

**PAUL M. KOCH
ATTORNEY AT LAW
15200 E. JEFFERSON AVE.
SUITE 101-E
GROSSE POINTE PARK, MI 48230-1314
1-313-822-3771
FAX - 1-313-822-3772**

July 25, 2003

MI 48236

Re: William F. Koch, Ph.D., M.D.

Attached to this letter you will find a copy of Dr. Koch's The Survival Factor In Neoplastic And Viral Diseases and his 1918 paper Tetany And The Parathyroid Glands, The newspaper article on Judy McWhorter that reported that she had had cancer involving 80% of her liver and that the cancer experts said she "Overcame Cancer Ailment Herself" though these doctors all knew that she had received the Glyoxylide, one of Dr. Koch's medications. Also included is a copy of her parent's affidavit covering the true facts about her case history. The other article is about Mary Lou Barnes, a poliomyelitis patient who received the Koch Treatment which had been "Black-Listed" by the A.M.A. Subsequently, the Medical Society tried to take Dr. Wilson's license to practice medicine away with out success. I believe that the doctor who treated Judy McWhorter did lose his license for using Glyoxylide after all the facts came out on the Judy McWhorter case. In malpractice case that was brought against Dr. Baldor for using Glyoxylide, the Florida Supreme Court held on October 19, 1955 that:

Courts cannot hold defendant in malpractice suit to theory of one opinion of physicians on a set of facts to the exclusion of other contrary opinion by other physicians, and approval of treatment used by respectable minority of medical profession relieves defendant of charge of malpractice. (81 Southern Reporter, 2nd. Series, 658)

In the fall of 1919, the Wayne County Medical Society elected to conduct tests on the medications that Dr. Koch had developed and worked with during his nine years of cancer research. I believe that the Society had planned on sending these medications to doctors though the country to see what kind of results that they would get the medications. They also planned on testing these medications locally. Thus the Cancer Committee of the Wayne County Medical Society arranged for Dr. Koch to treat about ten terminal cancer patients at Herman Kiefer Hospital. Mrs. Edith Fritz was one of these cancer patients. During this short clinical testing, a disagreement arose between Dr. Koch and certain Doctors on the committee over a lack of full cooperation on the part of each side.

Thus these tests were prematurely terminated and all the patients were sent home by the hospital in December 1919.

In December of 1919 Dr. Koch wrote the following letter to the Wayne County Medical Society which was published in the December 22, 1919 Weekly Bulletin of the Wayne County Medical Society.

December 22, 1919

"To the Wayne County Medical Society:

"Gentlemen – A committee appointed by the Wayne County Medical Society met me last Friday and requested me to present information regarding my cancer treatment.¹

"I was told the information was desired so as to ascertain:

1. Whether the work was worth continuing.
2. To dispel misunderstandings and prevent further false reports that have arisen against my methods.

"Now the first question requires no answer. This method has tentatively cured a sufficient number of cancer cases to demonstrate that there is a scientific principle underlying it. This principle needs development, both chemical and clinical, so there can hardly be any question about whether the work is worth while.

"The second question can be answered by a short history of this work.

1 " Only cases beyond other means of help have been treated by me. For a long time, indeed, most of the cases that have come to me were moribund before treatment. A large number of these cases needed most urgent relief from changes secondary to the cancer. They offered material for experiment rather than cure.

