

Siegfried Thannhauser
(1885 – 1962)
Physician and Scientist
in Turbulent Times



by
A.F. Hofmann
Nepomuk Zöllner

Cover:
Siegfried Thannhauser (Boston 1940)

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Dr. Thannhauser delivering his lecture at the inauguration of the new University Clinic in Freiburg in 1931.

Introduction

December 12, 1931 was a crisp winter morning in Freiburg. The amphitheatre of the newly built University Clinic on Hugstetter Strasse was packed with faculty members and students who had come for the dedication of this new medical facility of the ancient University of Freiburg. The mayor, bedecked with his ceremonial necklace was there, as was the Rector of the University and the bishop. There was standing room only. Many professors were dressed formally in cutaways with white bow ties decorating their white vests.

All had come to attend the dedication of the new clinic that had been especially constructed for Siegfried Thannhauser, the newly appointed Professor of Medicine and Director of the University Clinic and Policlinic. He had accepted the call to the chair in Freiburg at the age of 46 with a distinguished record in biochemical science and clinical medicine. Dr. Thannhauser was a tall, athletic man radiating confidence, charm, and ability. He looked up at the faces filling the room; his wife and friends were also there. Siegfried Thannhauser began slowly, as he traced the roots of German medicine back to Hippocrates. Then he came more animated, as he expressed his priorities for the Department that he now would lead.

Dr. Thannhauser began by recalling that Plato had stated that it was the responsibility of the nation to educate worthy physicians, and it was in recognition of this duty that the State of Baden and the city of Freiburg had joined in building the new clinic on Hugstetter Strasse. Dr. Thannhauser thanked the representatives of these governing agencies on behalf of future medical students who would gain from their generosity.

Most of Siegfried Thannhauser's lecture was historical, tracing the roots of today's German medicine. To develop this theme, he summarized and integrated the extraordinary contributions of four physicians whose names were engraved on the entry portal to the new clinic – Hippocrates, Paracelsus, Boerhaave, and Schönlein.

Hippocrates, he noted, wrote the first textbook of medicine and established the medical literature. He emphasized the importance of distinguishing diseases by observing their natural history. Hippocrates was an empiricist, taking medical knowledge when useful from any source whatsoever, whether it be experience, folk tradition, or teachings of the Sophists. In addition, Dr. Thannhauser noted, Hippocrates believed that the physician must be more than a practitioner. Hippocrates opined that the physician must also be a philosopher, and by that, Hippocrates meant that a physician must treat his patient with the highest ethics, and have respect and affection both for his (or her) patient as well as for the art and science of medicine.

To Aureolus Paracelsus, born in 1493 not so far from Freiburg, Dr. Thannhauser attributed the founding of genuine biomedical science. Paracelsus was

an iconoclast who believed that only those principles that have a firm experimental or observational basis should be used in patient care. He translated many sources of existing medical knowledge into German and renounced the impenetrable Latin expressions that kept the patient from understanding medical concepts. Many students and young faculty members in Dr. Thannhauser's audience must have identified with his statement "Clinical work by day, laboratory research by night – that is how the research physician must conduct his life"!

To Herman Boerhaave, the legendary Dutch physician, Dr. Thannhauser attributed the initiation of bedside teaching, the linking of clinical practice with medical education, and the recognition that the principles of clinical medicine have their roots in the chemical and physical sciences. Dr. Thannhauser noted that the pupils of Boerhaave had reinvigorated the Faculty of Medicine in Vienna, but that German medicine had been slow to recognize his achievements. Rather, German medicine had continued in the romantic tradition of natural philosophy, and had lagged behind other countries in introducing concepts emerging from anatomy and physiological advances in France and Italy.

Finally, Dr. Thannhauser turned to Johann Lucas Schönlein whom, he felt, had performed an invaluable service to German medicine by taking it back to the Hippocratic tradition. Schönlein had been taught by von Walther in Landshut who had stated "medicine can only make progress by returning to chemistry and physics and other natural sciences". Schönlein accepted the Chair of Medicine in Würzburg, and made the-then small town a place where every German physician wanted to study. Schönlein emphasized the need to understand the pathophysiology of disease, a tradition continued by Virchow. But political upheavals forced Schönlein to give up his position in Würzburg and enter private practice in Frankfurt, a development of prophetic portent. Schönlein, Dr. Thannhauser concluded "established the foundation of the current out-patient clinic in Germany".

In his final sentences, Dr. Thannhauser expressed both his ideals and his belief that it was possible to attain them. In his view, the great contributions of Hippocrates, Paracelsus, Boerhaave and Schönlein led to a single ideal – the unity of medical practice, teaching, and research. Dr. Thannhauser quoted the words of the apostle Paul to express his leitmotifs for the new clinic. "Faith, hope, and love! Faith in ourselves, and faith in the spirit that gives us confidence and strength in our calling. Hope for the success of our clinical endeavors, hope in advances in biomedical science that will enable us to triumph over disease, hope for the rebuilding of our beloved Fatherland, and hope that German culture will never be extinguished". Dr. Thannhauser's words filled the room . . . "We are united by a common banner that stretches from the Freiburg Münster down the Rhine to the great Gothic cathedrals of Cologne and Strasbourg, across to the Marienkirche in Danzig and along the

Danube to the Münster in Ulm and the Stephansdom in Vienna. On this banner is written in Gothic German letters: Treasure your cultural heritage; it is your most important possession. Love ... love that understands all and forgives all. We will give love and we will receive it. Then, and only then, when we radiate a love is stronger than death can we educate and inspire physicians. Our teaching will be based on these principles. Its goal will be to teach the current practice of medicine and, then, as we develop new scientific principles to apply these to the diagnosis and treatment of human disease”!

With these stirring words of optimism and idealism, Siegfried Thannhauser opened the University Clinic in Freiburg. But his hopes were never to be realized. Three years later, he was dismissed from his post because of his Jewish ancestry.

Sitting proudly in the front row of the auditorium, his wife, Franzisca, heard him talk about his dreams for the future. At the time, she had no idea how unsettled she would be three years later at the increasing persecution by the Nazis. In 1934, they forced Dr. Thannhauser to travel to Boston and accept a leading position at the Boston Dispensary, an out-patient clinic set up by the Rockefeller Foundation. A year later, Dr. Thannhauser, his wife and their three daughters emigrated to the United States to build a new life in a new country. During the Second World War, the clinic building he had officially opened was destroyed by American bombs.

Dr. Thannhauser was never to return to his beloved homeland. Years later, he wrote, “I cannot return to Germany. Whether I went to Freiburg or Munich, I would die from sheer joy and excitement and so many painful memories”.

