopped nutmeats
1 t. maple flavoring	Mix the ingredients

HOT MAPLE SAUCE

1-cup water	1/2 cup chopped nutmeats
2 cups brown sugar or maple sugar	Flavor with maple

Add water to the sugar and boil until it reaches the "thread" stage. Add the nutmeats.

FOAMY SAUCE

1 cup butter	1 cup brown sugar
1 egg	2 T. hot water

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1 t. maplene or fruit flavoring

Cream the butter and add sugar, the egg well beaten, and the hot water. Heat over hot water heating continually until it thickens. Add the flav-or-ing.

BANANA SAUCE OR DRESSING

2 very ripe bananas

2 T. cream

1 T. honey

1 T. orange juice

Mash bananas in a bowl with a spoon. Thor-oughly mix the other ingredients and let the finished dressing stand 15 minutes before serving. Excellent dressing to use for different kinds of salads.

CREAMY SAUCE

1 T. butter

1 t. brown sugar

2 heaping T. flour

Maplene for flavoring

1 cup of rich milk

Rub the flour and butter together. Add cup of boiling milk: cook a little while. Add sugar and flavoring. This is a delicious sauce, hot or cold for any pudding.

VEGETABLE SAUCE WHOLE WHEAT SAUCE FOR VEGETABLES

Cream 4 level teaspoonfuls of butter and 3 level teaspoonfuls of whole-wheat flour. Add 2 cups of warm milk, and stir constantly over the fire until thick. Add a third of a teaspoonful of celery salt, salt to taste. Where creamed vegetables are desired. This sauce may be used. For a richer sauce, use half cream and half milk.

THIN WHITE SAUCE

1 T. butter or Mazola Oil

1/4 t. salt

1 T. flour

1 cup milk

Melt the butter in top of double boiler. Add flour and seasoning and mix until smooth. Add the milk gradually, stirring constantly until mixture is smooch. Medium white sauce can be obtained by adding to above recipe an extra tablespoonful of flour and butter.

MUSHROOM SAUCE

2 T. butter or other fat

1/2 t. salt

2 T. whole-wheat flour

1 small chopped onion

1/2 lb. mushrooms

1/4 cup chopped celery

Brown butter and flour, add onion, celery and mushrooms, and then add 1 1/2 cups meat stock. Cook.

FROZEN DESSERTS:

FROZEN DESSERTS ARE NOT RECOMMENDED

It takes forty-five minutes for the digestive juices to sufficiently heat for digestion after Ice Cream or Ices have been eaten.

VANILLA ICE CREAM

1 qt. thin cream (scalded and cooled)
3/4- cup sugar
1 1/2 T. vanilla

Mix ingredients and freeze. A few grains of salt are an improvement to any ice cream.

BUTTERSCOTCH ICE CREAM

3 T. butter	1/4- t. Vanilla
1/4-cup brown sugar	1-cup whipping cream
1-cup milk	Pinch salt
1-1/2 T. cornstarch, stirred smooth in 2 T. cold milk	

Cook butter and sugar in top of double boiler until mixture is melted and well blended. Add milk and heat to boiling point. Stir in cornstarch and salt and cook until mixture thickens. Cool. Add flavoring and fold in whipped cream. Pour in Kel-vinator tray and freeze. Makes 1 quart.

STRAWBERRY ICE CREAM

3 pints thin cream	2 boxes berries
2 cups sugar	Few grains salt

Wash and hull berries, sprinkle with sugar, cover, and let stand two hours. Mash, and squeeze through cheesecloth; then add salt. Freeze cream to the consistency of a mush, add gradually fruit juice, and finish freezing. Rich milk may be substituted for cream.

STRAWBERRY ICE CREAM

(With Custard Base)	Few grains salt
2 cups milk	1-cup sugar
1 egg	1 to 2 qts. strawberries
1 T. cornstarch or flour	1-quart thin cream

Wash berries and put through a sieve. Follow directions for making vanilla ice cream. Then add sugar to sweeten the washed strawberries. Let stand one hour. Add to the ice cream mixture just before freezing.

FRESH FRUIT RINGS

1 qt. raspberries or strawberries
8 t. confectioner's sugar

1 t. vanilla
2 cups whipping cream

Whip cream until it will just hold its shape. Fold in sugar and vanilla and pour into 8 individual ring molds, place in two Frigidaire trays and freeze. When ready to serve un-mold and fill centers with thoroughly chilled fruit.

FRESH STRAWBERRY CAKE

1 1/2 cups crushed strawberries
2/3-cup sugar
Juice of one orange
3 cups graham cracker crumbs
1/2-cup cream
1 T. maple flavoring

Combine all ingredients in order listed and blend well. Pour in freezing tray and freeze in Frigidaire about three hours. Cut in squares and serve with whipped cream. Serves 10.

