of poor children, study of this problem was undertaken by Dr. Maria B. Mauer, associated with Dr. W. H. O. Hoffman and Dr. Wells. Experiments were devised to determine just what changes in diet will relieve this condition. These experiments were continued despite the cessation of the war because of their general significance and the results will soon be ready for publication.

Dr. W. D. Sansum took charge of Dr. Woodyatt's work during his absence in military service, conducting the diabetic clinic, teaching medical students enlisted in the medical corps, and continuing the research work of the laboratory. August 1, 1918, he was elected to Advisory Board No. 3 A, Presbyterian Hospital, and served until the close of the war. In the summer and fall of 1918, he investigated the toxicity of the various explosives: Tetryl, trinitro-meta-xytol and tetra-nitranilin. The results of this work will eventually be reported together with that of the other laboratories.

Mr. Verne Eastman, Fellow in the Institute, assisted Dr. Sansum in the work with toxic explosives.

Dr. E. J. Witzemann continued his work in the laboratory until June 1, 1918, when he received an urgent call to go to the American University Experiment Station of the Bureau of Mines, in Washington, D. C. (this station became a part of the Research Division of the Chemical Warfare Service, U. S. Army about July 1, 1918) to direct research on an important war gas which was to be manufactured on an enormous scale at once. The research results that had been turned over to the chemical engineers had been proved useless for purposes of manufacture on a large scale, and all had to be done again with the greatest possible speed. Research chemists were scarce. Twenty green chemists were broken in and set to work in a large open shed on account of the very poisonous character of the gas and its raw materials. In two weeks, by working in three shifts and in close conference with the engineer in charge, the main problem was solved. In seven more weeks all important questions relating to manufacture, stability and control of plant product had been solved, and several entirely new and cheap methods of manufacture had been developed in the laboratory. This gas is said to be the one that is frequently spoken of as having been perfected just before the armistice was signed, and since its nature and properties have not been announced by the War Department, it will not be discussed further. After completing the above, Dr. Witzemann directed research in conjunction with the same chemical engineer (Dr. J. R. Withrow, professor of Industrial and Engineering Chemistry, Ohio State University) on methods of manufacture of raw materials for a solid war gas for naval use. When the armistice was signed he was in the midst of the preparation of a comprehensive compiled report of research on the first gas problem previously submitted, and upon completion of this his resignation was approved for December 31, 1918.
On the entrance of the United States in the war the workers connected with the Sprague Laboratory of the Children’s Hospital, held themselves at the disposal of the National Research Council, itself a part of the National Council of Defense. At the request of the director of this board, they studied the influence on experimental gas bacillus infection of substances giving off oxygen more or less easily. It was thought that oxygen liberated at the seat of infection might kill the bacilli and at the same time exercise a beneficial effect on the lesions. The results showed that such was not the case. The production of antitoxic sera by Weinberg, Bull and others made a further study along the lines planned inadvisable, the more so as the negative results were in agreement with the results obtained elsewhere with oxidizing substances. This work was done in June, 1917, by Drs. S. Amberg and H. F. Helmholz with the assistance of Miss Carol Beeler and Dr. B. Rappaport.

Late in December, 1917, Dr. Reed Hunt, professor of pharmacology in Harvard University, asked Dr. Amberg to take part in the investigation of certain aspects of the “mustard gas” (dichlorellysulfide) problem. Dr. Hunt was a member of the advisory board of the gas defense service, a service conducted at that time under the U. S. Bureau of Mines. His duties included the assignment of pharmacological problems to various investigators. The problems assigned concerned the skin lesions produced by dichlorellysulfide. The work started early in January, 1918. The results were incorporated in a number of official reports transmitted at first to Dr. Hunt and by him to the board. When the gas defense service was taken over by the War Department as a branch of the Chemical Warfare Service the reports were transmitted to Capt. (later Major) H. C. Bradley, of this service.

The number of individual experiments was considerably over one thousand. The work may be outlined briefly as follows:

1. A method was devised by which lesions of like intensity could be produced at will in the rabbit. Obviously, this is a necessary prerequisite when the influence of drugs or other therapeutic measures is to be studied.

2. The method was then applied to man. In this way a basis was laid for judging the efficacy of therapeutic or protective measures in man, from the results obtained in rabbits.

3. The histological changes produced by dichlorellysulfide on the skin of rabbits were studied at various periods after exposure.

4. A large number of substances were tried for their possible therapeutic effect on the burns. Experiments which seemed to give promise in the case of rabbits were repeated on man with similar results.
5. At the special request of the board a number of ointments were tried with reference to their protective value.

6. Another phase of the problem of protection was the preparation of fabrics impenetrable to the sulfide in liquid or gaseous form and to other substances of similar character. Here very good results were obtained.

7. Several other phases of the problem were attacked, e. g., the question of eye irritation by the blister contents of the burns; the treatment of suitable burns in man by adhesive tape.

Besides the work briefly outlined above, experiments were conducted for the Committee on Industrial Poisoning in Munition Workers with a new explosive which was highly toxic. The effect of fumes given off at various degrees of temperature was studied. Here also the effect on the skin of rabbits and man was the principal subject of investigation as well as protective measures.

For the human tests in all this work only volunteers were used. Tests were made on S. Amberg, R. S. Austin, W. O. Bayard, Carol Beeler, H. F. Helmholtz, H. L. Lussky and W. B. McClure.

Connected with the work were: S. Amberg, R. S. Austin, Carol Beeler, H. F. Helmholtz, Mary E. Maver, H. O. Lussky, Katherine Mayer, W. B. McClure and L. W. Sauer.

Dr. Helmholtz's connection with work extended from the beginning to the end. In November, 1918, he was appointed Consulting Pharmacologist to the War Department.

Dr. Austin, pathologist of the Children's Memorial Hospital, who assisted in this work, left in August, 1918, having accepted a commission in the Medical Corps.

Dr. McClure, having started work on war gases in April, left for the same reason in September. Miss Beeler, who began this work in January, left in June, entering the Medical Department of the U. S. Army, and served as a bacteriologist and technician in the hospital at Camp Sherman.

Dr. Sauer, who started in April, and Dr. Lussky in March, both remained to the end, as did Miss Maver, who began her work in August.

Miss Maver was associated with the work at the Sprague Laboratory of the Children's Memorial Hospital until May, when she left for Madison, where she and Dr. Amberg joined the group of workers engaged in the investigation of problems connected with war gases. Dr. Amberg had gone to Madison in March, 1918. In July the station in Madison, hitherto under the Bureau of Mines, was transferred to the War Department and was known as the "Wisconsin Section of the Medical Division of the Chemical Warfare Service." It was in charge of Major J. A. E. Eyster, M. C., professor of physiology in the Uni-
versity of Wisconsin. Dr. Amberg became identified with this service as pharmacologist in September and Miss Maver as assistant pharmacologist in November, the appointments terminating with the end of December. At the request of Major Eyster, both continued their war work in Madison until the winding up of the station in April, 1919.

One of the main parts of the work in Madison concerned the determination of the minimal harmful dosage of certain war gases at prolonged exposures, and the recognition of the first signs of ill effect. These experiments were done on dogs. The importance of such studies, particularly with reference to the protection of the working men, need not be pointed out. Such experiments last a week and go day and night. Before the necessary number of privates reported for duty these experiments were at times quite exacting. The study of the physiological pathology and the treatment of phosgene intoxication was another of the problems of the station which required long stretches of continuous work. The protection of the skin against the burning effect of several substances in liquid and gaseous form was the subject of quite extensive experimentation. The general toxic effect of such substances when applied to the skin in liquid or gaseous form was studied, as well as the means of its prevention. The physiological pathology of several substances was determined, and finally a comparative study of the vapors of two gases was conducted. This took into consideration the minimal dosage of each required to produce lesions of the eyes in animals and to produce lesions of the skin in man and animals. Miss Maver and Dr. Amberg were among the volunteers for the human tests.

Three of the Fellows of the Institute resigned from the staff of the Children’s Hospital to enlist in the Medical Corps of the U. S. A. First Lieut. V. D. Greer, who was invalided out of service shortly after he entered; First Lieut. Benjamin Rappaport, who was assigned to duty in Camp Riley and later in Newport News; First Lieut. W. B. McClure, who was assigned to duty at Fort Sheridan.

August 1, 1919.
April 25, 1924

My dear Dr. Billings:

Pardon my delay in answering yours of April 14. I do not imagine that there is any urgent necessity for a special meeting of the Otho A. Sprague Memorial Institute to act on the modification of the contract between the Institute and the University of Chicago. I suggest therefore that we wait until the October meeting.

Very truly yours,

E.L.B:HP

Dr. Frank Billings
1550 North State Parkway
Chicago
April 55, 1938

Dr. Frank Ellings
1550 North Fifth Park
Chicago

Mr. Editor:

Please find enclosed a summary report of
April 14. I do not imagine there can be
any interest necessary for a special meeting
of the OBC from a personnel standpoint
of the Office. As a result of the construction
of the Institute and the University of
Chicago, it is suggested there should be sent
until the October meeting.

Very truly yours,

E.E.
My dear Dr. Burton:

This morning I received your letter dated April 12 with the attached proposed amendment to the contract made in October, 1921, between the University of Chicago and the Otho S. A. Sprague Memorial Institute.

The amendment as indicated in the memorandum dated March 17, A. D., 1924, has my hearty approval. Furthermore, I am of the opinion that the amendment will be approved by the Board of Trustees of the Sprague Institute.

The next regular meeting of the Board of the Institute will occur early in October, 1924. Unless there is reason for more immediate action of the Board of the Institute, I will hold the memorandum until that date when it will be presented at the October regular meeting of the Board of the Institute.

If in your opinion, the memorandum should be acted on by the Board of Trustees of the Institute at an earlier date, I will attempt to have a special meeting of the Board called. Several members of the Board of Trustees of the Institute are absent from Chicago and probably will not return until May.

Very truly yours,

[Signature]

Mr. Ernest D. Burton,
Office of the President,
The University of Chicago,
Chicago, Ill.
Mr. President:

I am happy to report that the work of the University of Chicago and the Chicago Board of Education has progressed well. The purchase of land for the University is being made in earnest. The Board of Education is now considering the appointment of a President for the University.

The Board of Education will meet in Chicago on November 15th and 16th, and the President-elect will be present at these meetings. I will report to the Board of Education the progress of the University and the work of the Chicago Board of Education.

Very truly yours,

[Signature]
April 12, 1924.

My dear Dr. Billings:

Referring to a matter concerning which we have had some previous correspondence I am enclosing herewith a proposed memorandum of agreement between the University of Chicago and the Sprague Memorial Institute which modifies the contract of October 27, 1921, by omitting the language which stipulated that the Institute should be located on the South Side of the Midway. May I inquire whether the new contract approves itself to you, and whether you are disposed to present it to the Board of the Sprague Memorial Institute for their approval?

Very truly yours,

Dr. Frank Billings,
1550 N. State Parkway,
Chicago, Ill.

EDB:CB
April 15, 1936

My dear Dr. Millikan:

Referring to a letter concerning which we have
had some previous correspondence I am enclosing a report
of Chicago and the Spence Memorial Institute which motivated
the conference of October 30. I trust this report to interest the
work of IMPRIBER that the Institute might do in food
the South Side of the Middle West. May I inquire whether
you have contact approval in Chicago and what data you have
given for presentation to the Board of the Spence Memorial
Institute for their approval?

Very truly yours,

[Signature]

Dr. Frank Millikan

1830 N. State Street

Chicago, Illinois
March 25, 1924.

My dear Mr. Fairweather:

I am handing you herewith the proposed modified form of the agreement between the University and the Sprague Memorial Institute. After conversation with Mr. Heckman I suggest the omission of the words "such location to be in connection with the Medical School of the University north of Fifty-ninth Street and west of Ellis Avenue."

It may be, of course, that the Institute will insist upon more definite language, but Mr. Heckman and I agreed it would be wise to try them on the briefer form.

May I also raise the question whether it might not be wise that the new agreement should cover all the points covered by the old contract, rather than be merely a supplement to it? Would it not be more convenient to have one document to refer to instead of two?

Very truly yours,

Mr. George O. Fairweather,
230 S. Clark St.,
Chicago, Ill.
Heretofore,

Mr. George O. Pintoza,

111 Main ST.

Chicago, Ill.

February 10, 1924.

I am writing you in connection with the proposition of the University and the State Department of Education. After consultation with Mr. Heidemann, I respect your opinion of the matter. I have had the honor of being in connection with the Teachers College of the University of Illinois. I am interested in the future of the University and the State Department of Education.

I propose to use the services of Mr. Heidemann and I have been in consultation with him. I would like to see your plans for the future of the University and to have your advice on the proposition.

Very truly yours,

Mr. George O. Pintoza,

210 Main St.,

Chicago, Ill.
March 14, 1924.

My dear Mr. Fairweather:

I enclose copy of a letter from Dr. Billings. Will you please formulate the amended agreement?

Very truly yours,

Mr. George O. Fairweather,
230 S. Clark St.,
Chicago, Ill.
March 16, 1933

My dear Mr. President,

I enclose copy of a letter from Dr. Billings. With your please tomorrow
the money I received.

Very truly yours,

Mr. George O. Pease
230 E. State St.
Chicago, III.

ED: CB
FRANK BILLINGS  
1550 NORTH STATE PARKWAY  
CHICAGO  
March 8, 1924.

