

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. (48)

Dr. Hale wrote:

"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.

It should be noted that Inositol, which can be made by the body and intestinal bacteria, has been recognized as a component of food and was accepted as a vitamin in 1940. It should be further noted that *Dorland's Illustrated Medical Dictionary*, 23rd. (1957), p. 679, defines "Inositol" as follows:

"AcrySTALLine substance, hexahydroxycyclohexane, resembling a sugar, that is found in muscle, urine, the viscera, and various plant substances. It is a vitamin of the B complex concerned in the growth of yeast, and curative of mouse alopecia and said to inhibit tumor growth."

DOW SCIENTIST'S SUPPORT KOCH'S CHEMISTRY

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.

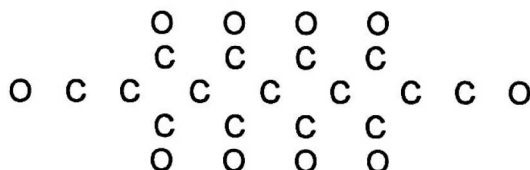
"Malonide"

"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 70 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 was 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

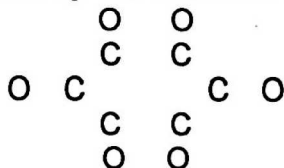
"Glyoxylide is alleged to be a polymer of the structure



"Dr. Koch has testified concerning his process of making Glyoxylide. He has described O C C 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 O C C 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 O C C O .

"The experts say that even if these compounds existed they would immediately form glyoxylic acid in contact with water (for the reason that O C C 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
O C C 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, 

Sheridan" 

J.

In 1936, Dr. Koch tried to interest the Georgia Warm Springs Foundation, Inc. in his medical research. This foundation had previously been informed about the successful results that had been obtained with the Koch treatment for polio. In response to Dr. Koch's offer to give his treatment to this foundation to treat its polio patients, he received the following March 16, 1936 letter from Mr. Michael Hoke:

"Let me thank you for sending me a copy of your reprint 'Natural Immunity.' I had heard of your investigations from other sources, especially the late Mr. Hardcastle Pennock. **Work of this kind interests me very much, though, of course, it is, strictly speaking, out of my bailiwick entirely.** I like to keep in touch with new things, and as you have further publications I hope you will be so kind as to let me have such references."

Though this Foundation did sponsor research and treatment for polio patients, Mr. Hoke and the administration of the Georgia Warm Springs Foundation showed no further interest in Dr. Koch's research. Could this lack of interest have been due to the influence of the A.M.A.? It should be noted that the Board of Trustees of the American Medical Association had become, in 1935, an advisory committee to investigate Polio treatments and was acting in this

capacity for the Georgia Warm Springs Foundation at that time.³⁰

THE FRAUD OF THE FOOD & DRUG ADMINISTRATION

The Food and Drug Administration's April 1942 legal action (above mentioned criminal indictment against Dr. William F. Koch and Koch Laboratories, Inc.) was an attack on Dr. Koch's treatment for cancer and its allied diseases based upon the misinformation of a certain editor of the J.A.M.A. and others. The first jury trial in 1943 ended after nearly 5 months of expert medical testimony by twenty five doctors and many cured patients on behalf of Dr. Koch in support of the effectiveness of his treatments. The highlights of the day to day court testimony was reported each day in the three daily news papers for everyone to read. Since the F.D.A. was unable to prove its case to the full satisfaction of the jury, at the time the trial came to an end, this jury was unable to reach a verdict and they were dismissed after a prolong deliberation of the evidence presented in court.

During the first trial, the F.D.A. did have an opportunity, and legal duty, to present to the court and jury favorable evidence in the support of the therapeutic effect of Koch's Glyoxylide in the treatment of a cancer patient. This withheld evidence, that the F.D.A. and its attorney chose to withhold from the court and jury, would have totally discredited the Government's case. This evidence that was favorable to the defense was based upon the F.D.A.'s personal investigation of one of Dr. Mantor's cancer patients, Mr. William J. Schultz, who had been diagnosed with inoperable carcinoma of the stomach by the experts at Mayo Clinic on May 24, 1941.