2. "The first compounds used were tentatively curative in carcinoma of gastrointestinal and endometrial origin, but there was the possibility of preparing a large number of closely related compounds all of which should possess some positive or negative value in treating cancer. Moreover, there were types of cancer that did not respond to the first series of compounds and the fact that rayed cancer was clinically different from unrayed cancer made it paramount to prepare as many of the compounds of the series as could be prepared and to try them clinically for positive or negative value. Most of the time since last March was spent preparing and testing these compounds. Now, **when we remember that the rule in advanced cancer is that the patients run their course and die**, instead of getting well, as in pneumonia, for instance, and since the vitality of my patients was, as a rule, very low, and because they were treated by compounds of uncertain action used in sequence as they were prepared, the number of tentative recoveries was

¹ Note that Dr. Koch refers to his treatment as a "cancer treatment", not a "cancer cure"; it was the Wayne County Medical Society refers to this treatment as a "cancer cure".

necessarily small; but yet some valuable information has come from the small amount of autopsy material. Likewise, pieces of tissue removed during treatment have given valuable information. Of the clinical results, a number of tentative cures have been established, also a number of clinical improvements, all of which has demonstrated that among the 22 compounds used, as far as can be judged from the small number of cases treated, one compound specifically kills cancer arising in the gastrointestinal tract and endometrium and endocervix; one compound kills breast cancer of one type only, specifically; one compound kills rodent ulcer specifically. Several compounds have no demonstrable effect, and several recently prepared compounds very markedly increase the rate of growth of cancer of the gastrointestinal tract and prostate.

"So much for the results to date.

"The maintenance of the work was for the first year entirely personal. The meager facilities of the Laboratory of Physiology of the Detroit College of Medicine and Surgery were used then also. Since March about 30 percent of my patients have contributed to the work. The other 70 percent are treated free.

"In regard to cooperation: I am greatly indebted to those member of the Wayne County Medical Society that have given their clinical support. I believe they are physicians in the true sense of the word. It must be expected, however, that the necessary element of falsifiers have in their number those and their adherents who at one time expected that financial advantage would accrue to them from the work. Moreover, there always are those who are jealous.

"My aim is entirely idealistic, and so far as I know now, I shall contribute my findings in every detail only when I can establish them completely scientifically, so completely, indeed, that any question can be answered by the scientifically obtained facts in hand.

"In order to establish this work in such a way, money is needed to pay a clinical staff. Ehrlich was given a million dollars to find a remedy for syphilis. I have attacked this heretofore impossible cancer problem on my own resources, together with the very small facilities of my college laboratory.

"From this effort something tangible has developed, which, if applied in the treatment of cancer, should relieve many sufferers, and which, when scientifically extended, should afford new means of relief.

"Whether or not the Wayne County Medical Society wishes to cooperate with me is up to the society. The cooperation must be spirited. In the first place, the attitude expressed in the editorial in the Bulletin of December 22 must be corrected. The first paragraph of this editorial is false, as the editor could have easily determined if he had taken the trouble to ascertain. The third paragraph is also a misrepresentation. **The Board of Health and the Wayne County Medical Society offered something which at first promised to become the long hoped for chance for a scientific study, but**

very soon proved to be only an opportunity for something not worth while, simply a preliminary clinical report.

"Such a report we already have, and no report is of value unless the compounds are reported. This I will consent to do only when I can make a scientific report showing the how and why certain compounds act on cancer.

"To make such a report, a clinical staff and at least one paid chemist and one assistant chemist is necessary. I was not able to secure a chemist under less than one-year contract, and the beds at Herman Kiefer hospital were not allotted for that time. Indeed, the superintendent informed me four weeks after the beds were granted that they would be needed for contagious diseases. No working arrangement could thus be made for the desired report. Then the committee did not cooperate with me. One member never visited the hospital and only attended the final meeting to subscribe his name to the report of my negligence.

"Another member, who is supposed to have a corner on cancer tissue, when this work was first started and when I was introduced to him to ask for cancer material, turned his back on me and refused the introduction. Other members of the committee, who seemed to be fair and unbiased at first, soon came under the sway of those whom they knew and said were distinctly unfriendly to me and my work. There was thus no common aim and could be no cooperation.

"The fourth paragraph says I promise much and charge well. Nothing is further from the truth. I promise nothing. My patients know this, and I require them to be examined from time to time by their physician that refers them to me. This aids my judgment as to the results and keeps the patients informed accurately. I have referred already to the 30 per cent that pay and the 70 per cent that do not.