Dr. Ernest D. Burton,  
Office of the President,  
The University of Chicago, Chicago.

Dear Mr. Burton:

I have your letter of March 6th in regard to a change in a paragraph of the contract which exists between the University and the Otho S. A. Sprague Institute.

I am sure the Board of Trustees of the Institute will approve a change in the paragraph as suggested by you and therefore, I think you may proceed in the formulation of the agreement to the change in the paragraph mentioned which can then be presented to the Board of Trustees of the Institute at its next meeting.

The Board of Trustees of the Sprague Institute will meet early in October, 1924.

Very truly yours,

Frank Billings
DEAR MR. BARTON:

I have your letter of March 10th in regard to a change in the personnel of the University and the Office of the President.

I am aware of the pending vote of the Institution, and I appreciate the opportunity to express my views on the matter. I have never been opposed to the consolidation of the University with the Board of Trustees, as I believe it is in the best interest of the Institution. I am opposed to the move of the Board of Trustees to the University campus and the election of new officers.

The Board of Trustees of the University is all meet again in October, 1896.

Very truly yours,
February 22, 1924.

President Ernest D. Burton,
The University of Chicago,
Chicago, Illinois.

Dear Mr. Burton:

I recommend that you write a letter to the
Trustees of the Sprague Memorial Institute, referring to the
following part of paragraph in our contract with them:

"(1) The University will furnish free of
rent the use of the ground suitable and adequate
for the hospital and laboratories above referred
to in which the Sprague Memorial Institute shall
conduct its research work, such location to be
in connection with the Medical School of the Uni-
versity between Sixtieth and Sixty-first Street
and between Woodlawn and Ellis Avenues."

saying to them that we now have in mind having the buildings on
the north side of the Midway, and asking them to take action that
any location we decide upon in the immediate vicinity of the campus
will be satisfactory to them.

I suggest that the letter be addressed to the Presi-
dent of the Board of Trustees but that it be sent to Dr. Wells,
asking him to have it handled promptly.

Yours cordially,

[Signature]
Dear Mr. Director,

I am writing to express my appreciation for the opportunity to work at the University of Texas at Austin, College of Pharmacy. I believe that my experience and qualifications make me a strong candidate for the position of Research Associate. My background in pharmacology and my experience with experimental design and data analysis have prepared me well for this role.

I am particularly interested in the opportunity to contribute to your institution's research efforts. I am confident that my contributions will be valuable to your team and to the field of pharmacy.

Thank you for considering my application. I look forward to the possibility of discussing my qualifications further.

Sincerely,
[Signature]
ANNUAL REPORT OF THE DIRECTOR TO THE TRUSTEES
OF THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE ON THE RESEARCH WORK

Kells, Secord and Long; December 20, 1925. Chemistry of Tuberculosis," was published by Williams and Wilkins. This has been favorably received by the reviewers, and it is believed that it will accomplish the same intended; to further the study of tuberculosis by presenting an accessible and condensed form a complete statement of what is now known concerning it.

We may begin our report as usual by the statement that during the year 1925 we have continued our work on the same scope and along the same lines as in the previous year, and no departure from this program is anticipated until the development of the medical work at the University of Chicago permits us to adopt a policy of centralization.

Although the necessary arrangements have been made for the development of work in psychiatry, no progress has been made in securing the funds necessary to carry out this plan. The medical program of the University of Chicago has now advanced to the point where we may begin to consider the readjustment of the work of the Institute, and this matter will be brought up for discussion, seem of possible interest.

Some work being carried out in the different centers or completed during the present year is as follows and during
We may begin our report as usual by the statement that during the year 1923 we have continued our work on the same scope and along the same lines as in the previous year, and no departure from this program is anticipated until the development of the medical work at the University of Chicago permits us to adopt a policy of centralization. Although the necessary arrangements have been made for the development of work in psychiatry, no progress has been made in securing the funds necessary to carry out this plan. The medical program of the University of Chicago has now advanced to the point where we may begin to consider the readjustment of the work of the Institute, and this matter will be brought up for discussion.

The work being carried out in the different centers or completed during the present year is as follows:
ANNUAL REPORT OF THE DIRECTOR TO THE TRUSTEES
OF THE OTO E. A. SPRAGUE MEMORIAL INSTITUTE ON THE RESEARCH WORK
DECEMBER 30, 1925

We may begin our report as usual by the statement that during the year 1925 we have continued our work on the same piece and along the same lines as in the previous year, and no departure from this program is contemplated until the development of the method as now in the possession of the University of Chicago permits us to adopt a different plan of experiment.

Although the necessary experiments have been made for the development of the method to be ready for actual work, no progress has been made in securing the funds necessary to carry out this plan.

The method to be adopted is the University of Chicago as now advanced to the point where we may begin to consider the prosecution of the work at the Institute, and this matter will be brought up for consideration.

The work being carried out in the gallbladder centers is as follows:

(Continues on next page)
University of Chicago

Early in the year a reference handbook by Doctors Wells, DeWitt and Long, entitled "The Chemistry of Tuberculosis," was published by Williams and Wilkins. This has been favorably received by the reviewers, and it is believed that it will accomplish the purpose intended; to further the study of tuberculosis by presenting in accessible and condensed form a complete statement of what is now known concerning the chemical processes in this disease and the chemical basis of treatment. Requests for permission to translate into German and French are under consideration.

At the invitation of the Board of Editors of the Scientific Monographs of the American Chemical Society, the Director has undertaken the preparation of a monograph on the Chemical Aspects of Immunity. Work is well under way and it is hoped to have the manuscript ready for publication by October first, 1924.

Dr. DeWitt continues with her study of the chemotherapy of tuberculosis, using especially the preparations made by her chemical assistants, but also other preparations of dyes and mercury compounds that seem of possible interest. Some rather distinct effects have been noted in tuberculous animals treated with certain of these mercurials, and during
University of Chicago

Earth's role in the vast as a reference handbook? Author(s) are D. W. and F. K. W. The text seems to be discussing the importance of understanding the Earth's role in the vast, and how it relates to the study of environmental processes. The author(s) are presenting their work to the reader, and the content is related to the need for better methods of treatment. They mention the importance of understanding the Earth's role in preventing and reducing the need for intervention.

At the invitation of the Board of Editors of the Scientific Monographs of the American Chemical Society, the director of the Laboratory of the Laboratory of the Laboratory of Chemistry will be presented with the Meson Theory Medal for his work.

In the opinion of October 14, 1934, it is proposed to have the Meson Theory Medal for work.

But without comment, with part of the story of the program. Dr. Charles of the University of Chicago, with special emphasis on the preparation of the manuscript, has made his own contributions to the story. The story of the manuscript contributions to the story of the program. Some other scientists, however, have been noted in the program.
the past year a repetition of these experiments has yielded a similar result. If further corroboration is obtained it would seem justifiable to begin careful clinical trials under controlled conditions.

Studies on the blood changes in tuberculous animals have given Miss Bender data which are thought to be of possible clinical value. We are planning to arrange with Dr. Sweeney of the Municipal Tuberculosis Sanitarium for a clinical study of this subject.

Dr. DeWitt's chemical assistants, Mr. Jones and Mr. Levine, are preparing various modifications of dyes of possible value in her work, including their mercurization.

An extended chemical and anatomical study has been made by Miss Maver and the Director on the influence of silica compounds on experimental tuberculosis. During recent years there has been much published in Germany on the clinical value of silica in tuberculosis, this being based largely on experimental studies which, on close examination, have seemed to us to be far from convincing. Our study of the chemistry of the tissues has shown no accumulation of silica to result in tuberculous organs from administration of silica preparations which are supposed to have this effect. No beneficial effects on the course of the disease could be obtained. The anatomical changes were found to be quite the same in treated and untreated tuberculous guineapigs, the supposed
stimulation of healing, described by German investigators, being entirely lacking. As silica has been said to have a stimulating effect on the growth of connective tissue, Dr. Jessie R. Broman compared the strength of the tendons of rabbits at stated periods after section, and found no increase in the strength of the new formed connective tissue in the animals fed silica as compared with the controls.

As pointed out in last year's report, the most evident need in the study of the chemotherapy of tuberculosis is to secure in experimental animals a form of tuberculosis resembling human tuberculosis, which usually is a re-infection in a subject already tuberculous and thereby possessed of a greater or less degree of resistance to infection. This problem has been taken up by Dr. Esmond R. Long, who is working under a grant from the National Tuberculosis Association as well as with the Institute. Dr. Long is also continuing his work on the chemical processes of the tubercle bacillus, and several studies on the nature of tuberculin have been planned.

Dr. Julian H. Lewis continues his study of the possible relation of heat to the production of stomach cancer. He is also co-operating with the Director and with Dr. Koessler on several problems in immunology. Some features of this work are virtually completed and ready for publication, and new
amelioration of pestiferous conditions of German mendicants, and the extent of their influence on the growth of congestion has been estimated through the efforts of the League of Nations. As these efforts have been made to draw attention to the extent of the problem, the nature and extent of the existing difficulties that have been encountered in the efforts to alleviate and to combat the problem, and to provide practical solutions to the problem, the report by Dr. Weiss in the League's Bulletin, "The Nature of Pestiferous Conditions of German Mendicants," has been included in this study. The report is an excellent example of the importance of practical solutions to the problem, and the efforts of the League of Nations to alleviate the conditions of German mendicants.

Dr. Weiss's report continues his study of the problem, and his conclusions are supported by the research of Dr. Assistant, who has worked closely with Dr. Weiss on several problems in immunology. Some conclusions of this work are included in this study.
problems are being investigated. Various pure proteins are being studied as time permits, and the immunological relations of some of the seed proteins are being compared with their chemical properties and composition. This work is being carried on in collaboration with Dr. D. Breese Jones of the U. S. Department of Agriculture.

Dr. Lewis is also carrying on numerous incidental studies. One is an investigation of the hereditary transmission of capacity to produce protective antibodies against bacteria, and the possibility of its experimental modification. A study of the possible influence of skin pigment of the negro on the effect of x-rays led to negative results. With Dr. Koessler a study is being made of the reaction of the bronchi to bacteria and their products, in relation to the problems of asthma. In this work a new method has been developed for the study of bronchial conditions which gives much promise of value.

Miss Slye's work continues to develop. She has now in press a paper comparing the behavior of spontaneous tumors, grafted tumors, and the tumors now being produced in many laboratories by artificial stimulation of the tissues, e.g., tar painting, parasitic infections. The various, apparently divergent findings, are brought into harmony. The work of Miss Slye has attracted widespread interest, and she and the Director have been invited to present it and its applications before many medical and scientific societies,
In this work a new method has been developed for the study of surface reactions with gases. The method involves the use of a high-frequency oscillator which provides a means of controlling the temperature of the surface. The results obtained are of great importance for the understanding of the mechanisms of adsorption and desorption. The experiments have been carried out on a variety of surfaces, including metals and semiconductors. The results show that the adsorption process is strongly influenced by the electronic properties of the surface. The work has implications for the development of new materials and technologies.
at points between and including Baltimore and Seattle. Recently they have given lectures on this subject as part of a series of lectures on heredity and genetics before the Sigma Xi societies of the Universities of Wisconsin, Minnesota, and Nebraska, Washington University and the Mayo Clinic. The Director has also published a discussion of the influence of heredity on cancer in man, correlating Miss Slye's work with the human problem.

Dr. James P. Simonds has completed an extensive study of leukemia and related diseases in Miss Slye's stock of mice. These diseases present most of the characteristic features of the corresponding human disease, upon which they may throw some light. There were about 300 such cases in 15,000 autopsies on mice. This anatomical study serves as a basis for a study of the heredity relations which are of particular interest as these conditions behave like, and are associated with cancer.

Up to the present time we have autopsy records on about 44,000 mice. Anatomical studies of most of the commoner forms of tumors have been published, but from time to time studies of the rare growths will continue to be issued. These serve to establish the relation of animal to human tumors, and constitute definite contributions to comparative pathology. Attention is called to the fact that since the outset of this
of polio between and involving different facilities and centers.

Recently there have been reports on the spread of polio to various centers, including the University of Wisconsin and the Mayo Clinic.

The doctor has also published a statement of the influence of immunity on certain men, including the Wassermann test with the human pathogen.

Drs. James E. Stimson have completed an extensive study of the immune system, particularly in the Amarillo Research Lab.

These findings present more of the characteristics of the corresponding human disease, though we do not yet know how these observations will aid in the study of immunity to polio.

Some facts, however, show the necessity of the pathologist's role in this study of the human pathogen, which is not only of practical importance but also of theoretical interest.

With careful planning, we have started to collect data on the spread of polio, and the results show promise of significant contributions to our understanding of immunity to polio.
work we have enjoyed invaluable volunteer assistance in
the microscopic preparation of Miss Slye's enormous material,
without expense to the Institute, by Miss Harriet F. Holmes,
and for the past two years by Miss Dorothy Clark. Miss
Clark does all the section cutting, while Miss Holmes attends
to the selection of material for sectioning, and the filing
of autopsy and histological material.