ICE CREAM CLOWNS

Amusing refreshments for tiny tots

Arrange two scoops of ice cream one on top of the other to form a ball. Make clown face, using raisins and nuts. Cock ice cream cone on side for clown hat. Serve immediately.

BANANA ICE CREAM

Combine 6 crushed bananas with 1-cup sugar, the juice of 1 orange. Stand thirty minutes. Add 4 cups milk and 1 cup cream. Mix thoroughly and then freeze as usual.

CARAMEL ICE CREAM

Caramelize 1/2-cup sugar till dark brown. Add to one-quart milk and 3/4-cup sugar. Stir till sugar is dissolved. Cool and add 1-cup cream to the mixture. Freeze in the usual manner.

PINEAPPLE ORANGE ICE CREAM

Combine 1 cup crushed pineapple, the juice of 2 oranges and of 1/2 lemon and 1 cup of sugar. Stand 1/2 hour to blend flavors. Add 4 cups milk and 1 cup thin cream. Freeze.

GRAPE ICE

2/3-cup sugar
1/4-cup orange juice
water

1 cup grape juice
1-1/2 cups

Boil the water and sugar for 5 minutes. Mix all the ingredients together, strain and freeze.

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PINEAPPLE SHERBERT

1 1/2 cups shredded fresh pine-
apple
2 cups water

1 cup sugar
1 egg white

Boil sugar and water for 10 minutes, cool, add pineapple and pour into refrigerator tray. When frozen to a mushy consistency remove to a chilled bowl and beat vigorously. Add stiffly beaten egg white and blend well. Return to tray and finish freezing. Makes 1 quart.

PINEAPPLE ICE

2 oranges
1/2 cup honey dissolved in
1 lemon

2 cups water
1 cup pineapple juice
1 t. Nu-Vege-Sal.

Beat until well blended, add Nu-Vege-Sal and freeze.

APPLE BUTTER MOUSSE

2 cups applesauce
2 cups rolled graham cracker
crumbs

1/2 cup melted butter
1/2 cup chopped nuts

Mix the above ingredients well and chill in small loaf pan two hours. Slice as brick ice cream and serve with whipped cream.

PRUNE LOAF

2 cups cooked prunes
1/2-cup raisins
1/2-cup nuts
1/2-cup sugar

2 T. vegetable gelatin
1 cup orange juice
1 cup boiling water
Grated rind of one orange

Cut prunes in pieces. Mix with chopped nuts and raisins. Soak gelatin in one half-cup cold water and dissolve in boiling water. Add juice, sugar and grated rind. Cool. As it begins to congeal, add fruits and nuts. Mix well and chill thoroughly. Slice and serve with whipped cream.

GRAHAM CRACKER ICEBOX PUDDING

Dissolve 1 package of vegetable gelatin in 1 cup cold water. Add 3 1/2 cups boiling water and 1 cup brown sugar and maple for flavoring. Put part of mixture in a pan to set, adding a few chopped dates and 1/2 cup chopped nuts. When it is set, put a layer of graham cracker crumbs and dates on top and then pour over the remainder of gelatin mixture. Put in icebox to chill. Turn out of mold and cut in squares and serve with whipped cream.

FIG-ALMOND CONFECTION

1-pound sun dried figs

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1/4 pound almond butter
2 ounces almonds

Cut the figs in pieces, mix with almonds and put through food chopper. Then work into the mass the almond butter, mixing thoroughly. Roll out and cut into squares.

PEANUT BUTTER CONFECTION

1 lb. seeded dates
1 T. peanut butter

Put dates through food chopper, using fine cut-ter, and work them into the peanut butter. Roll out and cut into squares. Any nut butter may be used.

PRUNE-WALNUT CONFECTION

Equal parts pitted prunes and dates and one-third as many walnuts. Mix together and run through food chopper, roll out and cut into squares.

MEXICAN PENUCHI

2 cups brown sugar 1 1/2 cups pecan meats
1 cup milk 1 t. vanilla
1 T. butter

Cook the milk and sugar until the sugar dis-solves. Increase the heat and boil until it forms a soft ball when dropped in cold water. Remove from fire and add butter, but do not stir. When luke warm add vanilla and beat until creamy. Add the nutmeats and spread in buttered pan. When cold cut in squares.