"The last paragraph of the editorial touched on the secret of my success. I try to discuss this problem with those I respect sufficiently in the hope that they will offer encouragement and guidance; and from them only do I wish to receive it.

"Otherwise the best cooperation the Wayne County Medical Society can give is to leave alone a matter they have never advanced. I should not be asked to give my time to any activity that cannot aid me in placing this work for the treatment of cancer on a distinctly scientific basis. All of my time is needed and given to this end. In the future I shall have no time for any further activities that are not directly constructive to the intrinsic value of this work."

Sincerely yours,

W. F. Koch

On Christmas Day, December 25, 1919, the following article appeared in the Detroit Free Press.

"KOCH ASKS AID TO TEST CURE"
"Won't Some One Pay Cost of
Real Trial? Is Plea of Cancer Foe"

"Is there not some rich man in Detroit with enough interest in his fellow men to pay the bare expenses of the trial of a cancer cure that has already shown enough tentative cures to have attracted the attention of physicians of prominence in New York, Chicago and Detroit, as well as of minor practitioners in all parts of the country?"

"This was the query Wednesday evening of Dr. W. F. Koch, whose assertion that he has discovered 22 chemical compounds useful in the treatment of as many different varieties of cancer, has been under investigation by the Wayne County Medical society. The investigation resulted in a disagreement that found an airing at last Monday evening's meeting of the surgical section of the society.

"Wants Nothing for Self"

"I don't want a penny for myself," continued Dr. Koch, referring to the reported intention of the Wayne County Medical Society of asking the city authorities to pay him a salary of \$5,000 a year and place a full staff at his disposal for 12 months in an effort to fully test his claims. 'What I want and what I am determined to get before I go ahead with any test are the right conditions.

"The Ford Hospital, for instance could easily place 50 beds at my disposal, or rather at the disposal of the test, for one year. The city could provide nurses and chemists and other attendants necessary for a proper investigation of the results of the treatments. It would cost probably \$65,000, but this is an insignificant amount when you remember that Sir Edward Speyer gave Ehrlich \$1,000,000. and that the German scientist experimented with 610 compounds before he discovered the famous '606'.

"I have an offer to go to Chicago but have decided to refuse it because the conditions are not the ideal ones for which I am searching. "

"In Touch With Other Cities"

"I probably will read a paper before the February meeting of the American Congress of Internal Medicine in Chicago and I am in touch with New York doctors of prominence. If Detroit will not prove itself big enough for this thing, I am sure some other city will."

On October 14, 1923, Dr. Koch wrote the following letter to Dr. Frank Kelly, President of the Wayne County Medical Society, requesting a new investigation of his treatment for cancer. By this time, Dr. Koch had accumulated additional scientific research information in support of his treatment for cancer with proof of actual cancer recoveries that had occurred since the incompleted 1919 Herman Kiefer Hospital investigation which had been prematurely stopped by the Wayne County Medical Society's Cancer Committee in December Of 1919. Dr. Koch

wanted to give the Wayne County Medical Society's Cancer Committee an opportunity to be able to once again review his cancer research, some of his cured cancer cases and to be able to personally examine each recovered patient.

WM. F. KOCH, A.M., Ph.D., M.D.
Detroit, Michigan

October 14, 1923

Dr. Frank Kelly
Pres. W. C. M. S.
Detroit, Mich.

Dear Dr. Kelly:

"In the fall of 1919, the Wayne County Medical Society invited me to submit my treatment for cancer to investigation by a committee appointed by the society's president. The investigation was started at the Herman Kiefer Hospital on several cases of cancer. Two-fifths of the committee did not see the cases at all and I was also judged neglectful in the treatment of the cases, so the investigation was prematurely closed before any of the cases could recover.