In this short biography, we hope to be able to convey the medical and scientific achievements of this remarkable man, who always believed in the good in human beings, even after his career in Germany was destroyed. Dr. Thannhauser started a successful new career in the United States, as a fifty-year-old! Humanity was the overriding factor in his behaviour, while a critical interpretation of new scientific results and tireless perseverance were his methods. So he has long set an example to us doctors. His wonderful personality, which extended way beyond the world of medicine, as a friend, mentor, connoisseur of art, and musician, will be appreciated by all those who knew him. His memory can be recalled, but not truly conveyed. However, a part of it will live on in the wearers of the medals bearing his name, awarded by the German Society of Metabolic and Digestive Diseases.

A.F. Hofmann
N. Zöllner

Biography

N. Zöllner

Siegfried J. Thannhauser was born in Munich on the 28th of June, 1885 and died in Brookline, Massachusetts on December 18th, 1962. During the 77 years of his life, he had lived through and suffered under the earthshaking political changes that occurred in Europe during the first half of the 20th century. Coming from a prosperous and secure Jewish background, he achieved great professional success, being appointed to the chair in internal medicine in Freiburg. He as other Jewish faculty members at the University of Freiburg was subjected to such persecution that he and his wife decided to leave Germany with their three daughters and emigrate to the United States. Here, at the age of 50, he had to begin a new career in research and clinical practice. His achievements in Germany and the United States, together with the equanimity with which he mastered his fate have been an example for a generation of German physicians.

Origins

Siegfried Thannhauser came from a prosperous Jewish family and was born in a huge house on Prinzregentenstrasse, in one of Munich's best neighborhoods. Dr. Thannhauser's father, Joseph Thannhauser, and his mother, Lotte Langermann Thannhauser had developed a highly successful ceramic business that produced chamber pots and beer mugs. Their factory also cast the pewter lids for the mugs. Dr. Thannhauser's uncle, who was married to the sister of Lotte, was also a part of the business, which had been launched with the sizable dowries of the two sisters. Dr. Thannhauser weighed 11 pounds at birth, and his delivery was so difficult for Lotte that she decided never to have another child. As a result, he was an only child who grew up pampered by his parents.

Dr. Thannhauser was proud of his maternal ancestry. Lotte (Charlotte Langermann Thannhauser) came from Floss, a place in the Upper Palatinate. Her family had been enormously successful in the production of glassware and mirrors. Her father had married Augusta Guggenheimer, and their marriage produced Lotte and her sister. Another great grandfather, Jakob Guggenheimer had been a banker at the court of the Prince of the House of Thurn and Taxis, the family that developed Germany's first postal delivery system (and gave rise to the English word "taxi"). A son of Jakob Guggenheimer became a geologist and the first scientist of the family. An uncle, Max Langermann, became a highly successful land developer in South Africa. Max was a founder of one of the first synagogues in that country.

Dr. Thannhauser's father, Joseph was born in Munich. His father, Abraham, was from the Ulm area. Here there is a town, Thannhausen, from which

the family name probably originates. Abraham was a tobacconist in Munich. He married a daughter from the Engel family that ran an inn in the meadowland. (A family legend has it that great grandfather Engel was the first Jewish person to be allowed to establish a business in Munich by royal decree because he had offered protection to Lola Montez, a favorite of King Ludwig of Bavaria).

The marriage of Joseph Thannhauser and Lotte Langermann is supposed to have been arranged and had some aspects of a marriage of convenience. Lotte obtained a Munich address and a marriage to an ambitious, practical man of amiable disposition; he obtained a sizable dowry that permitted him to launch a business. Lotte became well known in Munich as a shrewd businessperson, and was awarded the title of Frau Kommerzienrat by King Ludwig.

When the First World War broke out, the government asked the Thannhausers to manufacture armaments in their factory. Joseph Thannhauser refused to do so, and closed the factory. During the war, he directed the Munich Chapter of the Bavarian Red Cross. Joseph Thannhauser developed stomach cancer, and is said to have called Dr. Thannhauser and Lotte to his death bed, and given them his blessing for their marriage.



S. Thannhauser with his father Josef Thannhauser after successfully completing his Abitur in 1903. He was 18 years old.

Dr. Thannhauser, thus, came from a prosperous family of diverse origins. But he always saw his own closer family as typically South German, even typical of Munich. This is how he describes his Munich of the time (in a letter to G. Hohmann): “That was Munich in the good old days! Royalty, poets, painters, doctor, businessmen, shoemakers and tailors, and not forgetting the tramway employees, found a common bond in the belief in the shared philosophy of ‘Laissez faire – laissez aller’, a pleasant, easy-going life.”

Studies

In those days, Munich was just a small city, where everyone knew everyone else. The multi-talented Siegfried Thannhauser was advised to become a pianist. He himself had originally planned to study art history, before eventually opting for medicine. Alongside this, he also read chemistry. We may well wonder whether his classmate, Albert Einstein, had any influence on this decision or whether the then broad-based, traditional gymnasium education played a part. At any rate, Dr. Thannhauser always bridged the gap between science, in his case chemistry, and art. From his love of art and of describing it came his ability to observe keenly and to challenge his colleagues to do the same. He would dispatch privileged students to art exhibitions with instructions to look at a selected picture, next day asking them the colour of the garments worn by a minor figure to test their observational skills. As a chemist, he always felt bound to deliver results.

Except for two terms, Dr. Thannhauser studied in Munich. At the time, the first major inroad of chemistry into medicine had already been made. Take, for example, names such as Naunyn, Minkowski, Frerichs, von Mehring, Magnus-Levy, and last but not least Thannhauser’s own teacher, Friedrich von Müller. However, it was not only in Germany that the importance of chemistry to medicine had been recognized. Equally eminent names can be cited from every country then at the leading edge of medicine. Representing them all, the brilliant A.E. Garrod, who had developed the theory of inherited metabolic disorders at the beginning of the century, demonstrating that metabolic peculiarities, e.g. chemical characteristics, could be just as readily inherited as morphological characteristics.

Although the importance of chemistry to medicine had been solidly established by the work of these people and their generation, it was still far from usual to include chemistry in routine diagnosis. The papers of the time bear striking testimony to how much time and effort went into the laborious methods still used at the time in organic chemistry. If you listen to old colleagues talking about how hospitals used to be run, you discover that chemical analyses were the exception in routine cases and that it was usually the responsibility of the registrar or even the senior physician to do the analyses



S. Thannhauser as medical student at the Ludwig-Maximilians-University School of Medicine. The picture was taken when he was a second year medical student at the age of 20.

and make the calculations. The paperbacks on clinical diagnostics, e. g. the “Müller-Seiffert”, contained correspondingly detailed specifications for conducting analyses. While the methodological options remained so limited, it was impossible to predict how important chemistry would become in the diagnosis of virtually every illness. Nowadays, clinico-chemical analyses are routine, and “Clinical Chemistry” has become a branch in its own right. During his life, Dr. Thannhauser contributed considerably to the development of this field, especially in the development of new analytical methods.