Dr. Koessler and his group continue their studies
of the poisonous substances derived from proteins, both in
the animal body and by bacteriological action in the test tube.
They have in the past developed accurate methods for estimating
these substances as well as fruitful methods for their
preparation, which have come into widespread use. Clinical
studies of their excretion in the urine under normal and
pathological conditions have been continued, and data obtained
which promise to be of clinical value. A report of this work
is in press, but it is being continued with the aid of
Dr. Louis Leiter at the Cook County Hospital. In last year's
report is a list of problems under investigation. It will
be seen from the list of articles ready for publication at
the end of this report that several of these problems have
been completed. New problems in the same field are now
being studied, all bearing directly or indirectly on asthma,
high blood pressure and nephritis.
The study of the effects of pressure on the brain in relation to the formation of cerebral hemorrhages and the development of cerebral edema.

It is hoped that these studies will provide a better understanding of the mechanism of these conditions and contribute to the development of more effective treatments.
Rush Medical College

Clinical work with diabetes has continued actively in both the diabetic class and the Sprague beds in the Presbyterian Hospital. About 300 patients are enrolled in the diabetic class, coming to the clinic at proper intervals in order to have their condition controlled, and, if necessary, for admission to the hospital. There now being an abundant supply of insulin on the market it is no longer necessary for us to manufacture it, even for research purposes. The presence of the research laboratory and the added funds provided by the trustees made it possible to produce a large supply of insulin of excellent quality before it was available on the market, enabling us to care for many patients who otherwise could not have received insulin when it was vitally necessary. Even at present market prices the amount of insulin produced was of much greater value than the amount expended, and at the time we were making it it was priceless.

Dr. Woodyatt's clinic has been one of the beneficiaries of the Rockefeller Institute grant for insulin treatment, so that the Sprague Institute has been relieved of much of the cost of this clinical work, except for the beds furnished.

Dr. Woodyatt has published a paper on his clinical observations on insulin treatment, and has given numerous lectures and clinics on this subject about the country.
Rush Medical College

Clinical work withuzzle and controlling evidene in
in part the specialty classes and the Esplanade Hall in the
Presbyterian Hospital. About 250 patients are enrolled in
the specialty classes, coming to the office at regular intervals.

In order to have their consultant controlable and made
necessary, for affiliation to the Hospital. There now exists
an abundant supply of patients on the market of the no longer
necessary for us to manufature it, even for research purposes.
The presence of the research laboratories and the medical
library at the University make it possible to produce a large
supply of patients of excellent quality, facilitate it was available
necessarily many of excellent quality and many of them available.

Rush Medical College has been one of the leading institutions of
Dr. Woodruffe's office has been one of the leading institutions of
the Rockefeller Institute for studies of cancer treatment. So
the presence of many institutions and the availability of many of
the cases of cases of cancer and the number of cases available.

Dr. Woodruffe has published a paper on this subject
operation on inpatient treatment and has given numerous
techniques and opinions on the subject being constantly.
Dr. Witzemann has been studying the chemical properties of insulin, with the object of determining its composition in the hope that it may be a substance capable of artificial manufacture. The amount of material present in an active solution is extremely minute. The picrate of a crude commercial preparation weighed 0.0001 gm. per unit, and this material undoubtedly was largely composed of impurities. At present there are no good clues to its real nature. In this work Dr. Witzemann has had a special assistant, Miss Laura Livahis. Dr. Witzemann is continuing his studies upon the behavior of various organic substances with sugar, as an indirect attack on the nature of insulin.

Miss Felscher has completed an extension of the earlier studies on the excretion of glucose following its injection at varying rates, to determine the disputed point whether there is or is not a sharp threshold of excretion and to establish the laws of sugar excretion in relation to blood sugar concentration.

Dr. Keeton has continued his studies on fever, but so far has not succeeded in securing the crucial evidence desired as to the dependence of fever on the state of water in the blood and tissues. Various facts of interest concerning heat regulation have, however, been developed and reported upon.
Dr. Winstemann has been studying the properties of influenza with the object of determining the composition of the virus. He has found that it may be a substance capable of a very minute amount of material present in an aqueous solution at extremely minute quantities of a substance present in water. The results of this work have been reported and published. Dr. Winstemann is continuing his studies on the preparation of various organic substances with an attack on the nature of influenza.

The paper has been accepted as an extension of the earlier studies on the interaction of influenza. The interaction of various factors, to determine the amount of exposure, and the effective range of exposure in relation to food, water, and air, is the subject of interest to Dr. Winstemann. He has developed and reported on new.
Children's Memorial Hospital

The most interesting development here has been in connection with Dr. McClure's observations on the rate of absorption of salt solution introduced intradermally. It has been found that this affords an objective method for studying the avidity of the tissues for water, and becomes a measure of existing dropsical conditions and even of a tendency to dropsy which is not yet developed. Many important clinical applications have appeared and we have every reason to hope that it will be an important contribution to medical practice. A preliminary report has been published on this work, and a paper on the prognostic value in nephritis is ready for publication. Drs. Aldrich and Swartz are associated in this work, and a volunteer worker, Mr. W. J. Baker, is using the test in cases of acute contagious diseases, especially scarlet fever, at the Durand Hospital.

Dr. McClure is also continuing to obtain data, as suitable cases present themselves, on the value of simultaneous chest and abdominal respiratory tracings in health and disease, with special reference to cases of chorea, pneumonia, appendicitis, and pneumonia simulating appendicitis.

Dr. Sauer has completed an exhaustive review and analysis of the literature on hypertrophic pyloric stenosis, a serious condition of obstruction to the outflow of food from the stomach in infants, and has carried out an anatomical study which clears up a matter formerly under dispute. The method
Carthage Memorial Hospital

The most interesting development here has been in connection with Dr. McQuade's operation on the knee of a patient suffering from a type of arthritis that has been a subject of interest and study for years. The operation involved the removal of a small piece of bone, and it was a successful operation. Dr. McQuade has been devoting a great deal of time to the study of arthritis, and we have many reasons to hope that this operation will be an important contribution to medical practice.

A preliminary report has been published on this work, and a detailed account of the procedure will be published in the near future.

The results have been encouraging to date, and further work is expected to yield more significant results.

Dr. McQuade is also continuing his efforts to apply these findings to practical medicine and surgery. He has been engaging in research to improve the methods of diagnosis and treatment of arthritis, and his work is expected to provide valuable contributions.
of non-operative treatment of these cases by feeding thick farina, devised at the Children's Memorial Hospital by Dr. Sauer, has found wide use with much success, recent foreign as well as American writers having reported excellent results in large numbers of cases.

Dr. W. C. Burket is engaged in a study of a further improvement in the methods of intestinal union by operation. He now has worked out an improved method without any mechanical aids, and is engaged in perfecting this technic.

Dr. L. R. Critchfield has begun a study of cases of chorea (St. Vitus's dance), seeking to determine the presence of bacteria in the spinal fluid, and the behavior of bacteria obtained from chorea cases, with particular reference to their relation to this disease.

The study of the clinical value of the ratio of the size of the heart and chest in heart disease in children, begun two years ago, is being continued by various members of the staff. Occasional other problems are being undertaken by volunteers who wish to avail themselves of the opportunities of the hospital and the laboratory.

The work published or completed during the year 1923 is given by titles on the following pages.

Respectfully submitted,

DIRECTOR.
Of non-operative treatment of cases of leukaemia.

Dr. C. E. Kantor, in a study of a recent

Dr. H. E. Smith, for the Gentile's Memorial Hospital,

for young with much success, recent

treatment as well as American having reported excellent

effects in large numbers of cases.

Dr. W. G. Parker, a study of a group of a similar

The improvement in the treatment of leukaemia's number of patients.

He now has further and an improved method without any complications.

his, and his success in treating with this technique.

Dr. F. H. Gifford, a study of a group of cases

on account of their disease, seeking to determine the presence

of processes in the epithelial lining and the presence of processes

on processes in the epithelial lining with particular reference to their

transition to the disease.

The study of the ability alone of the extent of the

size of the heart and area in heart disease in all patients.

two years she is taking continuing in various members of the

special attention to any group of a variety of the opportunities

at the patients and the hospital.

The work completed or completed during the year 1928.

The given in figure on the following page.

Respectfully submitted,

DIRECTOR.
Articles published in 1923

1. The Alimentary Absorption of Calcium and its Deposition in the Tissues in Experimental Tuberculosis. Studies on the Biochemistry and Chemotherapy of Tuberculosis XXIV.

Mary E. Mayer and H. Gideon Wells
American Review of Tuberculosis.

2. Tissue Changes Produced by the Action of the Lipins of Tubercle, Grass and Colon Bacilli and of Liver. Studies on the Biochemistry and Chemotherapy of Tuberculosis XXV.

Leighton W. Ray and James S. Shipman
American Review of Tuberculosis.

3. Fat-Splitting Ferments in Lymphocytes. Studies on the Biochemistry and Chemotherapy of Tuberculosis XXVI.

Clarence C. Reed
American Review of Tuberculosis.


Lauretta Bender and Lydia M. DeWitt
American Review of Tuberculosis.

5. The Therapeutic and Bactericidal Value of Organic Mercurial Compounds in Experimental Tuberculosis in Guinea Pigs. Studies on the Biochemistry and Chemotherapy of Tuberculosis. XXVIII.

Lydia M. DeWitt
American Review of Tuberculosis.
Articles published in 1935:

1. The Alimentary Vascularization of Celullum and the Preparation of the Tissues in Experimental Transplantations. Studies on the Physiology and Chemistry of Transplants. XVIII.

Maurice E. Weaver and H. Valentine Wells
American Review of Tuberculosis.

2. Intravenous Production of the Action of the Lipins on Tuberous, Green and Cohn Bectnitt and of Liver Extracts on the Physiological and Chemical Properties of Tuberous Vaccinia.

Lefroy M. F. and James E. Kibbe
American Review of Tuberculosis.


Clarence C. Reay
American Review of Tuberculosis.


Charles C. Bennett and Lytle M. Detwiler
American Review of Tuberculosis.

5. The Therapeutic and Prophylactic Value of Organic Mercury Compounds in Experimental Tuberculosis in Guinea Pig. Studies on the Physiology and Chemistry of Tuberous Vaccinia.

XXVIII.

Lytle M. Detwiler
American Review of Tuberculosis.
6. Chemical Evidence on the Phylogenetic Classification of the Tubercle Bacillus. The Plant or Animal Question.
   Esmond R. Long
   American Review of Tuberculosis.

7. Relation of Clinical to Necropsy Diagnosis in Cancer and Value of Existing Cancer Statistics.
   H. Gideon Wells
   Journal of the American Medical Association.

8. The Influence of Heredity on the Occurrence of Cancer.
   H. Gideon Wells
   Journal of the American Medical Association.

9. The Clinical Use of Insulin.
   R. T. Woodyatt
   Journal of Metabolic Research.

10. The Action of Proteolytic Enzymes upon Insulin.
    E. J. Witzemann and Laura Livshis
    Journal of Biological Chemistry.

    William B. McClure and C. A. Aldrich
    Journal of the American Medical Association.

12. Experimental Studies on Inflammation. II. Experimental Chemical Inflammation in Vivo.
    Elizabeth Pauline Wolf
    Journal of Experimental Medicine.

    Frederick H. Falls
    Journal of the American Medical Association.
I. Experimental Evidence on the Physiological Classification of

II. The Tuberose Penicillium. The Plant or Animal Question

A. Recent A. Korean

American Review of Tuberculosis

B. Relation of Ciliary to Neoplastic Processes in Cancer

and Value of Existing Cancer Sections

H. Gibson Willia

Journal of The American Medical Association

C. The Influence of Nerve Graft on Tumors of Cancer

H. Gibson Willia

Journal of The American Medical Association

D. The Clinical Use of Insulin

R. T. Woodruff

Journal of Metabolic Research

E. The Action of Prolonged Exposure upon Insulin

R. T. Woodruff and Frank Hoffer

Journal of Biological Chemistry

F. Some Remarks on Disappearance of Inhibitory Intestine

G. Preliminary Report on Operation with

Special Reference to Cases of Ectopic

W. M. E. MacGregor and C. A. Aitken

Journal of the American Medical Association

H. Experiment "Studie on Inheritance. II. Experimental

Cerebral Inflammation in Vivo"

E. Experimental Penicillium Willi

Journal of Experimental Medicine

I. Blood Transfusion by the Cattle Method in Hemorhage

Of the New- born

Preservation and"
Papers in press

1. The Solubility of Coagulated Proteins as Determined by Immunological Methods.
   H. Gideon Wells and Julian H. Lewis.

   Lauretta Bender.

3. The Fundamental Harmonies and Differences between Spontaneous and Experimentally Produced Neoplasms.
   Maud Slye.

4. Leukemia and Related Diseases in Mice.
   J. P. Simonds and Maud Slye.

5. Primary Spontaneous Tumors of the Uterus in Mice with a Review of the Comparative Pathology of Uterine Neoplasms.
   Maud Slye, Harriet F. Holmes and H. Gideon Wells.

6. The Influence of Silica Compounds on Experimental Tuberculosis.
   Mary E. Mauer and H. Gideon Wells.

7. The Influence of Silica on the Strength of Newly Formed Connective Tissue.
   Jessie Roberts Broman.

   Lyman Chalkley.
Papers in press

1. The Complement of Carbohydrate Proteins as Determined by Immunoelectrophoretic Methods
   H. Glaesen, G. Telle and J. Telle

2. Nutritive Potent in the Blood of Guinea Pigs
   L. Semmler-Bender

3. The Fundamental Importance of Differences Between Sensitiveness and Experiments by Phenol and Phenol Naphthol Methyl Ester
   A. Penneman and Related Differences in Tissue

4. Echinacea and Related Differences in Tissue

5. Primary Sensitiveness Tumors of the Urethra in Men with a Review of the Comparative Pathology of Urethral Neoplasms
   M. Glaesen, G. Telle and H. Glaesen, G. Telle

6. The Influence of Tissue Components on Experimental Tumours

7. The Influence of Bilirubin on the Activities of Neurone

8. The Metabolism of Melanophore Cells

Joseph Carpenter
9. The Influence of Ammonium Hydroxide and other Alkalies on Insulin.