"Of the several cases treated, at least two of the most severe made a complete recovery and are perfectly well today. This fact has become widely known throughout the profession and laity. And as other cancer victims have been similarly benefited by the treatment, the request has been frequently made and the duty emphasized, that I turn the treatment over to the profession so that it may be used to do the most good.

"I have resolved to do my duty in every detail if the Wayne County Medical Society will do its part in placing the treatment in the hands of the profession. If the W. C. M. S. is willing to take this step in the fight against cancer, I invite the appointment of a suitable committee, including the president of the W. C. M. S., to examine the results obtained in the cases treated at the Herman Kiefer Hospital and reported in accordance with the evidence obtainable today, four years after the cases were treated.

"If this committee should desire it may also examine the evidence in many cases of cancer cured in my private practice and report on them.

"If this committee should then desire it may arrange and conduct such procedures toward placing the treatment in general use, as the instruction of the profession in the scientific and practical details, the distribution of material, and all other measures belonging to the common good.

"The only qualifications of the committee I must demand is that it be manned with such as consider the importance of this work as above such interests as might interfere with their effectivity in carrying on the work of the committee.

"I would like a reply by Thursday of this week.

Respectfully yours,"

Wm. F. Koch

On November 1, 1923, a meeting of the Cancer Committee of the Wayne County Medical Society was held after the committee chairman had first consulted with the American Medical Association's national office in Chicago, Illinois, as to how their cancer committee should proceed in this matter. At the time of this committee meeting the following letter, that had been received from the Journal of American Medical Association's Propaganda Department, stating the policy of The Journal of the A. M. A., was read to the Committee members. It said:

October 29, 1923

Dr. Harry C. Saltzstein
306 Kresge Bldg.
Detroit, Michigan

Dear Dr. Saltzstein:

"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 results that are a matter of record.

"In spite of the unfavorable report 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 Department

However, in November of 1923, the Wayne County Medical Society did permit its Cancer Committee to review Dr. Koch's cured cancer cases. Dr. W. A. Dewey², a retired professor of materia medica and therapeutics, Homeopathic Medical School, University of Michigan, was permitted to attend this committee's November 5th, 1923 meeting and take notes as Dr. Koch's representative. The Cancer Committee, sometime later, sent Dr. Dewey a copy of its report on this cancer committee meeting and investigation of the Koch Treatment. Upon receiving this report, Dr. Dewey wrote the following letter to Dr. Koch in which he (Dr. Dewey) described the proceedings of this committee. Dr. Dewey also went on to express

² The 1918 edition of the University of Michigan year book, The Michiganensian, page 231, honored Dr Dewey that year with a full page picture of him and the following caption:

**"To us who know him a profound scholar,
To the people a valued friend,
And to the profession an honored educator."**

his reaction to the manner in which this cancer committee conducted its investigation. .

Of the fifteen cases that were presented to this committee, two of these cases were cured patients dating back to the original 1919 Wayne County Medical Society's cancer investigation of Dr. Koch's treatment for cancer at Herman Kiefer Hospital.

"Dear Dr. Koch;

"I have received what is termed the latest report on your treatment.

"This claims to be an account of the seance 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 un-scientific, 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.

"The greatest American authority on cancer is doubtless L. Duncan Bulkley, senior surgeon of the New York Skin and Cancer Hospital. 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 treatment³.

"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.

³ As a supplement to the statistical cancer mortality rate of 90% to 92% quoted by Dr. Dewey; I add the statement of Dr. Francis Carter Wood, a F.D.A.'s cancer expert witness, given in testimony on behalf of the government during the 1943 F.D.A trial on Friday, January 29, 1943:

"About 95 per cent of all well established cancers prove fatal."