Dr. Thannhauser’s doctoral thesis (1910) bore early testimony to his interest in chemistry. He wrote it on homogentisic acid; the influence of Otto Neubauer, at the time working on tyrosine breakdown, is obvious. However, of greater significance than Dr. Thannhauser’s meeting with Neubauer was his meeting with Hans Fischer, which also took place at the Müller clinic and made the young Thannhauser decide to study chemistry, too, once he had

completed his medical course. In 1912, the chemistry course under Adolf von Baeyer led to a doctorate on a breakdown product of hemoglobin.

Early scientific work

Back at the Müller clinic, Dr. Thannhauser worked not on amino acids or porphyrins, but, at the request of his boss, on the chemistry of gout. Together with several colleagues, Dr. Thannhauser showed that intravenously administered purines and purine nucleosides brought about an increase in uric acid excretion broadly equivalent to the quantity of purine administered, thus demonstrating that large-scale uric acid breakdown does not take place in the human body. This meant that changes in uric acid breakdown could no longer be regarded as a cause of gout; this had to lie in other areas of purine metabolism. Logically, Dr. Thannhauser turned to these areas. However, purine synthesis and uric acid formation from purines preformed in the body were unresearched areas. So, to begin with, he concentrated on studying purine compounds. He was the first person to isolate and crystallize a series of nucleotides, including adenylic acid, mainly with Dorf Müller and later with Ottenstein. These experiments also included some “firsts” for biochemistry, e. g. they were first time that enzymes were used for structural clarification. At the same time, various other experiments were conducted, prompted by the chemical thinking in the clinic at the time. For example, Dr. Thannhauser described the use of glucose loading in the diagnosis of diabetes, and the fall in cholesterol ester levels, known as the “ester crash”, as a finding typical of liver damage. But only within his closest circle did he indicate that, long before the scientists with whose names glucose loading and ester crash are now associated, he had made and reported principally the same observations.

Dr. Thannhauser’s clinical work dealt with trench nephritis; he also described shock kidney, albeit under a different name. Today, these publications are not as important as the chemical ones. However, it is generally the lot of clinical research that its results are more transitory than the findings of the pure sciences. Dr. Thannhauser always bore this in mind and published only observations that he, applying strict criteria, deemed important.

Academic career

Under the sincere, although sometimes rather harsh, liberality of Friedrich Müller, the young senior physician and lecturer quickly set an example among his generation of registrars at the II. Medizinische Klinik in Munich. He was proud of his astute diagnoses, in which his eye for not only analysing, but also for seeing and recognizing patterns was highly useful. On his rounds, too, he set an example of how a model doctor should behave.

“The trust and affection which he found among the patients through his devotion, infectious positive attitude towards life, and tact led to life-long friendships”, writes R. Nissen. Martini, Heilmeyer and many others have expressed similar sentiments. All his life, Dr. Thannhauser regarded his medical work as his real profession. It grieved him when people ranked the devoted doctor in him below the well-known chemist.



Dr. Thannhauser as Director of the University Policlinic in Heidelberg. The picture was taken in 1924 when he was 39 years old.



Dr. Thannhauser, now Professor and Chairman, Department of Medicine, of the University of Freiburg, shown here with his colleagues from the Department of Medicine. The picture was taken in 1930, when Dr. Thannhauser was 45 years old.

Dr. Thannhauser felt that his brief time as a senior physician had been the most difficult and yet the best time of his life. He had always felt like a representative of his colleagues to Müller, but precisely this obligation towards both sides produced an openness and freedom that caused both his bed-side and laboratory work to flourish.

Dr. Thannhauser's career was no less logical than a scientific development. In 1924, the Faculty in Heidelberg appointed the 38-year-old to head its out-patients department. Shortly afterwards, Dr. Thannhauser was invited to the chair in Düsseldorf, and in 1930 he was offered the Freiburg chair, one of the most important in internal medicine. His rise in status was accompanied by responsibilities that he shouldered easily at the time. He did a great deal of writing, assisted by a gift for observation, knowledge and humor. He even wrote books and chapters on kidney and lung diseases, although these were subjects fundamentally far removed from his research interests.

Friedrich von Müller had always opposed his registrars working with lipids. With the old chemists, he shared a mistrust of substances that could soon "land you in trouble." Once he had set up on his own, however, Dr. Thannhauser, who was still interested in lipids and who regarded Thudichum in particular as one of his greatest role models, was able to continue working

on them. There followed important work, particularly on sphingomyelins, work that he later continued in America and included in his textbook of metabolic disorders.

As chief physician, Dr. Thannhauser did make an occasional mistake. He forbade an unnamed Spanish colleague from publishing a paper which purported to show that acetoacetate is formed from acetate in diabetes. Dr. Thannhauser could not believe that the body could make anything other than carbon dioxide and water from acetate! Only reluctantly did he allow a junior colleague to report a paper on the formation of uric acid in small fragments of bird liver; the name of this colleague was Hans Adolf Krebs. Dr. Thannhauser later smiled as he recalled his mistakes, and put them down to the stress of his position as well as to the errors of self-assessment connected with it. He often explained that his second period of personal scientific productivity started with his forcible dismissal from office.

The appointments to the chairs of medicine had brought with them a marked slowing down in Dr. Thannhauser's own scientific productivity. However, in his newly acquired broader setting, he found the justification to draw together his views and knowledge in the field of medical chemistry. The result, after several years of intense work, was his "Lehrbuch des Stoffwechsels und der Stoffwechselkrankheiten", published in 1929. In its day the first of its kind, this textbook of metabolism and metabolic disorders was a runaway success. Chemists and physicians alike found in it the information they sought; it was a synthesis of chemistry and medicine. After his early contributions to research, this was Thannhauser's great contribution to the teaching of clinical chemistry. Looking at the book today, it is patently obvious how great the gap still was between chemical findings and clinical observation, how few details were known, and how bold were the attempts at interpretation. But a starting point had been created that invited new viewpoints to be acquired and old viewpoints to be challenged.

Emigration to Boston

The seizure of power by the National Socialists put a temporary stop to the glittering career. Disappointed with a Germany that he loved ardently, and shaken by the betrayal of many friends, Dr. Thannhauser looked for a way to go abroad. After studying various offers, he decided to accept Dr. Joseph Pratt's invitation to Boston. The Rockefeller Foundation provided the resources to set up a laboratory. The 50-year-old Dr. Thannhauser, with a poor command of English, moved with his family to the United States. His new workplace became the Boston Dispensary, a facility of Tufts College Medical School.