E. J. Witzemann and Laura Livshis.

10. Testicle Reinfection in Experimental Tuberculosis and the Testicle Tuberculin Reaction.

E. R. Long.

11. The Testicle as an Indicator of Anaphylaxis in Hypersensitive Animals.

E. R. Long and Mac H. Seyfarth.


H. Gideon Wells.


E. J. Witzemann.
The Influence of Ammonium Hydroxide and other Affinities on Insecta.

R. W. Winnemuth and Laura Yool.

To Tectole Retention and Experimented Implications and the Tectole Tectoral Retention, R. W. Winnemuth and Laura Yool.

F. R. Port.

The Tectole as an Indicator of Anaphylaxis or Hypo-

sentitive Animals.

F. R. Port and Wm. H. Keeler.

F. R. Port and E. H. Fulmer.

F. R. Port.

The Action of Glaucine upon Glucose in the Presence

and Absence of Oxygen.

E. J. Winnemuth.
Papers ready for Press

1. The Excretion of Imidazoles in the Urine under Normal and Pathological Conditions with Special Consideration of Nephritis.
   Karl K. Koessler and M. Th. Hanke.

2. On the Faculty of Normal Intestinal Bacteria to Form Putrefactive Amines.

3. On the Production of Histamine, Tyramine and Phenol in a Common Laboratory Medium by Certain Intestinal Microorganisms.

4. On the Factors Involved in the Production of Phenol by Microorganisms of the Colon Group.

5. On the Presence of Histamine in the Normal Mammalian Organisms.

6. On the Action and Fate of Histamine Following Oral Administration.

7. The Intradermal Salt Solution Test. Its Value as a Prognostic Aid in Nephrosis and Nephritis.
   C. A. Aldrich and Wm. E. McClure.
   L. W. Sauer.

   M. G. Frank.

10. Continuous Intravenous Injections of Glucose at Lower Rates.
    Hannah M.Felsher and R. T. Woodyatt.

11. The Question of a Sharply Definable Glucose Tolerance Rate.
    Hannah M. Felsher and R. T. Woodyatt.
6. Studies in Hypertrophic Phlyctaenae
   L. W. Bantel

9. Mercury Derivatives of Methylene Blue
   M. G. Pilkington

10. Continuous Intravenous Infusion of Glucose at Lower Rates

References

Hannan, M. Oates and R. T. Woodhall

97. The Question of a Specialist Delimitation of Disease Tolerance

References

Hannan, M. Oates and R. T. Woodhall
Chicago, July 13, 1916.

President Harry P. Judson,
Hotel Manoir Richelieu,

My dear President Judson:

Mr. Glessner has just written, saying that he has been notified by Mr. Sprague that the contract between Rush Medical College and the Sprague Memorial Institute expires next February, and that if the contract is not to be renewed, the officers of Sprague Institute desire to effect some other arrangement. The Trustees of Rush Medical College adjourned, not to meet again until September 26.

I presume this will be time enough to consider the renewal of the contract. If, however, Mr. Sprague insists that action should be taken sooner, Mr. Glessner may instruct me to call a meeting of the Trustees at an earlier date.

I am wondering if in the light of possible new
OFFICERS, JULY 15, 1926.

President, Dr. J. A. Jocson
Honor Secretary, Mr. McNellie
Walter St. P. E. Gym

My dear President Jackson,

Mr. Greenstreet has just written me saying that he

has been notified by Mr. Spurgeon that the contract

between Knox Medical College and the Spurgeon
Nursing Home expires on December 31, 1926. He has

also informed me that the Trustees of Knox Medical College

indicated that they cannot meet again until September 26.

I presume this will be a matter of conference

the Trustees at the contract. If, however, Mr.

Spurgeon touches that section again as he seems to,

Mr. Greenstreet may instruct me to call a meeting of the

Trustees of as earliest date.

I am wondering if in the light of the above new
arrangements in regard to Medicine, you would
advise the renewal of this five-year contract with
the Sprague Institute.

The minutes of the July 11th Board meeting are
being mailed to you. I omitted two or three recom-
mendations which you made, as they had been acted
on at previous meetings. This statement refers
particularly to the appointments in the School of
Commerce and Administration.

Sincerely yours, J. D. Rockefeller
Attention please. In regard to registration, you would require the renewal of your five-year contract with the Syracuse Institute.

The minutes of the July 15th Board meeting will be of particular interest to you. In discussing two of these items, recommendations which you make as they have been offered on or previous meetings. The statement letter pertaining to the opportunities in the School of Commerce and Administration.

Sincerely,

[Signature]
pushed as rapidly as the Annual Report of the disease permits. Most efficient of the compounds studied thus far is that of the Director to the Trustees on the Investigative Work of mercury metaphosphoric acid, and the NaCl salt of methylmercury, and the attempt is being made to reduce the toxicity and increase the efficiency of these compounds Dec. 22, 1916.

The Otho S. A. Sprague Memorial Institute

Since Koch's early experiments gold salts have been reputed to have a particular efficiency in tuberculocidal and therapeutic action. His statement that soluble gold salts have
dilutions of 1-2,000,000 gold cyanide, but the bactericidal

The year 1916 has been characterized chiefly by the
as unusually high mortality in tuberculosis. The development of work already under way rather than by new lines
then been confirmed, Dr. DeWitt obtaining complete inhibition with
of investigation.

At the University of Chicago our chief work has been,
never was not correspondingly high. Certain claims for a spot
as formerly, the study of the chemistry and chemotherapy of
critically important outlines of monotherapy in tuberculosis

tuberculosis. Dr. DeWitt has now associated with her in this
having been made, this compound was manufactured for us by Mr.
work a full time chemist, Mr. Sidney Cadwell, and a bacterio-
development, but it has been found ineffective so far. Indeed, often
logical assistant, Dr. Binzi Suyenaga. Miss Hope Sherman, former
bactericidal gold salts seem to increase the rate and extent of com-
part time assistant has resigned to take another position. Dr.
development of the tuberculocidal.

H. J. Corper continues his association with the Institute while
in attempting to fill the gap through the direction of the laboratories of the Municipal Tuberculosis San-
diary. On which work vigilance was set in detecting gold granu-
tarium. The work at present concerns chiefly the bactericidal
activity in small amounts in animal tissues, and are bactericidal
and therapeutic action of various metallic compounds, continu-
and Mr. Cadwell have succeeded only after much work in devising
our general plan of work. It will be recalled that in the
a satisfactory method. If continued use establishes the relief-
past we have reported on work with compounds of arsenic, tin,
utility of this method it will be published.
selenium, tellurium, mercury, and especially copper, all with
results that were practically negative, except for certain of
in tuberculosis the study of iodin and compounds has been con-
the mercury compounds. With some of these, marked inhibition
continued, but so far only one has been found which seems to prolong
of tuberculosis in animals has been obtained, which has encouraged
life, and even this did not stop the progress of the tuberculosis.

further development of the leads thus opened, and which is being
The development of the National Geographic Society's International Work is still not complete, but a number of significant advances have been made.

The Society's International Work is a reflection of the society's commitment to scientific exploration and education. It is supported by a dedicated team of experts, including scientists, scholars, and educators, who work tirelessly to promote scientific inquiry and cultural exchange around the world.

The International Work is divided into several key areas, each focusing on a specific aspect of scientific exploration. These areas include biodiversity, conservation, and education. Each area is supported by a dedicated team of experts, working closely with local partners to ensure the success of their projects.

The Society's International Work is also supported by a network of regional offices, which provide local support and coordination for the society's activities. These offices are staffed by dedicated staff members who work closely with local partners to ensure the success of their projects.

In conclusion, the Society's International Work is a critical component of the society's mission to promote scientific inquiry and cultural exchange around the world. With the support of dedicated staff members and local partners, the Society continues to make significant advances in this important area of its work.
pushed as rapidly as the chronic character of the disease permits. Most efficient of the compounds studied thus far is mercury nucleide and the HgCl₂ salt of methylene blue, and the attempt is being made to reduce the toxicity and increase the efficiency of these compounds according to recognized principles. Since Koch's early experiments gold salts have been reputed to have a particular efficiency in tuberculocidal and therapeutic action. His statement that soluble gold salts have an unusually high inhibitory action on tubercle bacilli has been confirmed, Dr. Dewitt obtaining complete inhibition with dilutions of 1 - 2,000,000 gold cyanide, but the bactericidal power was not correspondingly high. Certain claims for a specific curative action of gold cantharidinate in tuberculosis having been made, this compound was manufactured for us by Mr. Larsen, but it has been found ineffective so far. Indeed, often times gold salts seem to increase the rate and extent of development of the tuberculosis.

In attempting to follow the gold through the tuberculous animals much difficulty was met in detecting gold quantitatively in small amounts in animal tissues, and Mr. Christman and Mr. Cadwell have succeeded only after much work in devising a satisfactory method. If continued use establishes the reliability of this method it will be published.

Because of the general reputation of iodin compounds in tuberculosis the study of iodin dye compounds has been continued, but so far only one has been found which seemed to prolong life, and even this did not stop the progress of the tuberculosis.
Now, more attention is being paid to the comprehensive study of the economy and its various aspects, with a focus on the development of a coherent and comprehensive plan. The recent move to introduce new technologies and the expansion of the manufacturing sector have been identified as key components of this plan.

As a result, the government has outlined a series of initiatives designed to promote economic growth and development. These initiatives include investments in infrastructure, the development of new industries, and the promotion of small and medium-sized enterprises. The government has also introduced tax incentives and other measures to encourage private investment.

In addition, the government has been working to improve the education and training system, with the aim of preparing a skilled workforce that can meet the demands of the modern economy. This includes investments in vocational training programs and the development of new curricula that focus on the latest technologies and industry trends.

The government has also been focusing on the environment, with a commitment to reducing pollution and promoting sustainable development. This includes initiatives to improve air and water quality, as well as efforts to promote renewable energy sources and the development of new technologies that can help to reduce emissions.

Overall, the government is committed to creating a strong and prosperous economy that can support the needs of its citizens, while also being able to compete in the global marketplace. With the right policies and investments, the government believes that it is possible to achieve this goal and create a better future for everyone.
This lead is, however, being followed. Miscellaneous investigations in this field include a study of the action of chaulmoogra oil on tuberculous animals; a study of the production of tuberculosis by inhalation in an attempt to get a pulmonary disease more similar to that of man, and a study of immunization of very young animals with killed bacilli. And prevention of certain. As guaicol and cresote derivatives have enjoyed perhaps the largest reputation for therapeutic value in tuberculosis we are attempting to learn if there is any real basis for this reputation, and if so, to develop any leads that may be found. The director has made an extensive study of the literature of this field, and has found that there exists practically no reliable experimental work on the bactericidal and therapeutic action of this important class of substances, although there are many facts that indicate the desirability of further knowledge concerning them. We have therefore begun a systematic study of the properties of the simplest members of this series, with the object of developing on the foundation thus laid a progressively study of the derivatives of these compounds. A few isolated and brilliant studies, notably those of Ehrlich and Bechqold, indicate the possibility of valuable results following sound scientific studies of the cresote derivatives. With the slow-growing tubercle bacillus and the chronic tuberculous lesions as our sole indicators of results, the work necessarily progresses slowly and a long campaign must be anticipated. Dr. Suyenaga is helping particularly in this work. With his aid I am also studying the possibility of securing strains of tubercle bacilli selectively localizing in different tissues. I have also completed
The text on the page is not legible due to the quality of the image. It appears to be a page from a document, possibly related to educational or scientific content, given the style of the text. However, due to the lack of clarity, a natural text representation cannot be accurately transcribed.
a study of the uric acid destruction which indicates complete inability of the human organism to destroy uric acid. At present I am particularly engaged in preparing a new edition of my book on Chemical Pathology.

Mr. Geo. T. Caldwell and Mr. H. L. Huber have completed an experimental study of the cause and prevention of certain serious complications of orthopedic operations, and have established facts and methods which we believe will be of much practical value in surgical procedure.

Mr. Huber is continuing his studies of the toxicology and pharmacology of the copper salts of amino acids, which so far seem to show surprisingly little difference from the organic salts. Mr. Caldwell has done a little more work on the chemical composition of tuberculous tissues, and plans to complete this work during the coming year.

Dr. Edwin F. Hirsch has completed and published a study of the amount of dust and soot in Chicago lungs with the particular object of securing a method to demonstrate graphically for public health exhibition purposes, the amount of such material in the ordinary individual's lungs. The preparations thus exhibited are very striking and emphasize the large quantity of foreign matter that we all retain in our lungs and its possibilities for harm.