"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 a letter from Willard H. Dow, President of Dow Chemical Company, dated June 21, 1946, to Mr. Laurence B. Thatcher; Dr. Dow wrote the following:

"You may be interested to know, however, how we began to be interested in this method of treatment. Some years ago we decided it was up to us to apply ourselves to the chemistry of such diseases as influenza, and find out all we could. During the analysis of the problem entirely from a chemical standpoint, and not from a medical standpoint, we arrived at the conclusion that some medicinal of high oxidizing characteristics should be the method of medical cure. About that same time one of our people here discovered Dr. Koch's activity and found that his chemistry as applied to medical treatment was exactly the thing we were interested in. We proceeded to follow all his problems, and as a result of his observation of our interest, he began to concentrate a great deal of his attention in this neighborhood.

"His recent trial in connection with the Pure Food and Drug Administration has brought him the support of some of our technical people on the basis of submitting technical information that is available here and has been proved up and **which the government had attempted to misrepresent**. Our intention all the way through has been to try to get at the truth of this whole matter, and whether it is Dr. Koch or somebody else, **we would take the same attitude to try to prevent an innocent man from being crucified. We cannot understand what the Food and Drug Administration is driving at for the reason that all our information to date would indicate Dr. Koch has been exonerated from illegal practices as far as the Administration is concerned, and as for the mislabeling of packages, like everyone else it is merely a matter of interpretation rather than willful violation of the law. Before the present trial came up, Dr. Koch had appeared before the Washington representatives of this department and thought the whole matter was straightened out to their satisfaction, but**

apparently not so. It is strange, because the same procedure is run into time and time again by industry when it is necessary to get a label properly approved before it goes to the public, but in his case it does not seem to be possible without a trial. He has had no trouble in proving his points, but the government has spent a tremendous amount of money to try to prove he is wrong. It almost sounds as if a certain group is attempting to persecute him unjustly.

"I am replying to your letter in some detail to give you the benefit of our background and our interest in Dr. Koch's work. He is not a representative of our Company in any sense of the word. We have no control over his treatments....As far as I am personally concerned, I consider him one of the outstanding scientist in the medical profession, and he is so far head of the thinking of his profession that he is naturally being ridiculed somewhat....The mere fact that Dr. Koch has a treatment definitely affecting virus diseases is of itself sufficiently important that it ought to be analyzed from every angle by the medical profession....I think we all have an opportunity to see something new aborning in Dr. Koch's work....I sincerely hope some day the public will recognize him for his ability."

William J. Hale, Ph.D., Research Consultant of the Dow Chemical Company and The former Director of Organic Chemical Research, wrote about the chemical structures of "Glyoxylide" [(O:C:C:O), which is a polymer], "Triquinoyl" [which is a trimer of (O:C:C:O)] and Parabenzoquinone. He also showed the chemical relationship of inositol to rhodizonic acid to triquinoyl in his book *Farmer Victorious, Money, Mart and Mother Earth* (Coward-McCann, Inc., N.Y., 1949), Chapter XVIII – Chemotheraphy.

Dr. Hale wrote the following:

"In practice triquinoyl has been found to act almost identically with 'Glyoxylide' (O:C:C:O), a compound that Dr. Koch had prepared by dehydration of glyoxylic acid (CHO-COOH). In brief, this so-called glyoxylide, which has proved so efficacious in the hands of Dr. Koch against diabetes, arthritis, poliomyelitis and even cancer, undoubtedly polymerizes under many conditions to 3(O:C:C:O) or triquinoyl, in which an oxygen atom is doubly linked to each of the six carbon atoms of the reduced (or saturated) benzene ring carbon structure, and plays a most effective role in the treatment of disease. In the likely dehydrogenation of inositol within the body we can now interpret the phenomenal action of inositol in replacing insulin for diabetics." pp. 159-160.