A throng of eminent internal specialists gathered around Dr. Pratt and Dr. Thannhauser, quickly enhancing the institute's importance. Generous



Dr. Thannhauser with his colleague and mentor, Dr. Joseph Pratt, the director of the New England Medical Center. The picture was taken one or two years after his arrival. During this time, Dr. Thannhauser was establishing a research laboratory with funding provided by the Rockefeller Foundation as well as private sources available to Dr. Pratt.

donations made it possible to add a diagnostic hospital to the Dispensary. This has become the New England Medical Center, the central diagnostic and therapeutic institute in the north-eastern United States. The people who worked there with Dr. Thannhauser included the hematologist Dameshek, the endocrinologist Astwood, the rheumatologist Heinrich Brugsch and the nephrologist William Schwartz. The beginnings created by Dr. Pratt and Dr. Thannhauser had evolved into one of the most exciting medical centres in the world.

Dr. Thannhauser's scientific work in the US continued in the same field as in Germany, although wisely restricted to a small number of areas. The work on the chemistry of lipids that had been started in Freiburg led to pio-

neering studies of sphingomyelin, particularly in the brain, spleen and lung. The dihydrolecithin in some tissues was isolated. The high points of the lipid work were the crystallization of plasmalogen from the brain and the structural clarification of this substance. (Later studies from Dr. Thannhauser's laboratory revealed the plasmalogen isolated by Thannhauser to be an artefact formed by the isolation process, and led to the correct structural formula of the lipid being proposed: subsequently Klenk and Debuch proved the exact structure). Other noteworthy work included studies of alkaline phosphatase in the gut, the extraction from autolyzed pancreas of glycerylphosphorylcholine, whose importance in phosphatide metabolism was correctly recognized, and studies of chylomicron clearance using ^{131}I -labelled triglyceride. Later on, Dr. Thannhauser worked on sulphatides and gangliosides, to which his last papers are devoted.

Besides working on lipids, Dr. Thannhauser, together with Gerhard Schmidt, continued working on the chemistry of nucleic acids. The first success was a method for the separate determination of ribonucleic acid and deoxyribonucleic acid. The use of enzymes for structural clarification (which Thannhauser, far ahead of his time, had first carried out in 1917) showed that the "tetranucleotide structure" of nucleic acids, with a 2'-3' bond, accepted at the time, was incorrect, and that these substances were in fact chains of purine and pyrimidine nucleotides with a 3'-5' bond. At the same time, the mode of action of ribonuclease as one of the phosphatases which split phosphoric acid ester compounds between pyrimidine nucleotides was explained.

The Thannhauser Lab in Boston

The Thannhauser Lab was situated in a very old, very venerable building. It was built at the end of the 18th century. It had originally been a kind of harbor hospital and out-patient clinic but in the course of time, despite, or perhaps because of, its proximity to Harvard, gained importance as a referral clinic for practitioners from New England, i. e. the north-eastern states of the US. The New England Medical Center, which emerged from the Boston Dispensary, not only took over the cases referred for diagnostic clarification but also the task of further training in rural areas. The staff members were obliged to take part in this training by giving lectures, sometimes requiring trips to distant areas.

The Thannhauser Lab was situated underneath the roof of the old Dispensary building. In summer, the temperatures often hit 90° F. Most of the staff were scholarship holders from the US, but some were from other parts of the world – Spain, France, Germany, Lebanon. Physical contact with desk neighbours was unavoidable, but contributed towards the atmosphere. The shared use of large pieces of equipment caused bottlenecks, which were cheerfully



Dr. Thannhauser working in his laboratory at Tufts University (1941). During this time Dr. Thannhauser published a review of lipid chemistry in the "Annual Review of Biochemistry".

overcome: "Who's using the centrifuge now?", was frequently heard. There was a friendly wrangling for the first spectrophotometer, which at the time, was a great advance in terms of equipment. Afternoon coffee was shared at around 3 p.m.

The head of the laboratory was Gerhard Schmidt. Schmidt, too, was an emigrant; he, too, had already recognized that enzymes could be used for structure elucidation. For example, he demonstrated the structural differences between muscle adenylic acid (adenosine-5'-phosphate) and yeast adenylic acid (adenosine-3'-phosphate). When he joined the Thannhauser laboratory,

he started studying the specificity of ribonuclease from the pancreas and phospholipid breakdown products. Both topics were to lead to important advances in the knowledge of nucleic acids on the one hand, and phospholipids on the other hand. The connecting theme was the above-mentioned establishment of the specificity of enzymatic and/or chemical breakdown reactions. Schmidt had clearly recognized that the use of enzymes for structure elucidation is possible only with pure enzymes and therefore preferably involved crystallized ribonuclease.

Dr. Thannhauser was by no means the last person to arrive in the laboratory in the morning. He worked at the bench and experimented until his clinical secretary reminded him, sometimes several times, to honor his clinical obligations. Before he did so, he discussed the day's other experiments with his assistants. This was often followed by discussions with Schmidt, which the other members of the laboratory rushed to overhear. Schmidt and Dr. Thannhauser did not always see eye to eye, but they had the same views on chemistry, and nearly always agreed on the experimental method. All the publications from the laboratory appeared under both names.

Lipids and lipidosis

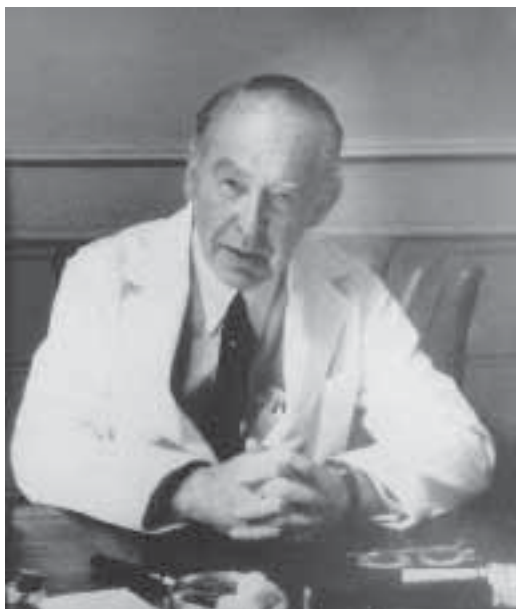
Against the background of fundamental chemical results, Dr. Thannhauser's clinical findings belong to contemporary history. However, his descriptions of lipids and lipidosis remain true today and their importance is fundamental. It has already been stated that, in Dr. Thannhauser's best days, the gap between chemical findings and clinical observation was great, and attempts at interpretation therefore had to be bold. The interpretations did not always manage to bridge the gap between clinical observation and the latest chemical findings. Dr. Thannhauser himself did not consider his biochemical publications all that important. On the other hand, he valued his medical observations and their linkage with the clinical course of a disease so highly that, entirely justifiably, he considered them as objective as his laboratory results. On two occasions, he made observations that are still valid today.