At the request of Prof. J. R. Angell, the director is for quantitative estimation of one of these substances in high assisting Mrs. Ada Arlitt with the pathological part of her studies on the influence of parental alcoholism on the psychological growth of the offspring. With such a methodology of the offspring, and some financial assistance has also been given this work. Stockard showed that the offspring of alcoholic animals were much below par physically. Mrs. Arlitt
has found an equally marked influence on the psychological development of the offspring, using as subjects white rats, in these animals having been thoroughly standardized both physically and psychologically. Her results are very striking and apparently of much significance. Many more observations in her studies. One of the Fellows in Pathology, Mr. Alvin Foord, which is working in conjunction with our staff on a systematic study of the nature of the influence of cold upon infectious disease, applying new methods to the study of a fact that has received much more attention in the past than of late. Of thousands of observations, an important enlargement of our staff and the scope of our studies has been made this year by the addition of Dr. Karl Koessler and Dr. J. M. Retinger, who have undertaken an exhaustive study of the poisonous substances derived from proteins, from both the chemical and the clinical standpoint.

Dr. Retinger is a Ph. D. in chemistry from Leipzig, who is giving his entire time to the work, and Dr. Koessler is giving one half his time to research, aided also by Prof. F. C. Koch of the Department of Physiological Chemistry. The particular point first under consideration is whether or not bacteria are able to produce these highly toxic substances, and the division of such poisons may play in human disease. A necessary preliminary to this study is the perfection of a reliable method for quantitative estimation of one of these substances in high dilutions, and this part of the work seems to have been accomplished by Drs. Koessler and Koch. With such a method available it will be possible to ascertain the occurrence and importance of this poison in human disease, and already a few such observations have been made. Dr. Retinger has so far
One of the problems is research. In a research, in a scientific study, one often asks, in the beginning of a project, what are the objectives? What are the questions to be answered? How will the research be conducted? What are the expected outcomes? These are the fundamental questions that need to be addressed.

In the context of this research, the objectives are:

1. To develop a new methodology for analyzing data.
2. To test the effectiveness of the new methodology.
3. To compare the results with existing methods.

The research will be conducted through a series of experiments, and the expected outcomes are:

- Improved accuracy of data analysis.
- Increased efficiency in data processing.
- Identification of new patterns and trends.

The research will be conducted in collaboration with experts in the field, and the results will be disseminated through publications and presentations at conferences.

In conclusion, the research project is well-defined, and the objectives are clear. The methodology is robust, and the expected outcomes are promising. The research will contribute significantly to the field of data analysis.

The importance of this research cannot be overstated. It will provide valuable insights into the data, and the findings will have a direct impact on the decision-making process. The results will be used to improve policies and strategies, and the impact will be felt across various sectors.

In summary, the research is a significant endeavor, and the outcomes will be beneficial. The objectives are clear, the methodology is robust, and the expected outcomes are promising. The research will contribute significantly to the field of data analysis, and the results will have a direct impact on decision-making processes.
been occupied in preparing the substances necessary for these studies, and he has also completed an earlier study on certain color reactions.

Miss Slye's work in cancer is continuing favorably in its new quarters, and she has added many more observations to her studies on the influence of heredity on cancer, some of which have been presented before the Cancer Research Society and prepared for publication. To illustrate the success and magnitude of her work the following observations may be cited: The entire literature on mouse cancer, comprising hundreds of thousands of observations in various laboratories, records but one instance of primary spontaneous tumor in the liver. Having an instance of such a tumor in one of the early ancestors in her stock, by selective breeding Miss Slye has produced already some 65 mice with primary liver tumor, although no mice outside this strain have ever shown such a tumor. Such figures are of course far beyond the possibilities of chance, and are convincing proof of the possibility of breeding for tumor, and for tumor of a single organ. A study of the typical connective tissue tumors of the mice has been completed by Miss Holmes and the director, which yielded numerous interesting observations, including especially the existence of one strain of mice in which wounds received on the surface of the body frequently result in cancer formation.

The total number of unimpeachable tumors in this study, is many times larger than the total observations reported previously in the entire literature of the subject.

In last year's report was published a program of the work contemplated by Miss Slye, and this being followed as there indicated.
mechanism and control of water output, temperature regulation and fever, diabetes and related disorders, and therapeutic and experimental dehydration. The possibility of washing out poisons of various sorts by this method is being studied. With metallic poisons it does not seem to be possible to remove much of the poison, and the fatal dose is not reduced. With diphtheria toxin more encouraging results are being obtained, and other bacterial poisons will be studied. During the past year Dr. Woodyatt was a Harvey Society lecturer and presented part of his work before this organization. Several papers dealing with the work of his laboratory are in preparation or in press.

Dr. Witzemann is continuing his studies of the chemistry of oxidation of sugar and related substances. He also has made a number of observations on fundamental principles of colloidal chemistry and physical chemistry which will be published shortly in a series of papers. We are encouraging him to continue his work in pure chemistry, which he finds, while in an atmosphere of biological and clinical investigation, to have many illuminating bearings on the latter fields. He functions as a mental stimulator and chemical advisor to the other members of the staff.

Dr. George Coleman has been engaged in revising and tabulating the data obtained by Dr. Billings and his associates in the study of over 500 cases of joint disease, in which have been used bacteriological and serological methods of study and treatment. After the present condition of these patients has been ascertained as fully as possible the material will be prepared for publication. Dr. Coleman is also studying the possibilities of modifying the tissue or organ affinities of bacteria by growing them upon the various tissues. Dr. Gaarde
(Dane Billings Fellow), who has assisted in this work, is now carrying on under the direction of Dr. Billings, an investigation of the bactericidal action of arsenic compounds that seem to offer possibilities for use in the treatment of certain infectious diseases, especially acute forms of diseases of the heart.

Children's Memorial Hospital.

The work here has been greatly facilitated by the increased quarters furnished by Dr. Jones, which have enabled us to utilize the original laboratory solely for chemical investigations under the direction of Dr. Amber, while the new laboratory is equipped for bacteriological studies under Dr. Helmholtz. Each laboratory has a full time assistant, and the residents, fellows and volunteers work in each laboratory according to the nature of their problems. During the present year the resident physicians have been changed, the new residents being Dr. David Greer, Rush, 1913, formerly an interne in the Cook County Hospital and a Fellow in Pediatrics in Wesley Hospital, and Dr. Benjamin Rappaport, M. D. Rush 1915, formerly an interne in the Durand Hospital. Dr. L. W. Sauer has resigned his fellowship, and his place has been taken by Dr. W. B. McClure who was with us as Resident for two years, and who has spent a year in the Pediatric department at the University of Iowa. Dr. Sauer continues his work with us as a voluntary assistant.

In view of the general policy followed at the Children's Hospital of investigating possible applications to pediatrics of the new developments in general medicine, numerous more or
less diverse lines of work have been undertaken. Dr. Amberger has continued his investigations of the influence of oxygenic and oxidizing agents on inflammatory processes, and with Missing Mavor is attempting to find a method for the study of the general oxidation capacity of the body that may be applicable both for clinically and experimentally. Dr. Minsk has completed a study on the chemistry of the blood of wasted infants which disclosed facts of interest to our knowledge of that condition. Studies on the cause and management of persistent vomiting in children are also being carried on by Dr. Amberger, as also to carry out some experiments. Dr. Greer is investigating the skin reactions of eczematous and normal children to food materials that might possibly be the cause of skin eruptions, in order to determine whether this sensitive condition of the skin depends on the effect of these foods or is a simple hypersensitiveness of the skin to all injuries and foreign substances. Maintaining a maximum blood content Dr. Helmholtz and Miss Beeler are studying the bacteriology of the urine and urinary tract of children, both well and ill, especially in those with disease of the bladder and kidney. Their work in this field is disclosing facts of much importance for our knowledge of these diseases, and the foundations have been laid for extensive further advances. This work is being extended and experimental production of similar diseases in animals is being undertaken both to ascertain the conditions that determine these infections and to provide material for therapeutic study. The influence of the composition of the urine on the growth of bacilli has also been studied, with the object of learning the possible therapeutic value of modifying the composition. Dr. Rappaport is studying the excretion of bactericidal substances in the urine and their influence upon urinary
bacteria under different conditions of concentration and reaction. Drs. Helmholtz and Hoffmann have made and published an analysis of the mortality in the Infant Welfare Stations during 1915, showing the conditions that relate to the infantile mortality of the city.

Drs. McClure and Sauer are completing their studies on insensible perspiration, a part of their work on the laws and regulation of heat loss in infants.

It is hoped to apply the intravenous injection method of Dr. Woodyatt whenever suitable in feeding and treatment of infants, particularly the malnutrition cases, and also to carry out some experimental investigations. One line of experimental work that is planned concerns the possible value of injecting drugs into the veins at a constant rate for long periods of time, which have decided advantages in some conditions and with some drugs. As the time element is very important in the bactericidal action of drugs we hope to determine if maintaining a maximum blood content of selected agents will have a more marked bactericidal effect than the usual methods of administration.

The study of exact methods of determining the water content of the body in clinical work has been continued, and their potential usefulness in favorable cases established. Dr. Schwartz has published a paper dealing with the general features of its use, assisted by Miss Naylor.

Drs. McKenna and Lawson are using the facilities of the laboratory to conduct experiments on methods of securing regeneration or transplantation of joints.
Reorganization and rearrangement have made any further public assess difficult. Therefore, the efforts must be directed to the internal structure and evaluation of the organization to the fullest extent possible. The committee now reports to the reorganization committee on the following:

1. The necessity and extent of comprehensive chart review and
2. The importance of comprehensive chart review

The necessity and extent of comprehensive chart review

In order to ensure the importance of comprehensive chart review of the medical and surgical chart, it is important to develop and maintain a comprehensive chart review

The importance of comprehensive chart review

It is important to develop and maintain a comprehensive chart review system that is comprehensive, accurate, and thorough. This system will ensure the accuracy and reliability of the information contained in the chart, thereby improving patient care and outcomes. The comprehensive chart review system will also serve as a valuable resource for medical professionals, allowing them to make informed decisions based on the most current and accurate information available.
Miscellaneous Activities.

Dr. J. J. Moore has published an extensive study of the immunological reactions of Hodgkin's disease, undertaken to complement the clinical and laboratory studies of Dr. Billings. Horses were successfully immunized to the bacteria obtained in this disease but their serum, even when concentrated, had no demonstrable clinical value in the disease, and it was also used to prepare vaccines without significant results. He has also studied other features of this disease. While engaged in work for the Institute, Dr. Moore was also associated with Drs. Jackson and Moody in the study of experimental scurvy in guinea pigs.

Two years ago a Fellowship in Obstetrics was established to be held by a Resident Physician in the Chicago Lying-in Hospital, but because of the failure to complete the main building of this hospital it has been impossible to install the research Fellowship. Funds have now been obtained for the completion of the hospital, and it is hoped that research work may be begun during the present year.

New Developments.

Through the liberality of the Board of Administration of the State of Illinois, the clinical opportunities of the Chicago State Hospital at Dunning have been offered to the Sprague Institute for the purpose of investigation of dementia precox. Also a splendidly constructed and designed building, 100 x 40 feet, has been offered us for laboratory and clinical purposes. A contract has been drawn permitting us to occupy
The 7.7 Howe gun produced an excellent shot at the target of a 100 ft. long, 7.7 mm gun, and the gun proved exceptionally accurate. The gun was mounted on a pedestal which provided a stable platform for firing. The pedestal allowed for easy adjustment of the gun's elevation and traverse. The gun was easily maneuvered, and the gunner had excellent visibility of the target. The gun was well constructed, with a robust and durable design. The gun proved to be an efficient and effective weapon for the purposes for which it was intended.
material of the Hospital to the fullest extent. Friends of the Institute have offered to advance funds to equip the laboratory and maintain research work on dementia precox until such time as further funds become available for this purpose from the endowment of the Institute. In order that the work might have expert and disinterested counsel an advisory committee was formed, consisting of Dr. W. T. Councilmann, of Harvard University, Dr. August Hoch, Director of the Psychopathic Institute of New York, and Dr. L. F. Barker, of Johns Hopkins Medical School, who have kindly agreed to visit Chicago for the purpose of supervising and advising once each year. We have felt that it is peculiarly appropriate that the Sprague Institute should investigate this disease despite the obvious difficulties of the problem and the great uncertainty of early tangible results, especially because the character of the organization and the work and interests of the staff of the Institute are such as to provide a broad biological and medical basis for its study, entirely different from that necessarily obtaining in psychiatric institutes where this disease has been chiefly studied. New lines and methods of attack may be expected to result from a new direction of approach and a different equipment of the investigators.

Realizing that the most vital point in the success of this enterprise is the equipment and the character of its leader, the director has, for nearly a year, given much of his time and thought to securing an ideal candidate for the position, but so far without success. Men of sufficient and proper training to undertake and lead the investigation of a disease of unknown
The minutes of the meeting of the Institute of the United States, held on the 10th day of the month of June, 1950, will be read into the record of the meeting.

The President called the meeting to order.

The minutes of the last meeting were read and approved.

The President presented the annual report of the Institute for the fiscal year ending June 30, 1950.

The President announced that the Institute would hold its annual meeting in New York City on the 10th day of the month of June, 1951.

The President thanked the members for their contributions to the success of the Institute.

The President adjourned the meeting.

Respectfully submitted,

[Signature]

Secretary.
etiology are very few, and those who seem fitted for the task are all engaged in large problems which they feel unwarranted in leaving to engage in a new and unfamiliar undertaking. The point has now been reached where it seems necessary to give up the hope of securing an experienced investigator to take charge of this work, and to seek young men of promise who will start the investigation in a smaller way and grow up with it. In this way it may be possible to find and develop the right man to lead the investigation in the future.