"Now the role of these polyketocompounds is definitely oxidative. By their presence a higher level of metabolism is made possible in the system, and, like a passing wave over a golden wheat field, this wave of oxidative influence continues unabated for months upon months-sufficient, indeed, to heal improperly nourished organs and slough off decadent tissues. All of this is in accordance with findings of H. Wieland proving first the hydration of an active carbonyl group in body fluids into :C:(OH)2 and its subsequent dehydrogenation by enzymes into a peroxide type, :C:O:O, whereupon nascent oxygen is liberated and the

carbonyl group (:C:O) regenerated to repeat the process. Just as Pasteur identified the microscopic organisms that led to plant disease, so Koch identifies the chemical agents that are capable of combating microorganisms." p. 161.

Mr. James V. Sheridan, patent attorney for Dow Chemical Co. and one of Dr. Koch's trial attorneys during the 1946 second F.D.A. trial, wrote the following letter to Dr. D. H. Arnott in which Mr. Sheridan briefly reviewed the expert testimony of the Dow chemists who testified on behalf of Dr. Koch, Louis Koch and Koch Laboratories, Inc.

April 21, 1947

Dear Dr. Arnott:

"I have been assigned the pleasant task of advising you concerning the nature of the chemical work done by the Dow Chemical Company at Midland, Michigan, on the chemistry of the Koch drugs. I am presuming that you are not interested in all the details of this work but rather in the conclusions reached and the general mode of procedure used in reaching the conclusions.

"Our activity started late in 1944. Through the years we have been interested in chemical catalysts, and particularly we were interested in oxidation and polymerization catalysts. We had observed that certain chemical structures within the molecule appeared to be the center of desirable catalytic effects. Naturally we were interested when we discovered that Dr. William F. Koch of Detroit was using certain chemicals containing these structures and on the same theoretical basis. Our application was in industrial chemistry and Dr. Koch's was in biochemical systems, but our approaches fell into one category.

"As you might expect we were somewhat discouraged by the weight of expert opinion which had been hurled against the Koch chemistry. I was particularly impressed by a 1936 American Medical Society publication to the effect that the major portion of the Koch chemistry is 'pure nonsense' and that some of the structures are 'incomprehensible'. We were also advised by this publication that Koch's 'associates are not reputed for scientific attainment or for any other reason except the kind of repute earned by association with William F. Koch'. Needless to say our chemists leaned over backwards in their proof in order that we might protect the good name of Dow from such a vigorous assault.

"I was placed in charge of the investigation by Dr. Willard Dow and chose first to find out what the specific defects were supposed to be in this chemistry. This can best be treated by separate consideration of each of the Koch drugs – BQ, Malonide, Glyoxylide.

"BQ

"BQ is the trade name used by Dr. Koch to describe a solution of Benzoquinone in distilled water. The usual concentration of Benzoquinone is one part per million.

"There is no argument on the existence of Benzoquinone. Its structure is well known. Koch Benzoquinone is prepared under carefully controlled conditions to eliminate impurities in the form of amino and hydroxyl groups.

"Only one issue appears to have arisen with respect to BQ. Government chemists had testified at various times that such a solution is chemically and physically 'indistinguishable from distilled water'. Although we realize that this is just a catch phrase designed to impress a jury, we none the less tested this concentration (10^{-6}) by means of an ordinary and well known chemical test. We were able to distinguish easily between distilled water and a solution of Benzoquinone in one part per million. In fact, we could easily distinguish distilled water from a solution of Benzoquinone in one part in ten million (10^{-7}). This result does not prove anything in a scientific way; it merely demonstrates how easily 'expert' opinion gives way to simple laboratory procedures.

"We also selected ampoules at random from a batch of Koch BQ and applied our test. The drug was clearly distinguishable from distilled water.

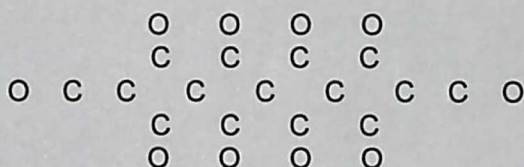
"Malonide

"Malonide is the trade name used by the Kochs to describe a solution alleged to be poly carbon suboxide in distilled water. Its usual concentration is one part per trillion or (10^{-12}). This concentration is beyond the reach of chemical analysis. However, that is not the principle controversy with reference to Malonide.