Dr. Thannhauser's reflections on the pathogenesis of gout will only be outlined here. Based on comparisons between plasma uric acid levels and urinary uric acid concentrations, he postulated that gout sufferers possess a defect in the secretion of uric acid. (This fundamentally correct observation has been confirmed by experiments of Zöllner and his colleagues). A bitter battle with Stetten was eventually settled. Stetten had studied rare forms of gout using isotopes, but had incorrectly applied tracer methodology in the interpretation of his experiments. Very typically of him, Dr. Thannhauser trusted his own findings, even though they were obtained several decades before. Today, Dr. Thannhauser's hypothesis that nearly all (90–95% of cases) of patients with gout suffer from a renal excretory deficit has been

confirmed. Nonetheless, few cite Thannhauser in this connection. Nevertheless, he was the first person to elucidate the true pathogenesis of gout.

Dr. Thannhauser's observations in the field of lipid metabolism disorders were enduringly successful. Dr. Thannhauser had more time for his patients in Boston than in Germany. His laboratory activity was not so diverse, but was more concentrated in the field of lipids. For some years, in fact, he probably had the best lipid laboratory anywhere.

In a communication still worth reading (written jointly with Magendantz), Dr. Thannhauser described familial hypercholesterolemia as an important cause of early cardiac infarction; Müller's publication in Scandinavia, which appeared at nearly the same time, should not go unmentioned. Dr. Thannhauser's contribution was the observation, set out more clearly in further publications, that the increased level of a lipid, in this case cholesterol in the plasma, was responsible for pathological outcomes, in this case cardiac infarction. With the advent of the ultracentrifuge, the facilities available in Dr. Thannhauser's laboratory were inadequate to follow developments; they were out of step with the times. The discovery of lipoproteins and hyperlipoproteinemia belong to the post-Thannhauser period.



Dr. Thannhauser at his desk in 1961.

This did not prevent Dr. Thannhauser from challenging more modern results. As soon as a group lead by Gofman in California attempted to explain coronary infarction as a consequence of lipoprotein abnormalities, Thannhauser disputed this statistical connection, which was based on chemical findings, even though he had been the first person to describe the incidence of cardiac infarction in familial hypercholesterolemia. The bitter discussion about fundamental facts was revisited. Familial hypercholesterolemia nearly always causes infarction because of the great elevation of low-density lipoproteins. But not all patients with hypercholesterolemia are automatic candidates for an infarction, and normal blood cholesterol levels do not afford protection from infarction. This is Dr. Thannhauser's message about hypercholesterolemia.

Personality and life style

Siegfried Thannhauser was born into prosperous circumstances and educated in a humanistic gymnasium. He considered himself a Bavarian first and a German second. His Jewishness was a cultural heirloom, and his Bar Mitzvah was a time of celebration for the Jewish families of Munich, who, after three generations had integrated themselves into Munich society.

With the outbreak of "The Great War", Dr. Thannhauser reluctantly joined the military service, working first as an ambulance driver, and then directing a hospital ward. For his heroic service, he was awarded the Iron Cross and the Bavarian Distinguished Conduct Medal.

Dr. Thannhauser always had an eye for beautiful women, and was known to show his lack of appreciation for those to whom nature had been less than generous. He chose Franzisca for her beauty, intelligence, charm, and elegance. She came from a bourgeois (Catholic) family in Munich. Both parents were from Lower Bavaria, the mother from Simbach, and the father from near Passau. Franzisca was educated at the Anger Kloster, a gymnasium where the finest families sent their daughters, and she finished first in her class. Franzisca was beautiful and elegant and remained so her entire life. Franzisca nurtured the life of Dr. Thannhauser and was keenly aware of the realities of life while Dr. Thannhauser lived in his own world of medicine, metabolic disease, and biochemistry. It was Franzisca who sensed the coming storm of Jewish persecution in Germany, and convinced her husband that the family must leave. It was she who vetoed the acceptance of a chair at the new medical school in Ankara, Turkey, sensing that the Moslem world was not ideal for the future coming of age of three spirited daughters. She managed the household finances and long before the emigration was able to move some of the family equity out of Germany so that the family resources would not be confiscated by the government. It was she who packed up the antiques



Dr. Thannhauser and his bride Franzisca Reiner Thannhauser shortly after the wedding.

from their home in Freiburg, and arranged the payment of the “Reichsfluchtsteuer” (emigration fee) so they could emigrate. In Boston, she organized the household and their somewhat shaky finances. They were a stunning couple and they loved each other deeply. His textbook on lipoidoses is dedicated to his wife with these words. “To Franzisca Thannhauser, whose patience, love, and wisdom have guided my life”. He never believed that she would die before him, and he never recovered from her passing.

Dr. Thannhauser’s day in Europe consisted of seeing patients by day and retreating to his laboratory in the afternoon where he would work with his own hands until the early evening. Then he would return home to dinner with his wife. His children saw little of him. After dinner, he would retire to his study to read and write, insisting that his wife sit with him, a practice they continued in Brookline.

The three daughters were raised in their house on Ivy Street in Brookline. They saw more of their father in America than in Europe, because the family often dined together in the evening. Even before the war, this house often hosted refugees from Germany. During the long war, the third floor of the house became the home of friends of the Thannhausers from Berlin. Dr. Thannhauser decided never to return to his native land despite many invitations to do so. But he made it possible for young German physicians to study in America and work in his laboratory.

Dr. Thannhauser's vision, articulated in his inaugural lecture in Freiburg, was the unity of biochemical knowledge, clinical practice, and education. This trinity of excellent in research, education, and practice continues to this day and is part of the logo of institutions such as the Mayo Clinic.

To these aims, Dr. Thannhauser brought a rare wealth of talents. As a teacher, he was lucid, humorous, and scholarly with a profound knowledge of the science of biochemistry and clinical medicine. As a researcher, Dr. Thannhauser brought clarity, penetrating intelligence, total honesty, and a lucid writing style. From all that is written about him, one concludes that Dr. Thannhauser's greatest attribute was his presence. He filled a room. When he saw a patient, he radiated warmth, wisdom, and caring. It was this aspect of his personality that led displaced refugees in America to seek his medical advice after his arrival in Boston. His great clinical skills led to an ever-increasing portion of his time being spent in clinical care and there was less and less time for research. Although he constantly reiterated the need for basic medical knowledge, his greatest priority was to unite both his deep scientific knowledge and his understanding of the human condition in the care of his patient. In his book he writes, "It is the noble task of the academic teacher to imbue future generations of physicians with the idea that medical reasoning should never be based on arithmetic figures alone, but rather should be guided by the conception that every patient is a new experience and a challenge to the keenness of our senses".