RAISIN NUT BARS

1 cup shelled Brazil nuts 1 cup shelled pecans
1/2 cup grated coconut 1 cup shelled walnuts
2 T. honey 2 cups seedless raisins

Run the nuts and raisins through a food chopper. First separately, then together with honey in order to thoroughly blend the ingredients. Form into balls about 3/4 inch in diameter and roll in grated coconut to give them an attractive appearance

HONEY DROPS CONFECTION

1 cup shredded coconut
1 cup strained honey
1 box seeded raisins, or 1 cup chopped dates

Moisten with coconut milk or cream. Drop the mixture from a spoon in shallow pan and bake 20 minutes in moderate oven.

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MEAL PLANNING

The most important point to remember in meal planning is to serve plenty of alkaline foods—vegetables, fruits, and nuts. In planning, consider how the meal will look and taste when served. Do not over cook your food. Cabbage and greens can be cooked in 15 minutes. Use very little water and do not drain water from vegetables in sink. This water, kept in glass jars, make excellent drinks or soups for the family. Plan your meals a day ahead. With so many colorful vegetables as we now enjoy, one can carry out a very pretty and effective color scheme enjoyed by those in health and tempting for the invalid. It is best not to drink with the meal. Wait at least 30 minutes.

MENUS

BREAKFAST NO. 1

Baked Apple
Oat Meal

Cream Mo-ko

BREAKFAST NO. 2

Soaked sun dried figs
Honey or Maple syrup
Whole-wheat waffles

Cream and hot water
Butter
Mo-ko

BREAKFAST NO. 3

Soaked sun dried prunes
Corn cakes
Butter

Honey
Maple Syrup
Mo-ko

BREAKFAST NO. 4

Sliced Bananas
Cream
Thin, well dried whole wheat toast

Butter
Mo-ko

LUNCH NO. 1

Corn on cob
String beans
Carrot and pineapple Jell-O salad

Hot biscuits
Honey and butter

LUNCH NO. 2

Potato on half shell
Steamed cucumbers
Red cabbage salad

Whole wheat bread
Butter
Apple fritters with sauce

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LUNCH NO. 3

Cream of Pea Soup
Mashed rutabagas
Parsnip and celery

Orange roe salad
Pecan nut sandwiches

LUNCH NO. 4

Barley Soup
Creamed carrots
Celery Apple salad
Brussels Sprouts

Rye Bread
Butter
Banana Cream Pie

DINNER NO. 1

Baked squash
Creamed peas
Scalloped corn
Lettuce and Radish salad

Bran Muffins
Butter
Orange Pudding

DINNER NO. 2

Baked Potatoes
Baked Beets
String Beans
Cabbage and Celery salad

Whole-wheat bread and butter
Rice and date pudding
Whipped Cream

DINNER NO. 3

Mock Roast
Shredded Carrots
Cauliflower

Swiss Chard
Corn Muffins and butter
Banana Salad

DINNER NO. 4

Sweet potato puffs
Lima beans
Cucumber and radish salad

Beet top greens
Oat meal bread and butter
Carrot pudding

HELPFULL AND VALUABLE ITEMS

The Wonder Shredder
Sep-Ro-Sir, juice extractor and
Stainless steel cooking utensils
Superior Steam Cooker
Mazola Oil
V-M Organic Tea for health
Kingford Starch
Mo-Ko Coffee

Ry-Krisp
Roman Meal
Otto Carque Pure Food Company or
Hain Pure Food Company, for
All sun dried fruits,
Nut butters, vegetable jell
Natural sweetened canned fruit
Royal Baking Powder, or

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Dr. Price's Baking Powder
Pillsbury's Flour
Pillsbury's Bran
Health Culture Skin Food Cream

Appledoorn's Clover Honey
Patapar Paper for Cooking
Vegetable grinder

MO-KO

THE PERFECT HEALTH DRINK

MO-KO is made from the choicest cereals, skill-fully combined, ground, roasted and blended to-gether making a most delicious food drink.

People who appreciate good health should discard all injurious beverages, such as tea and coffee as they are positively harmful to the human system and in a very short time will produce nervousness, headache, indigestion, sleeplessness and heart trouble.

MO-KO has been on the market for over 30 years and its dietetic excellence has been recognized by food authorities and dietitians and is being used more and more freely.

People who find it difficult to give up coffee will appreciate the delicious coffee-like flavor of MO-KO with its rich, golden brown color and delightful aroma.

FOR BASIC NUTRITION

Balances Nutrition

These contents are in such proper proportions as to tend to correct the unbalanced diet of individuals and thereby to normalize body nutrition. Unbalanced diet might be due to dislike for certain essential Vitamin-carrying foods; might be due to inability to eat these necessary foods—but is generally due to deficiency of Essentials in available foods.

General body nutrition is increased by its use and in consequence resistance to infection is built up in the body—thereby reducing the severity of illness due to infection. Recovery from illness is hastened by its use because of its stimulating effects upon the appe-tite, and its nourishing influence upon the cells of the body.