"Malonide is made from carbon suboxide.



"This compound is well known. It has been reported in the literature many times and the Dow chemists have made it by three different methods; one of which is the method used by Dr. Koch. The Malonide itself is the polymer of carbon suboxide; that is, poly carbon suboxide. As you probably know polymer is a simply a linking together of monomer units to form a chain-like molecule or polymer. The exact structure of poly carbon suboxide is not known but is thought to be somewhat as follows:

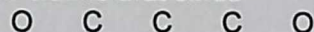


"The above picture represents five units of carbon suboxide.

"Carbon suboxide is a gas. At room temperature it liquefies at 7° Centigrade.

"The polymer, however, is a brown-red, resinous, solid material. The polymer is soluble in water and imparts a red color to the solution.

"Koch's opposition claims that since



Is the anhydride of malonic acid (which it is) that Malonide would be a solution of malonic acid. I have looked in vain for any testimony to the effect that any one of these experts has actually dissolved poly carbon suboxide in water. **Their opinion is nothing else but opinion.**

"As I said before we prepared carbon suboxide by three different methods, one of which the Koch method. We then prepared the polymer. This is a simple process; in fact, it is difficult to prevent the polymer from forming spontaneously. This polymerization occurs so rapidly that we

experienced several explosions before learning the best method of handling the materials. Our carbon suboxide and our poly carbon suboxide were analyzed by every method known in modern science. This included ordinary chemical analysis, molecular weight, infrared spectra, ultraviolet spectra, etc. There is no doubt as to the identity of the materials.

"We dissolved poly carbon suboxide in water in order to measure the speed at which it converts to malonic acid. **We found that no malonic acid forms. At the end of one month the poly carbon suboxide was 100% intact.**

"We next boiled the water solution of poly carbon suboxide. There was polymer disintegration but no malonic acid formed.

"Please keep in mind that up until the time this extremely simple experiment was performed, experts by the dozen were willing to give their opinion that there would be an immediate conversion to malonic acid even without the boiling. The most radical of all the experts would allow a mere one hour for this change to take place. I might also add that the performance of this simple experiment takes less time than it does to visit a court and testify.

"In connection with Malonide we were given a material by Koch which he said was the concentrate used to make the ultimate dilutions. We submitted this concentrate to analysis and found it to contain poly carbon suboxide in water as represented.

"Glyoxylide

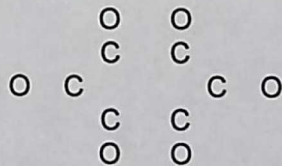
"Glyoxylide is alleged to be a polymer of the structure



"Dr. Koch has testified concerning his process of making Glyoxylide. He has described $\text{O} \quad \text{C} \quad \text{C} \quad \text{O}$ as a gas which he has never isolated per se for the reason that it is so reactive that it immediately polymerizes. The basis of his assumption that $\text{O} \quad \text{C} \quad \text{C} \quad \text{O}$ exists is the fact that it is the only substance which can explain the formation of the particular polymers made. The opposition experts state categorically that there is no such compound, that there are no polymers of $\text{O} \quad \text{C} \quad \text{C} \quad \text{O}$.

"The experts say that even if these compounds existed they would immediately form glyoxylic acid in contact with water (for the reason that $\text{O} \quad \text{C} \quad \text{C} \quad \text{O}$ is structurally the anhydride of glyoxylic acid).

"Our search showed up the chemical compound, triquinoyl.



"Triquinoyl, from a structural viewpoint, is a three unit polymer of $\text{O} \quad \text{C} \quad \text{C} \quad \text{O}$.

"This compound was reported in the literature and has been made by Dow chemists by two different procedures.