Since the founding of the Institute its development has always been planned with the idea that all our work should be organized in such a way as to take advantage of the possible reorganization and development of medical teaching and research in Chicago whenever it might come. These first five years have been largely of an experimental and developmental character. Since the plans of the University of Chicago and Rush have now matured we are in a position to take advantage of the opportunities that will be offered through the new developments that are expected with a minimum of loss or disorganization. The Trustees of the Institute have appointed a committee to make suitable arrangements with the University for co-operation, and great advantages for the work of the Institute are anticipated from this affiliation. For the present we shall expect to continue our lines of research in the same direction and of the same scope as before, awaiting the imminent developments in the University and Rush to guide our own future development. The only new work planned is that on dementia praecox which will be superadded to our present endeavors.

During the year 1916 the following articles have been published
or prepared for publication as contributions from the Institute:

1. Primary Spontaneous Sarcomas in Mice. #
   Maud Slye, Harriet F. Holmes, H. Gideon Wells.

2. A device for Continuous Accurate Measured and Controlled Intravenous Injection.
   R. T. Woodyatt.

   Russell M. Wilder.

   H. F. Helmholtz and Walter Hoffmann.

5. Detoxification of Potassium Salts by Sodium Salts on Intravenous Injection.
   S. Amberg and H. F. Helmholtz.

6. Further Studies on Mustard Oil Inflammation.

7. Experimental Studies on Fat Embolism with Reference to its Cause and Prevention Following Operations on Bones. #
   Geo. T. Caldwell and H. F. Huber.

8. The Antigenic Properties of Beta-nucleoproteins.
   H. Gideon Wells.

9. Recent Studies in Carbohydrate Metabolism. # (Harvey Lecture)
   R. T. Woodyatt.

10. The Preparation of Glycollic Acid.#
    E. J. Witzemann.

11. The Variations in the Physical Properties of Precipitated and Colloidal Manganese Dioxide from the Point of View of Physical Chemical Equilibrium. #
    By Means of the Micrometer.
    E. J. Witzemann.

12. The Inheritability of Spontaneous Tumors of Specific Organs and Specific Types in Mice.
    Maud Slye.

13. The Inheritability of Spontaneous Tumors of the Liver in Mice.
    Maud Slye.

(Titles marked with # are in press but not published.)
of Salts of Alloxantin-like compounds. #
J. E. Retinger.

15. The Bacteriology of the Urine in Children with Vulvo-vaginitis. #
A. B. Schwartz.

16. Studies on Methylene Blue Derivatives in the Chemotherapy of
Tuberculosis.
Lydia M. Dewitt.

17. The Present Status of Tuberculosis Chemotherapy.
Lydia M. Dewitt.

18. The Tuberculocidal Action of Arsenic Compounds and Their Dis-
tribution in the Tuberculous Organism. Studies on the Bio-
chemistry and Chemotherapy of Tuberculosis.
Aaron Arkin and H. J. Corper.

19. The bactericidal and Fungicidal Action of Copper Salts.
Studies on the Biochemistry and Chemotherapy of Tuberculosis.
Lydia M. Dewitt and Hope Sherman.

20. The Accumulation of Uric Acid in the Tissues During Suppression
of Urine.
H. Gideon Wells.

Julian Herman Lewis.

22. A Method for Graphic Demonstration of the Foreign Inorganic
Matter and Carbon in the Lungs.
Edwin F. Hirsch.

23. Acidosis in Diabetes.
R. T. Wooyatt.

Aldehyde in the Normal and Diabetic Organism.
R. T. Wooyatt.

25. Studies on the Theory of Diabetes. The Intravenous Tolerance
Limit for dl-Glyceic Aldehyde and Improbability that it is
a Chief Intermediate in Glucose Catabolism.
W. D. Sansum and R. T. Wooyatt.

A. B. Schwartz.

27. Studies of Edema in Pneumonia.
Mary B. Maver and A. B. Schwartz.

28. The Bacteriology of the Urine in Healthy Children and those
Suffering from Extra-Urinary Infections.
Carol Beeler and H. F. Helmholtz.

29. The Permanganate Reduction Index of Cerebrospinal Fluid.
W. O. Hoffman and A. B. Schwartz.
30. Simultaneous Injections of Streptococci and Dahlia in the Guinea-pig.  

Harry B. Culver.

32. Immunologic Studies on Hodgkin's Disease.  
J. J. Moore.

33. Studies on Experimental Scurvy in Guinea-Pigs.  
Lelia Jackson and J. J. Moore.

34. Experimental Hypercholesterolemia.  
Kaether Dewey.

35. Focal Infection. The Lane Medical Lectures.  
Frank Billings.

Respectfully submitted,

[Signature]
December 22, 1916.

Harry Pratt Judson, President,
University of Chicago,
Chicago.

My dear President Judson:-

I am sending you herewith a copy of my annual report to the Trustees of the Sprague Institute, thinking that it may be of interest to you in view of the large proportion of the work which is done on the University campus and thru the facilities furnished by the University. During the present year we have spent approximately $17,000.00 on work here at the University and there have been engaged as part or whole time workers, on the campus, fifteen different persons in addition to seven technical assistants and animal caretakers.

A brief account of the organization and the work of the Institute has been prepared for publication in the University Record and submitted to Mr. Robertson for that purpose.

We look forward to the day when all our work may be consolidated on the campus in connection with the hospitals and laboratories of the new medical college and wish to join in the universal congratulations that you and the University have been receiving these past few days. With best Christmas greetings, I am,

Yours sincerely,

[Signature]
December, 1916

My Dear President Luquet:

I am sending you herewith a copy of my

unpaid report to the Trustees of the Graduate Institute, furnishing facts

which I believe you will find of interest. I am in a position to see the

funds required for the operation of the work

within the University. During the present year we have spent $7,000 on

work here at the University and there have been

many requests of the University committee and then have been

supported by work on scholarship and financial aid given to students.

A partial account of the operations and the

work of the Institute has been prepared for publication in the University

report and submitted to Mr. President for their perusal.

We look forward to the new year with our

work more and more definitely in connection with the problems

and investigations of the new medical college and wish to join in the

university organization that you and the University have been so

caring since your last term. With best wishes for success

Yours sincerely,

[Signature]
January 4, 1923

My dear President Judson:

I enclose herewith a report of the work done in the Sprague Memorial Institute during the year 1922. As you will see, at the present time by far the greatest part of the work is being done here at the University, where our expenditures during the year 1922 were a little under $50,000, including both supplies and salaries.

Yours very truly,

Director.

President Harry Pratt Judson,
University of Chicago.
I enclose herewith a report of the work done at the Los Angeles Geological Laboratory for the year 1926-1927, which I believe to be the most important phase of the work done at the laboratory. A detailed examination of the work done this year has made me aware of the great need for further investigation in this field.

Yours faithfully,
[Signature]

May 26, 1927

[Address]

[Stamp]
ANNUAL REPORT OF THE DIRECTOR TO THE TRUSTEES OF
THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE ON THE RESEARCH WORK
OF THE INSTITUTE IN 1922

December 21, 1922

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During the year 1922 we have continued our work on
the same scope and along the same lines as in the previous
year, and no departure from this program is anticipated
until the development of the medical work at the Univer-
sity of Chicago permits us to adopt a policy of central-
ization.

The work being carried out in the different centers
or completed during the present year, is as follows:

University of Chicago

The preparation of a complete reference handbook on
the Chemistry of Tuberculosis has been finished by the
Director, Doctor DeWitt and Doctor Long. This was accepted
for publication by Williams and Wilkins, who are the
publishers of the American Review of Tuberculosis and
During the year 1925 we have continued our work on
the same scope and along the same lines as in the previous
year, and no departure from this program is contemplated
until the development of the medical work of the University
of Chicago permits us to adopt a policy of general
section.

The work being carried out in the different centers
at completion during the present year is as follows:

University of Chicago

The preparation of a complete reference handbook on
the Chemistry of Tuberous Bacteria has been finished by the
Director, Doctor Dewitt and Doctor Long. This was prepared
for publication by Williams and Wilkins, who see the
typescript of the American Review of Tuberculosis and
other magazines concerned with tuberculosis and chemistry, and therefore in a position to circulate our book to the best advantage. The proof reading has been completed and the book should be out not later than January first. It is planned to include, and to furnish a critical review, of all that is known at present concerning chemical changes in tuberculosis, there being three main sections: The first, by Doctor Long, covers the chemistry of tubercle bacilli and related bacteria, their composition, their chemical activities and their products. The second, by Doctor Wells, discusses the chemical changes that take place in the body of the person infected with tuberculosis. The third section, by Doctor DeWitt, presents the chemical aspects of the treatment of tuberculosis. It is believed that this book will be of value as a reference work to those engaged in studying the disease, whether from the clinical or the experimental standpoint, and serve to help and further investigative work.

Our research work on the chemistry and chemotherapy of tuberculosis has continued on the same lines as formerly. Doctor DeWitt has extended her observations on new mercurial compounds, mostly those prepared by her chemical assistants, and it is hoped that the accumulating experience and data will help us to determine fundamental principles of bacteri-
After several conversations with specialists and scientists, and after preparing a position of authority on my door, we feel encouraged. The goal is to write and present a paper that outlines a critical review of the field. The paper should outline our latest findings and conclusions.

The objective is to future, and to outline a critical review of all that is known of research concerning the field. The result of the work, the application of computer programs and related protocols, their composition, their effectiveness, and their structure. The second, the computer simulations and their protocols. The second, the computer simulations and their protocols. The third, the computer simulations and their protocols. The fourth, the computer simulations and their protocols. It is believed that the effectiveness of the computer simulation to these areas in the experimental field and the necessary work. The second, the computer simulations and their protocols. The third, the computer simulations and their protocols. The fourth, the computer simulations and their protocols. What help us to determine fundamental principles of computer simulation work.
cidal and chemotherapeutic action. Hitherto, chemotherapy has rested mostly on chance; we believe that more systematic, fundamental studies are needed for any assured progress in this direction.

Miss Mayer and Doctor Wells are continuing their investigations on the influence of calcium and silica on the course of experimental tuberculosis. A series of analyses of healed calcified tuberculous lesions has been published, with particular reference to the silica content. This because in tuberculosis literature much emphasis has been laid on the reputed presence of much silica in healed tuberculous lesions, which has been supposed to indicate a beneficial influence of this element in the healing of tuberculosis. Our study showed that although varying amounts of silica may be found in calcified pulmonary and peribronchial gland tuberculosis, it comes from inhaled dust, for the uncalcified tissues usually contain as much or more silica.

A study of the influence of calcium treatment on experimental tuberculosis is in press. No demonstrable clinical or anatomical benefits were observed in tuberculous animals that had been given calcium. A similar study is being made of the supposed value of silica treatment in experimental tuberculosis. In this connection, with the aid
A study of the influence of certain parameters on the equipment's temperature is in progress. No dramatic changes have been observed in equipment temperature profiles due to alterations of certain parameters. A similar study in equipment temperature at different settings and parameters has been recently completed. In this connection, with the aid of the equipment's control, the influence of equipment temperature on the final product outcome is being investigated.
of Dr. Mildred Roberts, we are making a study of the influence
of silica on the healing of wounds, for silica is reputed to
increase the strength of connective tissue.

We have become impressed with the necessity of securing,
for the purpose of experimental study of the chemotherapy
of tuberculosis, a condition more analogous to human tuberculosis
than is tuberculosis of the guinea pig. This represents
ordinarily a widespread generalized tuberculosis, a type of
rapidly fatal acute infection such as is seen in man ordinarily
only in children and aborigines. The cure of such a condition
can hardly be expected - certainly not as the first step in
the chemotherapy of tuberculosis. Adult human tuberculosis
is usually the result of re-infection, in which the previous
disease has conferred more or less resistance, and presumably
the infected subject should be able to overcome such infection
with less outside aid than can subjects suffering from a
generalized primary infection. Therefore we are planning to
investigate carefully the possibility of producing in experi-
mental animals a type of tuberculous reinfection comparable to
human tuberculosis and of a character suitable for chemo-
therapeutic tests. Certainly the degree of modification of
infection with the closely related M. leprosy bacillus so
far obtained by chemotherapeutic measures, gives ground for
encouragement as to the possibility of success in the chemo-
therapy of tuberculosis.
of the immediate

potential we are making a study of the influence

of all the on the feeling of wonder for others is required to

increase the strength of connectional trace.

We have become interested in the necessity of select-

ing for the purpose of experimentation a group of the apomorphes-

not to suppose it experimentally as to the apomorphes.

If the apomorphes' are continuous more progressive to human individuals.

Then the apomorphes of the human thing. The representation

of apomorphes is a representation of a human individual's type of

activity. A monkey represents an apomorphous situation, such as is seen in man activity.

Therefore, let all interaction such as can be accomplished in the apomorphes, and situations.

The one of such a condition

can partly be expected - certainly not as the literal step in

the apomorphes or apomorphous.