Of course, the move to America robbed Dr. Thannhauser of his power base. It also cut him off from the continuous flow of assistants and young physicians whose research he would have directed were he to have remained as Department chair in Freiburg. At Tufts, he was based in a Department of Medicine. There were few, if any, stipends for research fellows, and his laboratory must have seemed less attractive than those that were being established in the basic science departments of the Boston University.

Dr. Thannhauser was a strikingly handsome man with great athletic skills. Winter vacations were spent at Davos, Switzerland where the family traveled with a governess. He was a skilled skier who had mastered the Telemark technique. Summers were spent by a lake in Bavaria or in Switzerland. During one of these summers, in Switzerland, Dr. Thannhauser and Franzisca learned to play golf. Dr. Thannhauser's love for lakes and mountains were able to be fulfilled in the New World with the purchase of a cottage by Lake Winnepesaukee in Wolfeboro, New Hampshire. Here he spent his summers, initially with his children, and later with his children and grandchildren. He loved to pilot around the lake his motor boat "Meisi" (little mouse), which he had named in honor of his mother. He also enjoyed playing a round of golf at the local club. Even while on vacation, he would make house calls on patients, or consult on difficult cases at the local hospital.

Both Dr. Thannhauser and his wife loved art and music, especially Mozart and Haydn. He had a vast record collection of German classics and installed one of the first state of the art stereo systems in Boston. In his youth, he was a skilled pianist. Dr. Thannhauser also loved German Romanesque and Gothic sculpture. The collection of sculpture and paintings that Dr. Thannhauser and Franzisca assembled was willed to the Boston Museum of Fine Arts. Dinners with guests were formal and elegant.

Dr. Thannhauser's cousin Heinrich had started one of the first galleries for modern art in Munich, and Heinrich's son, Justin who continued his father's interests, would often meet with Dr. Thannhauser to discuss their tastes and pleasures in art. (Justin's son, Henry, continued the artistic tradition and became a Professor of Art History at Tulane University. He volunteered for the Air Force and died when his plane crashed over Sicily. The family's collection of impressionists is housed in the Justin Thannhauser wing of the Guggenheim museum in New York City).

The extraordinary humanity of Dr. Thannhauser was expressed on the occasion of their second Thanksgiving in America. "It is a great privilege and satisfaction for me to express our deep felt gratefulness to this community for your humane activities and for your sincere help in finding new homes for hundreds of refugees. The very fact that we are able to gather here and to thank you is the ultimate confirmation that Lincoln's ideas of liberty and freedom for me is the expression of the real American spirit, as vividly alive today as it was 100 years ago when Lincoln addressed a group of friends at Edwardsville "What constitutes the bulwark of our liberty and independence? It is not our frowning battlements, our bristling seacoasts, the guns of our battleships, or the strength of our gallant army. These are not our reliance against a resumption of tyranny in our land. All of them may be turned against our liberties without making us stronger or weaker for the struggle. Our reliance is in the love of liberty which God has planted in our hearts. Our defense is in the preservation of the spirit which prizes liberty as the heritage of **all men, in all lands everywhere**. Destroy this spirit and you have planted the seeds of despotism around your own doors. Accustomed to trample on the rights of those around you, you have lost the genius of your own independence and become the fit subjects of the first cunning tyrant who rises among you."

But now let me talk about our attitude toward our fate as refugees and about our attitude toward our new life and new friends. The attitude toward our fate, the basic idea for our future, must be that we are not the victims of inhumanity of any single individuals and villains, but we are the victims of natural forces of a catastrophe comparable to an earthquake or to a hurricane.

We came to these hospitable shores as shipwrecked passengers after our ship of state had burst in a hurricane. We should not have feelings of resent-

ment against anyone. We have only one feeling, that is a feeling of deep gratitude toward our savers who have kept us from being drowned in the storm.

We must be aware that this world is not only built by constructive forces – by sunshine and fertile rain – but also is formed by destructive forces which change from time to time the structure of the earth. This struggle between good and evil – symbolized by sunshine and hurricane in nature, is found reproduced in the most accomplished structure of nature, the soul of man. In every man's soul, there is like sunshine, the urge for liberty, beauty and love; but also, in a dark corner of every man's emotional life, there is a drive to envy, to hate, and to kill. As a symbol of these human qualities present in all races, there is in every German breast, a Goethe, a Beethoven, and a Hitler. The forces of destruction, of which Hitler is the expression, dominate today our old homeland. Goethe and Beethoven are ridiculed, despised, and expelled. Our duty to this country, to our new fellow citizens, must be to forget, without resentment the evil we have suffered and to bring forth all the ideals of the old country symbolized by men like Goethe, Beethoven, and Kant. We must do this for the enrichment of the buoyant American youth, a youth predestined to bring to a sick world recovery – by spreading the ideals of Washington, Lincoln which are justice, dignity, and liberty.

We are proud and thank you from the bottom of our hearts for the privilege that our children are allowed to grow up with your children in the spirit of brotherhood and freedom which makes this country worthy of being called the land of the free”.

His friends remember him

H. Weicker

Remembrance of Prof. Dr. S. Thannhauser from my research days in the lipid laboratory of Tufts Medical School, Boston, 1959–1961

After qualifying as a lecturer in the lipid metabolism disorders of internal diseases in the Medical Out-Patient Department of the University of Heidelberg, I was awarded a research fellowship by Tufts Medical School in Boston from 1959 to 1961. Since my scientific interest was in lipidoses, I was particularly pleased to be able to work in the lipid laboratory of Prof. Dr. S. Thannhauser, the doyen in this field. I saw it as a good omen that he had held the chair in internal medicine in the Medical Out-Patient Clinic at the University of Heidelberg around 1925, before being offered the chair in Freiburg.

To fully appreciate the distance between Europe and America, I travelled to the US on the Holland-America Line. The advantage of this, being an eight-day journey by ship instead of an eight-hour flight, meant that there were no more surprises about how different the US was from Europe.

When I arrived in Boston, I was greeted by Prof. Thannhauser, not only as a young research fellow who was going to be working in his specialist field, but also as a future colleague who brought many memories of his sphere of influence in Germany, and helped compensate for the years that had elapsed since his painful departure from Freiburg and brought to the fore all the good things about his life in Germany. Just how close Germany remained to Prof. Thannhauser's heart, notwithstanding his successful scientific work and good relationship with the people in the US, came across in many of the conversations we had while I was in Boston.