During the 1943 trial, the deposition of Dr. H. E. Mantor was read into evidence. He reported on the successful treatment of one of his cancer patients, Mr. William J. Schultz, of Hanover, Kansas. Mr. Schultz had a history of ulcerated carcinoma of the stomach. On May 24, 1941 an abdominal exploration operation was performed by Dr. Walters and Dr. Philip W. Brown at the Mayo Clinic. **Their final diagnosis was Carcinoma of the stomach (inoperable).** Mr. Schultz was sent home to die since there was nothing more that doctors at Mayo Clinic could do for him. On June 16, 1941 Dr. Mantor gave Mr. Schultz an injection of 12X dilution of Glyoxylide. Subsequent to his treatment with Glyoxylide, Mr. Schultz requested that Dr. Brown send a report of his diagnosis and prognosis to Dr. Mantor for his medical records. In October of 1941, Dr. Mantor received the following letter from Dr. Brown in which Dr. Brown wrote:

MAYO CLINIC
Rochester, Minnesota

October 13, 1941

Dr. H. E. Mantor
Sidney, Nebraska
Dear Dr. Mantor:

³⁰ A History of the American Medical Association 1847 to 1947, Morris Fishbein, M. D., p 422

Mr. William J. Schultz of Hanover, Kansas, asked that we send you a report, and the following is a copy of the letter which Dr. Walters wrote to Dr. Hurtig on May 28, 1941. As you will see by this report, the situation certainly looked none too favorable and it is gratifying to know that Mr. Schultz says he is feeling fairly well at this time. Both Dr. Walters and I would appreciate hearing from you if there are any additional findings in his case.

"I operated on Mr. Schultz on the twenty-sixth. There was a carcinoma forming a mass about 10 Cm. in diameter on the posterior wall in the fundic end of the stomach with invasion of the pancreas. There were several enlarged, apparently involved, nodes along the aorta. The condition was inoperable and the wound was closed as an exploration.

"Mr. Schultz withstood the exploration satisfactorily. We are very sorry, indeed, that the lesion proved to be inoperable. While we fully realized the seriousness of the patient's condition, we are disappointed that we were not able to accomplish something that would afford him at least a measure of relief."

Yours very truly,

Phillip W. Brown, M.D.

Dr. Hurtig, Mr. Schultz's doctor, had arranged for radiographs to be taken of Mr. Schultz's stomach on May 12, 1941 at the Tyler Clinic in Omaha, Nebraska. These X-rays showed the extent of the cancer condition on that date. This was just prior to the time Dr. Hurtig referred Mr. Schultz to the Mayo Clinic for medical treatment. While the first FDA trial was going on in Detroit, in the spring of 1943, the F.D.A. sent its agents to Dr. Hurtig and had him send Mr. Schultz back to the Tyler Clinic for up to date radiographs to determine the current state of his cancer condition and for a full report on his condition at that time for the F.D.A.. When these F.D.A. agents found out that Mr. Schultz was recovering from this inoperable cancer condition and that these radiographs proved the therapeutic effect of the Glyoxylide treatments, they reported this information to their F.D.A. superiors. The F.D.A. agents responsible for the prosecution of this federal criminal action in Detroit against Dr. Koch, and their federal prosecutors, jointly elected to withhold this important medical evidence from the court, the jury and from the defendants. This evidence would have clearly vindicated Dr. Koch, his research and his treatment. A vindication of Dr. Koch and his cancer research and treatment is just what the government and its co-conspirators did not want to happen. The F.D.A. wanted to win its case on fraud and it would not let anything stand in its way. The F.D.A. and its attorneys were unhappy when all of the jurors would not accept the F.D.A.'s fraud as the truth and would not find the defendants guilty of violating the new F.D.A. law.