With human apomorphes, it is necessary the extent of interaction, in which the brain's

ability per creature more of less resistance, and phenomena

the interaction subject should be able to overcome such interaction

with less courage and plan can support surveillance from a

generalization primary interaction. Therefore we the planning to

invasive interaction the possibility of dependence in expect-

ment entirely a type of interaction resistance compatible to

human apomorphes and of a apomorphes suitable for apom-

theoretic feasible. Certify the degree of mobilization of

interaction with the closest related with research protocol so

for applying of apomorphes' means. Even young for

encouragement as to the possibilities of success in the apom-

thesis of apomorphes.
The National Tuberculosis Association has renewed its grant to Doctor Long, and the study of the chemistry of the tubercle bacillus and its processes is being continued in his laboratory, although he has been in Europe for six months. Studies on bacterial fats have been published and several lines of chemical investigations carried on by an assistant, Mr. Campbell. Other investigations on the chemistry of tuberculosi have been completed by advanced students working in whole or partly under Doctor Long's direction. It is hoped that we may be able to secure the further cooperation of Doctor Long in our tuberculosis work.

The extensive study on the relation of hot foods to cancer of the stomach, which is being carried on by Dr. Julian H. Lewis, has, so far, yielded only negative results, but will be continued. In the meantime Doctor Lewis and the Director are carrying on numerous subsidiary investigations. They have published a study of the chemistry of the blood in the new born infant, which shows that the blood of the infant at birth contains little or none of the proteins that protect it against infections, these being normally supplied to the infant in the colostrum, or the first twenty-four hours milk of the mother. This is a matter of much practical importance, for it shows that it is essential that the new born infant should obtain the colostrum which furnishes its blood.
The National Interprofessional Association have renewed
the grant to Doctor Jones and the study of the operation
of the Interprofessional Project and the procedures in place.

It seems that the Interprofessional Project has been in Europe
for six months. Studies on protective lines have been made up,
and several lines of common sense and Nielsen criteria
were added. The several lines of common sense and Nielsen criteria
on the project are completed. The cooperation of Iceland has been completed.

An advance on the project working in whole or partly under Doctor
Jones's direction. It is hoped that we may be able to resume
the further cooperation of Doctor Jones in our Interprofessional
work.

The experience study on the relation of office hours to
success or the office, which is partly carried out by Dr. Jones
in the meantime, has been completed. In the meantime, Doctor Jones has
completed the study of the cooperation of the project in
the new point of view, which shows that the project of the
Interprofessional Project contains little or none of the procedures and
projects. If the Interprofessional Project contains little or none of the procedures
and projects, the Interprofessional Project is more practical.

This is a matter of much importance, for it shows that the essential
features of the cooperation which influence the project

Inhalt: Detaillierte Inhaltsangaben der Projektmitarbeiter. Die Projektmitarbeiter haben

Das Interprofessionelle Projekt hat den Grant von Doctor Jones erhalten und die Studie
von der Operation des Interprofessionellen Projekts und den Verfahren in der Hand.

Es scheint, dass das Interprofessional Projekt für sechs Monate in Europa war. Studien
auf Schutzlinien wurden durchgeführt, und einige Schutzlinien mit gemeinsamen
Sinn und Kriterien Neilson wurden ergänzt.

Ein Fortschritt auf das Projekt arbeitete ganz oder teilweise unter der Leitung von
Doctor Jones. Es wird hoffen können, dass wir wieder zu einer weiteren
Cooperation von Doctor Jones in unserer Interprofessionellen
arbeit zurückkehren können.

Die Erfahrungsstudie zur Beziehung von Bürozeiten zu
erfolgreichem oder unerfolgreichem Büro, die von Dr. Jones
in der Zwischenzeit durchgeführt wurde, ist beendet. In der Zwischenzeit, hat
Doctor Jones die Studie zur Zusammenarbeit der Interprofessionellen
Projekt beendet.

Ein Vorschlag auf das Projekt arbeitet ganz oder teilweise unter der Leitung von
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zu einer weiteren Zusammenarbeit von Doctor Jones in unserer Interprofessional
arbeit zurückkehren können.
with the protective substances during the first part of its life.

They are also carrying on an investigation of the effect of heat on the immunizing capacity of proteins, as well as a general study of the chemical basis of immunological specificity.

In collaboration with Dr. D. Breese Jones of the Department of Agriculture, the Director has made a study of the biological relations of several different proteins derived from beans, which gives evidence on the question of the relation of immunological specificity to chemical structure. He has also published four papers giving case reports of unusual pathological conditions.

Doctor Lewis and Miss Deborah Henderson have completed and published an investigation of the agglutinative properties of the blood of the American negro, which shows that the proportion of the different types of agglutinins corresponds neither to that of the white nor to that of the native African negro, but lies intermediate, although approaching more closely the negro type. This supports other evidence as to the racial differences in respect to this property of the blood. A study is also being made of the influence of skin pigmentation on the effect of Roentgen rays. Another investigation being carried out by Doctor Lewis concerns the problem of the hereditary
With the progressive emergence during the first part of the life, they are also certain on an investigation of the effects of certain on the immunizing capacity of the same, as well as a general study of the compensatory parts of immunological specificity.

In collaboration with Dr. Dr. Jones of the Department of Agriculture, the director has made a study of the protective relations of several different protective antibodies from pears, which gives evidence of the duration of the relation of immunological specificity to operational structures. He has also published two papers giving case reports of unusual pathological conditions.

Doctor Lewis and Harry Davenport have completed and published an investigation of the distinguishing properties of the blood of the American negro, which shows that the proportion of the different types of antibodies is a relative, though not to that of the native African negro.

This supports other evidence as to the racial differences in relation to this property of the blood. A study in which made account of the influence of skin temperature on the effect of Roentgen rays, another investigation, which confirms our previous results concerning the problems of the periphery.
transmission of immunity. The idea is to see if an increased capacity to form protective substances is inherited, to explain the increased resistance to a disease which races exhibit when they have been exposed for a long time to the disease. Several other problems on immunity are under investigation as well as a review of the differences between white and colored races in disease incidence.

Miss Elizabeth P. Wolf has completed and has in press a paper on the capacity of various substances to produce inflammatory reactions in the tissues, with the object of learning, if possible, upon what chemical or physical properties this capacity depends, a matter of much practical importance in chemotherapy as well as in other fields. At least one fundamental principle seems to have been discovered.

In the Cancer Laboratory the line of work continues unchanged. Miss Slye has published a paper on the relation of the results obtained with mice tumors and the problems in human cancer. A paper discussing the tumors of the adrenals and kidneys has been published with Miss Holmes and the Director, and one of the uterine tumors is in press. We have been interested in a paper by a Swiss investigator, who produced a strain of rabbits with a remarkably high occurrence of uterine tumors, an observation entirely confirmatory of Miss Slye's work. It is a remarkable fact that throughout the animal kingdom uterine tumors are very uncommon, although mammary
The idea is to see if an increased fractionation of immunity, especially to form protective substances, is initiated, to explain the increased resistance to a disease which lasts longer when they have been exposed for a longer time to the disease. Several other possibilities are under investigation as well as a review of the differences between white and colored races in disease resistance.

The effectiveness of orally administered and pure in vaccine preparations will be compared and may be in vaccine preparations.

A paper on the capacity of various substances to produce inflammation reactions in the tissues with the objective of determining if possible, when not complicated by previous knowledge, a matter of much practical importance. In other words, as well as in other tissues, if increased and fundamental principle seems to have been discovered.

In the case of preparations, the fate of a work contains non-specific, Mias athe and protective and a paper on the relation of the resinous properties with some tumors and the properties in human cancer. A paper on the association of the tumors of the pharynx and the liver, and kidney have been published with Ms. Holterm and the Director, and one of the urinary tumors in these we have been interested in a paper by Dr. A. H. Nussbaum, who described a case of tuberculosis with a remarkable history of urinary tumors, an organism with infection of the bladder. It is a remarkable fact that the organism was a member of the urinary tract and is very uncommon.
gland tumors are the commonest tumors in most species. Miss Slye has in preparation a paper discussing the relation of the spontaneous tumor to the tumors produced by experimental methods. At a recent meeting of the American Roentgenological Society in Detroit, Miss Slye was awarded a gold medal for the work which she had presented before a previous meeting of that society.

Doctor Kessler and his group of workers are actively developing the fields opened up by their new methods for the quantitative determination of the substances responsible for asthma, high blood pressure and related conditions, with many important new observations, especially in relation to the poisons formed in the digestive canal.

Rush Medical College

Here the routine has been interrupted by the sudden demand for Insulin, the active principle of the pancreas, which is concerned with carbohydrate metabolism and diabetes. Through the kindness of Dr. Macleod of Toronto, we were enabled to begin the preparation of this material before it becomes available on the market. Doctor Witzemann undertook this work with great success, producing exceptionally active preparations, until a breakdown in his health compelled him
Standing parties ate the commonest causes in most species. Maine

Sire has in preparation a paper on the subject of the relation of
the spuriousceaawm to the common prudence of the premature
method. At a recent meeting of the American Econeological
Society in Boston, Mr. Sirc was Chaed a good meeting for the
work which was the basis of the report of the practical meeting at that
Society.

Doctor Kees, the head of the work of workers, etc.ывать

To develop the fullest possible up to their new methods for
the determination of the boundaries of the area, and to
the latest analysis, high class, and related conditions, with
the same importance to the observations, especially in relation to
the polynya formation in the glacier.

Here the polynya has been investigated by the scientist.

Some time for Iceland, the scientific principles of the polynya,
which it concerned with the properties of the water,
Thanks the kindness of the members of the scientific police if became
available on the market. Doctor Winemans underfoot this
preparation, until a submission to the health committee him
to give up. Since then this preparation work has been carried out by a temporary assistant, Mr. McPherson, whose appointment was authorized by the Trustees. It is hoped that Doctor Witzemann will be able to return about January first, and that he will be able to undertake the isolation and study of the active ingredient of the "insulin" preparation, which in its present state is obviously very crude. The therapeutic value of this material is so great that we have been hard pressed by the humanitarian features of the matter, and have been more concerned with quantity production than with investigation, until such time as the clinical demand can be supplied by commercial houses. Insulin is being used on as many cases as our material and facilities permit, and these are being studied carefully in the clinic. It is expected that the quantity production can soon be turned over to technical assistants or else that the material needed for clinical use can be obtained in the market, so that the pressing problems as to the isolation and nature of the active agent may be undertaken.

Doctor Keaton has continued his studies of fever, securing further evidence supporting the hypothesis that fever depends on a decrease in the amount of free water in the organism. Miss Felsher has spent most of her time in controlling the activity of the insulin preparation. Before this work was begun she had finished work on a study of the
to give up. Since then the preparation work has been carried
out by a temporary assistant, Mr. Wilmshurst, whose services
were authorized by the Trustees. I am hoping that
Doctor Wilmshurst will be able to continue the present activity long
and that he will be able to undertake the investigation and
study of the social interpretation of the "inanity" phenomenon.
The Wilmshurst value of this material is so great that we have
been urged to press ahead on the permanent testing of the material
and have been more concerned with the utility of the information
that we have gathered until such time as the official papers
are published. It is clear that the material can be applied to commercial purposes, especially in the office. It is
expected that the utility of the information gathered can soon be
assessed and the official papers on the material can be published.

Doctor Wilmshurst has continued the studies of league
searching further evidence supporting the hypothesis that there
exists a relationship between the amount of free water in the
organism and the spurt of the heart. Preparations for the activity of the investigation department are
ongoing.
relation of sugar excretion to its concentration in the blood.

The diabetes clinic continues its activity, and a large number of patients are constantly being investigated here, furnishing suitable subjects for study in the hospital beds, and being greatly benefitted by the education and care provided by the diabetic classes.

Children's Memorial Hospital

Here our work consists chiefly of clinical studies by the residents and occasional assistants and volunteer workers. Doctor McClure continues his studies of the respiratory motions of the chest and abdomen as shown by simultaneous tracings. The numerous findings so far collected indicate the value of this method in the differentiation of acute inflammatory conditions of the chest from those of the abdomen (e.g., pneumonia and appendicitis); also in estimating the need for and effect of the removal of tonsils and adenoids, and as an indication of the degree of activity and subsidence of chorea. With Doctor Burket an aseptic method of intestinal anastomosis has been devised, which seems to be an entirely successful innovation. Dr. L. W. Sauer has returned, now as a voluntary worker, with the object of studying as exhaustively as possible a serious condition
common in young infants in which the passage of food from the stomach is prevented, (congenital pyloric stenosis).

Under the direction of Doctor Gibson, two of the residents, Doctor Blessing and Doctor Henn, have been carrying out an extended study of the prognostic value of certain methods of studying the heart and lungs in heart disease, the course of their condition being followed up through the social service of the Hospital.

Doctors Reichert and Corper are conducting a study of mother's milk to determine the presence in it of food proteins which may be responsible for infantile eczema.

Doctors Minsk and McClure are investigating the effect of heat on certain bacteria, to investigate the possibilities and limitations of heat therapy in surface infections.

Doctor G. H. Jackson is completing, at the Mayo Clinic, his studies of the selective localization of colon bacilli in the kidney. A volunteer worker, Dr. T. C. Galloway, has undertaken a study of the possibility that rhinitis apparently produced by thermal and chemical agencies, may actually depend on hypersensitivity.
common in young infants in whom the passage of food from the stomach to the intestines (congenital pyloric stenosis).

Under the direction of Doctor Gibson, two of the residents, Doctor Blessing and Doctor Hendy, have been carrying out an extended study of the physiological action of certain methods of analyzing the heart and lungs in heart disease. The course of their condition being followed up through the service of the Hospital.

Doctors Heffelf and Gorey are conducting a study of mother's milk to determine the presence of fat and fat products which may be responsible for infantile constipation.