Because I had developed a method for the separation of lipids and glycolipids using thin-layer chromatography on silica gel plates in Heidelberg, I took a few bottles of silica gel with me to America, in the hope of being able to use them there for ganglioside differentiation. In our first working discussion on the research project I was to undertake, I shared my experience with thin-layer chromatography of lipids. He was very excited that this made it possible to further differentiate the starting substance isolated from bovine brain and to characterize the ganglioside fractions by sugar and lipid content. We were lucky enough to obtain four ganglioside spots when we performed the chromatographic separation on silica gel plates. This finding made Thannhauser so enthusiastic that he came to the laboratory nearly every day to find out how the work was coming along, and to make experimental suggestions to optimize the methods. After qualitative separation on silica gel columns, we obtained four fractions, which gave us enough material for the

biochemical differentiation by sugar and lipid content. Since ganglioside research had been one of the main focuses of work in Thannhauser's laboratory, the characterization of four fractions was something that pleased him greatly. His vast biochemical experience was crucial to this. The dovetailing of the clinical findings with lipidosis and its symptomatology, as published by Thannhauser, stimulated the experimental pure research. Even though he was over 70 years of age, he was so excited about the project that he told me this work had made him feel years younger. After a critical evaluation of the results, he developed an enthusiasm that transmitted itself to my work to such an extent that, in no time at all, we had publishable results that were presented at the annual meeting of the American Association of Physicians in Chicago.

For me, this time was not only a scientifically successful epoch, but it also brought me a wealth of important clinical knowledge because Thannhauser allowed me to share his clinical experience. We discussed interesting syndromes and their differential diagnosis with the therapeutic consequences, which, in the US, differed in many respect from the treatments practised in Germany. He introduced me into the Grand Rounds at Tufts Medical School, giving me a good insight into the clinical work and diagnostic practices of American medicine. These medical and scientific interactions were very decisive for my future career. I often had the impression that he wanted not only to teach a young colleague, but also to bequeath him a legacy to take back to Heidelberg.

I remember in detail my first invitation to a dinner in the pretty New England-style home of the Thannhauser family in Brookline. Gerhard Schmidt, who also worked with Thannhauser at the Medical School, gave me a few tips before this official first visit. I was to wear a good-quality suit and tie, and to take flowers for the lady of the house. I was greatly impressed by the dignity of Mrs. Thannhauser, a patrician from old Munich, as well as by the warmth and kindness with which she welcomed me. Impressive Gothic figures epitomized the cultural tradition of the house, which contained many treasures and mementoes of Germany. The tenderness that the couple displayed towards one another, and the interesting, very stimulating discussions, made the visit a memorable experience, and were intensified after my family returned to Boston. The evenings with other very stimulating guests, such as Brigitte Horney and her husband, the Director of the Museum of Fine Arts, also gave an insight into the diverse interests of the Thannhauser family. Our goodbye visit, after which Prof. Thannhauser accompanied us to the car, made a deep impression on me because, when I caught sight of him in my rear-view mirror after I started up the car, I was moved by the warmth with which we had been welcomed and by the fact that it was probably not just goodbye, but farewell. These visits always showed me how European tradition had been integrated into the American life style.



Dr. and Mrs. Thannhauser sitting on the front porch of their summer home in Wolfeboro, New Hampshire. They are holding their two eldest grandchildren (1951).

One of the most impressive experiences was a trip to Lake Winnepesaukee in New Hampshire, on which the Thannhauser family owned a country house. It was a meeting place for family and friends as well as the refuge at which Thannhauser wrote his scientific papers and books on long weekends. He told me that he had discovered this wonderful landscape soon after he had emigrated to the USA during a walk with his wife, and that they had both spontaneously decided to buy a house there. The landscape is similar to the foothills of the Bavarian Alps, and eased the separation from his previous home. The lake is situated in a mountainous region at medium altitude with clear water and a pleasant air temperature, markedly different from the muggy Boston climate. During my stay in Wolfeboro on Lake Winnepesaukee, I also got to know Prof. Thannhauser's daughters and their families. We have stayed in contact with Trudi, her husband George and the children ever since, regularly exchanging correspondence and also enjoying a lengthy skiing holiday in the Alps. George taught me to waterski on Lake Winnepesaukee. I caught the bug so much on this splendid lake that I still practise this sport now.

Ten years after the deaths of Prof. and Mrs. Thannhauser, I returned to Boston, went to Wolfeboro one weekend, and saw the Thannhauser country home and the lake once more. I visited their grave, and the memories of our collaboration flooded back as if it had been only yesterday. I realized how

formative this time had been for my future career, and how much Thannhauser had given me in terms of my scientific and clinical work. I experienced a sense of deep gratitude, because he had been like a father to me, and, whether he had been aware of it or not, his legacy to me was much of his scientific, clinical and human experience. The enduring contact with Thannhauser's daughters and their families has done a great deal to foster this closeness. Although Prof. Thannhauser was not given to expressing his feelings, everything he taught me at both scientific and human levels was convincing and marked by an immense experience of life.

Ludwig Heilmeyer

Siegfried Thannhauser

Shortly before Christmas 1962, Siegfried Thannhauser, the unforgettable teacher and researcher of German internal medicine, passed away at the age of 77. On 18th December 1962, he suffered a stroke in Boston, USA. Thannhauser numbers among those great clinicians who transformed the classical era of internal medicine into the modern science of functional pathophysiological thinking. The old classical medicine stuck almost exclusively to a morphological and descriptive approach to disease symptoms. Friedrich von Müller, Thannhauser's great teacher, made new inroads into pathogenetic disease research, for which modern natural science, particularly physics and chemistry, provided the necessary tools. Of Friedrich von Müller's students, Martini was foremost in physics research, and Thannhauser in the field of chemistry.

Thannhauser was the first German clinician to completely master chemistry and cover a wide field of research with its methods. He did fundamental work on protein metabolism, nucleic acids, uric acid metabolism, cholesterol and phospholipids, and much more. In 1929, Thannhauser was able to present an integration of all his work in the form of his textbook of metabolism and metabolic diseases, which was unique in German literature and has never been paralleled. The book was a masterpiece, not only because of its scientific content but also because of its style, a unified whole that could have been written only by someone who had mastered the subject.

What was amazing about this was the dovetailing of case histories, clinical findings and chemical metabolic analysis into a unified whole. It was not the work of a chemist, but a great doctor, who had had personal experience of it all at the bedside. His students and his colleague Nepomuk Zöllner brought out a new edition of the book 28 years later, as a collaborative effort since neither he nor anyone else could write it on his own.