"As is the case of Malonide we subjected some of Koch Glyoxylide in concentrated form to analysis. The material submitted was in water

solution and, therefore, according to expert opinion, should have been a solution of glyoxylic acid. We found, however, that the material was, in fact, a polymer consisting of a chain of carbonyl (i.e. C O groups) and that the solution contained no glyoxylic acid. In fact, the solution contained no acid of any kind. We failed to detect acid groups even with spectrum analysis.

"The Dow chemists who took part in this program testified at the Koch trial held in the Spring of 1946 in Detroit. It is significant that no rebuttal testimony was offered by the Government.

"The above information is, of course, a sketchy account of our investigation. The complete evidence is available to anyone interested. As a general conclusion I can say that in every single case where an experiment was possible the results were consistent with the views expounded by Dr. Koch. We have not as yet secured any results inconsistent with those views."

Sincerely,

J. Sheridan

In 1938 Professor Joseph Maisin, M.D., Director, Institute du Cancer, Louvain University, in his research article on his extensive studies with two of Dr. Koch's medications concluded his research paper, *"The Use of Peroxide of Diformaldehyde and Organic Unsaturated Compounds in the Treatment of Anergy and Hyperergy"*.⁴

Dr. Maisin illustrated how these medications, like catalysts or enzymes, are used most effective in extremely high (**homeopathic**) dilutions. He wrote:

"These researches have shown, as did those with experimental cancer, that only very dilute solutions were efficacious. It is necessary to use the peroxide of diformaldehyde, or the unsaturated compounds in a dilution of the order of 1×10^{-9} at least. Actually, our best results have been obtained with dilutions from 1×10^{-9} to 1×10^{-18} . These very high dilutions (1×10^{-18}) still contain several thousand molecules per cc.

"Discussion

"The results obtained are clear, and can be repeated easily by anyone wishing to do so. They are obtained with doses of extremely high dilution, which serves to prove that the active substance can act when exhibited in extremely small traces, as do catalysts, or enzymes. The injections have a lasting action, and do not often have to be repeated, which is an advantage from the patient's point of view. **The treatment is absolutely harmless.** We have given several thousand injections without the least untoward incident, except that some may have a passing malaise, due to a fall in the blood pressure. It is still too early to be able to say with certainty exactly how these substances act, but we

⁴ THE MEDICAL PRESS AND CIRCULAR, September 7, 1938, Vol. CXCVII, NO. 5183

know already with certainty that peroxide of diformaldehyde has a deep and prolonged action on the catalase of the blood.

"There is no doubt that we are dealing with new phenomena, which deserve to be carefully investigated, and whose application in therapeutics appears to us to be of interest.

"This work is not finished, but is leading us to believe that these two substances are not alike in their action. Finally, a curious fact which we have proved and one which we would stress, is the lengthy effect produced in a large number of cases, as well as the prophylactic action which we have proved the peroxide of diformaldehyde to have on benzpyrene cancer produced in white mice.

"Conclusion

"I. Peroxide of diformaldehyde and certain unsaturated compounds have a definite physiological action on the organism **when only minute traces are injected.**

"II. Their therapeutic use is indicated since they are very effective in the treatment of various infections and hyperergic states.

"III. The results obtained are better than those obtained with any other shock-producing therapeutic agents, especially from the point of view of the general health of the patient.

"Investigation carried out at the Cancer Institute at Louvain. Director, J. Maisin.

I hope that the information that I have given you will give you a good insight into the medical research of my father and to the importance his medical research has played and will play in serving the health needs of the average American.

Sincerely yours,

Paul M. Koch

PMK/I

Enclosures:

- 1) The Survival Factor In Neoplastic And Viral Diseases, William F. Koch, Ph.D., M.D., 1961;
- 2) Tetany and the Parathyroid Glands, W. F. Koch, Ph. D., Medicine and Surgery, January, 1918
- 3) McWhorter News Paper article and Affidavit.