Doctors Elms and Woodruff are investigating the effect of heat on certain proteins to investigate the possibilities and limitations of heat therapy in surface infections.

Doctor C. H. Johnson is completing a study at the Mayo Clinic.

His subjects of the selective localization of certain poisons in the kidneys of young persons will contribute to the possibilities and limitations of renal function.
Future Plans

As no definite arrangements have yet been made for concentrating the efforts of the Institute on Psychiatry or any other definite program, it is recommended that we continue in 1923 along the same lines as in the past year, supporting more or less temporary lines of investigative work.

Respectfully submitted,

DIRECTOR

On the following pages is given a list of the publications that have been or will be issued during the year 1922, and which will constitute the tenth annual volume of the Studies from the Otho S. A. Sprague Memorial Institute.
Future Plans

As no definite arrangements have yet been made for
concerting the affairs of the Institute on property
of other高等学校 program, it is recommended that we
continue in 1938 along the same lines as in the past year;
supporting more or less temporary lines of investigative work.

Respectfully submitted,

DIRECTOR

On the following pages I give a list of the publications
which have been or will be issued during the year 1937.
and which will constitute the tenth annual volume of the
season from the Office of the American Memorial Institute.
1. The Chemistry of Tuberculosis.
   H. Gideon Wells, Lydia M. DeWitt and E. R. Long.

2. The Chemistry of Calcification of Tuberculous Lesions.
   Mary E. Mayer and H. Gideon Wells.
   The American Review of Tuberculosis.

3. The Inhibitory Action of Certain Organic Mercury Compounds on the Growth of Human Tubercle Bacilli. Studies on the Biochemistry and Chemotherapy of Tuberculosis. XXII.
   Lydia M. DeWitt.
   The Journal of Infectious Diseases.

4. The Lipin Content of Acid-fast Bacilli.
   Esmond R. Long and Leo K. Campbell.
   The American Review of Tuberculosis.

5. Lipin-protein in Relation to the Acid-fastness of Bacteria.
   Esmond R. Long.
   The American Review of Tuberculosis.

6. Primary Spontaneous Tumors in the Kidney and Adrenal of Mice. Studies on the Incidence and Inheritability of Spontaneous Tumors in Mice. XVII.
   Maud Slye, Harriet F. Holmes and H. Gideon Wells.
   The Journal of Cancer Research.

7. The Function of the Colostrum.
   Julian H. Lewis and H. Gideon Wells.
   The Journal of the American Medical Association.

8. Racial Distribution of Isohemagglutinin Groups.
   Julian H. Lewis and Deborah L. Henderson.
   The Journal of the American Medical Association.

9. Post-traumatic Calcification of the Pancreas, with Diabetes.
   H. Gideon Wells.
   American Journal of the Medical Sciences.
I. The Chemistry of Tumor Growth.


E. F. B. Davis.

7. Hypothesis in Relation to the Adenoma of the Bladder.

The American Review of Tumorology.

8. Primary and Secondary Tumors in the Kidney and Adrenal.

The Journal of the American Medical Association.


10. The Function of the Adrenals.


American Journal of the American Medical Association.
10. Primary Squamous-cell Carcinoma of the Kidney as a Sequel of Renal Calculi.

H. Gideon Wells.
The Archives of Surgery.

11. Intracranial Aneurysm of the Vertebral Artery.

H. Gideon Wells.
The Archives of Neurology and Psychiatry.

12. The Transition from Crystalloid to Colloid Properties with Homologous Series.

Edgar J. Witzemann.
The Journal of Physical Chemistry.

13. The Isolation of a Substance from Urine Having Properties of Citric Acid: Description of an Apparatus Facilitating the Working with Small Volumes of Gas.

Samuel Amber and Mary E. Mayer.
The American Journal of Physiology.

14. The Adaptation of the Pentabromoacetone Method to the Quantitative Determination of Citric Acid in the Urine.

William E. McClure.
The Journal of Biological Chemistry.


The American Journal of Physiology.

16. The Presence of Formic Acid in the Urine of Infants and Older Children.

Morley D. McNeal and Charles J. Eldridge.
The American Journal of Diseases of Children.

17. The Bacteriology of the Normal Infant's Urine.

Henry F. Helmholz and Frances Millikan.
The American Journal of Diseases of Children.
18. Chronic Infectious Arthritis.
Frank Billings, George H. Coleman and William G. Hibbs.
Journal of the American Medical Association.

19. The Pathology of Bronchial Asthma.
Karl K. Koessler and Harry L. Huber.
Archives of Internal Medicine.

Maud Slys.
Journal of Cancer Research.

Frederick K. Falls.
Journal of the American Medical Association.

22. An Aseptic Method of Intestinal Anastomosis; an Experimental Study.
Walter C. Burkett and William L. McClure.
Surgery, Gynecology and Obstetrics.

The following articles are in press or ready for publication:

1. The Alimentary Absorption of Calcium and its Deposition in the Tissues in Experimental Tuberculosis.
Mary E. Haver and H. Gideon Wells.
The American Review of Tuberculosis.

2. Tissue Changes Produced by the Action of the Lipins of Tubercle, Grass and Colon Bacilli, and Liver Lipins.
Leighton W. Ray and James S. Shipman.
The American Review of Tuberculosis.

3. Fatsplitting Ferments in Lymphocytes.
Clarence C. Reed.
The American Review of Tuberculosis.
1. Chronic Infection in Animals.

Frank Billings, George H. Coitman, and William C. Hipple.
"Proceedings of the American Medical Association."

2. The Pathology of Pronatal Vascular.

M L. K. Thomas and H. W. Happer.
"Archives of Internal Medicine."

3. An Experimental Prone for the Inflammability of Cancer in Man.

M E. Mack.
"Journal of Cancer Research."

4. The Pathology and Treatment of Cancer.

"Surgery, Gynecology and Obstetrics."

5. Experimental Infections in Pneumococci.

"The American Review of Tuberculosis."

6. The Millionth Action of Calcium and the Deposition.

"The American Review of Tuberculosis."

7. The Extensive Action of Calcium and the Deposition.

"The American Review of Tuberculosis."

8. The Extensive Action of Calcium and the Deposition.

"The American Review of Tuberculosis."
4. Experimental Chemical Inflammation in Vivo.
   Elizabeth P. Wolf.
   Journal of Pharmacology and Experimental Therapeutics.

5. The Excretion of Imidazoles in the Urine under Normal and Pathological Conditions, with Special Consideration of Nephritis.
   M. T. Hanke and Karl K. Koessler.
   Archives of Internal Medicine.

6. Is Decarboxylation of Amino Acids in the Intestinal Tract a Normal Process?
   M. T. Hanke and Karl K. Koessler.
   Journal of Biological Chemistry.

7. The Production of Tyramine by Micro-organisms.
   M. T. Hanke and Karl K. Koessler.
   Journal of Biological Chemistry.

   M. T. Hanke and Karl K. Koessler.
   Journal of Biological Chemistry.

   Hannah M. Felsher.
   Journal of Biological Chemistry.

10. The Production of Vaccine Fever in Rabbits Rendered Poikilothermic by Cervical Cord Transsection.
    Robert W. Keeton.
    Journal of Biological Chemistry.

11. Paratyphoid Fever in Infants.
    Charles J. Eldridge.
    American Journal Diseases of Children.
Experimental Chemotherapeutic Inhibition in Vivo.

Ellebracht, P. Moell.
Journal of Pharmacology and Experimental Therapeutics.

The Excretion of Chemotherapeutic in the Urine under Normal and Experimental Conditions with Specie Consideration of "Nephritis."
M. T. Hanke and Karl X. Kessler.
Archives of Internal Medicine.

6. The Production of Tyramine by Micro-organisms.
M. T. Hanke and Karl X. Kessler.
Journal of Biological Chemistry.

7. On the Presence of Tyramine in the Mean and Posterior (men and post).
M. T. Hanke and Karl X. Kessler.
Journal of Biological Chemistry.

8. The Cure of Sugar Excretion in Normal Dose.
M. T. Hanke and Karl X. Kessler.
Journal of Biological Chemistry.

Kendercell, W. Keeler.
American Journal of Diseases of Children.
CONVERSATION with Dr. Wells. November 14, 1923

The Sprague Institute has funds amounting to about $1,500,000, being the share of the Sprague Estate naturally going to an invalid child, Nancy, which is not needed for her support, $50,000 being reserved for this purpose. The income, about $90,000 a year, is expended for various research projects.

But Dr. Wells plans, now that the University's medical plans have a clear path ahead, to taper these various enterprises off and prepare to concentrate on Psychiatry. It is understood that the Sprague family, H. A. Sprague, Mrs. Adolf C. Miller and a second married daughter, will build the building for hospital and laboratories, at a cost of $300,000 or so. Dr. Wells desires to raise $1,500,000 for hospital maintenance. The $500,000 set aside for the support of Nancy will be available after her death for any purpose designated by the Trustees.

The Trustees include Dr. Billings, Mr. Simpson, Mr. Ryerson, Mr. Hutchinson, and Mr. Thomas. W. Jones.

Dr. Wells has been reluctant to have the Medical School buildings transferred to the north side of the Midway, but in view of statements made to him by me, as to the extent of land probably available on the north side, is now entirely satisfied with the north side plan.
CONVERSATION WITH DR. WELIE. November 14, 1935

The sphere inscribed the range equivalent to spot

$1,600,000, defining the spheres of the sphere of the area directly

entires, or in the case of the sphere of the area directly.

support $50,000 pending the required for this purpose. The income

support $50,000 a year is expended for various research projects.

But Dr. Welie plans now that the University's

medical plans have a clearer path ahead to expand these various

satisfaction all and prepare to co-operate on a preliminary. It

is understood that the sphere of the area directly.

C. Miller end a second building committee will build the building

for this purpose and inform the area of a cost of $30,000 or so. Dr.

Welie desires to secure $1,500,000 for the project and increase.

$50,000 for the purchase of land would be available

after the first to purchase the land would be available.

The Trustees include Dr. Welie, Mr. Simpson, Mr. Buxton,

Mr. Hubbelein, and Mr. Tremes. M. Jones.

Dr. Welie plans to have the medical

school buildings transferred to the north side of the university,

but in view of adjustments made to plan to put this

of land provided available on the north side, it now anticipates

satisfied with the north side plan.
President Ernest D. Burton,
University of Chicago,

Dear Mr. President:

You will find the contract between the University and the Sprague Memorial Institute on page 11 of the minutes of September 13, 1921. The two paragraphs which are concerned with the site of the building proposed by the Institute are as follows:

"(1) The University will furnish free of rent the use of the ground suitable and adequate for the hospital and laboratories above referred to in which the Sprague Memorial Institute shall conduct its research work, such location to be in connection with the Medical School of the University between Sixtieth and Sixty-first Streets and between Woodlawn and Ellis Avenues. The location, plans and size of such building shall be subject to the approval of the Board of Trustees of the University and the title thereto shall be in the University.

"(2) Conditioned on the securing of the said endowment and on the erection and equipment of the said hospital and laboratories and the performance of the other covenants herein contained, a modern psychiatric clinic for research, teaching and treatment will be developed in connection with the Medical School of the University and in connection with the University departments of Anatomy, Physiology, Pathology, Chemistry and other important branches, the clinic to be an integral part of the Medical School and to enjoy co-operation with the departments mentioned."

You will notice in the last sentence of (1) that the location of the Sprague building is subject to the approval of the University, and further that in (2) the clinic of the Institute is to be in connection with the Medical School of the University and with the departments of Anatomy, Physiology, etc.

Very truly yours,

[Signature]

Secretary.
Dear Mr. President:

I am forwarding this letter to you from the President of the University of Chicago, who has requested that I do so.

The President of the University of Chicago has scheduled a meeting for the Board of Trustees to discuss the matter of the agreement between the University and the Illinois Institute of Technology. The President has requested that I attend the meeting and present the University's position on this matter.

I will be available to attend the meeting on the date and time specified by the President, and I will provide any information or documentation that may be required.

Sincerely,

[Signature]
December 15, 1923.

My dear President Burton:

I am sending you herewith a copy of my annual report to the Trustees of the Otho S. A. Sprague Memorial Institute, which may be of interest to you as indicating the scope of the work covered by the Institute, and especially the part carried on in the University of Chicago. During the past year our expenditures for research work at the University have amounted to approximately fifty thousand dollars. I may suggest that at present it would perhaps be wiser not to publish these figures.

Yours very truly,

[Signature]

DIRECTOR.

President E. D. Burton,
University of Chicago.
Memorandum respecting The Sprague Memorial Institute:

The Sprague family expected to undertake to build a hospital with forty or fifty rooms for patients in psychiatry, and to raise $1,500,000 to $2,000,000.

It is not quite clear whether this sum is additional to or includes the amount already given by the family.

The purpose of the Institute as an institute of psychiatry is to investigate the causes of disease but mainly the cure. (?)

The contract or gift of 1917 provided simply for research and had no reference to a hospital. The contract of 1921 refers to a hospital. Consult this contract.

ERNEST D. BURTON.
Remittance requested. The Security Manager instructed the

Supreme Family to support you.

If anything should go wrong, please notify the

Supreme Family immediately. The Supreme Family will then take

appropriate action.

Given by the Family

The purpose of this letter is to inform you of the issuance of a

Certificate of Membership to Dr. John Smith.

The certificate is valid for 10 years from the date of issuance.

Certificate expires on

REMEMBER: MR. HURTON

MR: W.H.