Thannhauser pursued chemical disease research until the end of his life. The monograph "Lipidoses, diseases of the cellular lipid mechanism" was

written in America. In this work, Thannhauser shows himself to be the best authority in this difficult field. He remained so until the end of his days. Chemistry and the bedside are also brought together in this book.

Thannhauser's scientific work had a great impact. In 1954, his student Hans Adolf Krebs (now Oxford) was awarded the Nobel Prize for his studies of urea synthesis, which led to the discovery of the first metabolic cycle.

Thannhauser's external career reflected his important scientific achievement. At the age of 32, he qualified as a university lecturer with Friedrich von Müller at the 2nd Medical University Hospital in Munich; three years later, he became a professor, and in 1924 at the age of only 39, he was offered the chair of the Medical University Out-Patient Department in Heidelberg, where he worked for only three years. In 1927, he was offered the chair at the Medical Academy in Düsseldorf and another three years later, in 1930, the chair at Freiburg, where he worked until 1934. Even today, some of the staff and nurses still remember fondly the warm regard in which he was held. The integrity of his thinking, the warmth of his heart, the liberality and human understanding of many weaknesses in his subordinates are still praised today. In Freiburg, the rebuilding of one of the nicest university hospitals of the day took place under his direction. It had been destroyed in a bombing raid in 1944 but was restored in 1949. Thannhauser's plan was so foresighted that the hospital still meets all our requirements, even after 2½ decades of rapid development in our field. Unheard of in 1930 was the huge tract of research laboratories erected by Thannhauser. Together with the pathologist Aschoff, Thannhauser made the Freiburg of the time one of the most modern and important German places of teaching in medicine. However, in the middle of this brilliant work fell the shadows of night. The blindly raging ideology of unimaginative powers-that-be destroyed these places of flourishing research several years before their material annihilation. Thannhauser was forced to leave in 1934.

Through friends in America, Thannhauser found a new sphere of activity at Tufts College Medical School in Boston, where he worked until the end of his days. However, the master never forgot his homeland in Germany. Soon after the end of the Second World War, Thannhauser wrote to me in Freiburg and donated literature to the hospital. When the Freiburg hospital had been rebuilt from the rubble, he wrote for the official opening on 24th June 1950, "I would like to take this opportunity to send you and your university my sincerest good wishes. It gives me great satisfaction that the splendid hospital which I was able to plan, erect, and officially open in December 1931, with the Baden government and particularly with the support of the unforgettable Eugen Thoma, has been rebuilt. I will be with you in spirit on 24th June 1950. I am unable to attend this celebration personally, for understandable reasons. My life will always remain tied to Freiburg and its unique Medical Hospital through proud memories, but also through the experience of deep mental suffering".

The Freiburg Faculty knew how to honor this position adopted by this great man of science. They conferred upon Thannhauser its highest award, in the form of an honorary doctorate. A ward in his hospital bears his name and picture, under which he wrote the following dedication: “The academic teacher must constantly inculcate these three virtues into his students: Love for your fellow man, humility in the execution and interpretation of experiments, and a tireless perseverance in the study of knowledge based as well as the empirical practice of medicine.” This exhortation to young academics characterized Thannhauser.

The virtues he named were his own. However, they do not go far enough. A native of Munich, and coming from a family with a love of art, particularly of the Old Masters, he was deeply fond of this heritage from Germany’s past. His house in Boston was just as full of such works as his country house on Lake Winnepesaukee, which he loved because the landscape there reminded him of Chiemsee and the foothills of the Bavarian Alps. Two years ago, for Christmas, he sent me a picture of his early Gothic Madonna, which the Boston Museum had purchased with his help, and wrote about it.

“If only my young colleagues also had a feel for art! The laboratory is without doubt a major advance in our knowledge. But it should never displace the true art, that of recognizing and seeing, at the bedside. It is wretched with the youth here! A worship of figures is the only true science! German students at least get a feel for beauty, from their surroundings and on their way to and from school.”

This feel for beauty was shared by his wife, a true native of Munich, who had followed him to America with the children. “Life without my echo, or rather, my better half, is becoming harder and harder”, he wrote shortly after her death two years ago. “The research work is the only thing that gets me through this tough time”. It fulfilled him to the end. His life, which had always been exemplary, is extinguished. What he as a researcher began has become part of the great stream of knowledge. However, his personal character will live on in his friends, patients, and students.

Georg Hohmann

In remembrance of Professor Dr. Siegfried Thannhauser

The death of Prof. Dr. Siegfried Thannhauser, in Brookline USA, on 18th December 1962 at the age of nearly 78, aroused general sympathy among the medical and university circles in his home town of Munich. Born there on 28th June 1885, the son of a manufacturer, he belonged to one of the city’s old respected families. He decided to study medicine, and wanted to become a doctor. He went to Friedrich von Müller at a time at which Prof. P. Martini describes the Müller clinic as having “reached the peak of

prestige, when Erich Meyer, Hans Fischer, Otto Neubauer, Edens, Stauffenberg and many others were working in its wards and laboratories, also a time when chemistry seemed to offer the best guarantee of further progress in clinical medicine, everywhere, but especially in the Munich of Adolf von Baeyer and Karl von Voit". Hans Fischer, the famous chemist, who later received the Nobel Prize, advised the young Thannhauser, whose thesis he had read, to study chemistry. Where better to do so than to Adolf von Baeyer, who discovered synthetic indigo, and whose house I also frequented, and with whose son, Hanns von Baeyer, I was orthopedic registrar to Fritz Lange. Thannhauser worked there under the direction of O. Piloty, the son-in-law of von Baeyer, and in 1913 obtained his doctorate of philosophy. Back to Friedrich von Müller, whose private registrar he was. Contemporaries extol his excellent qualities as a doctor. "Trust and affection", wrote R. Nissen on his 70th birthday, "which he gained from the patients through his self-sacrifice, infectious joie de vivre, and tact, lead to life-long friendships". And a younger successor of Thannhauser's in Freiburg im Breisgau, Prof. L. Heilmeyer, who had attended his lectures in Munich as a medical student, raves about him, "I can still see you before me, as the effervescent, wise, youthful teacher of internal medicine at Müller's clinic in the years after the First World War, who carried his audience along with the verve of his dynamism and imparted the important fundamentals of medicine, a love of the sick, a critical attitude in medical thought and deed, and, above all, the need to tackle the basics of our science with tireless perseverance. You passed on in a lively way the heritage of your boss Friedrich von Müller and sowed the seeds of this school into a rich harvest. How enthusiastically we, the latest and youngest medical students, followed your ward rounds and admired your bedside manner". Is there a better testimony? Müller set him on a study of gout as the subject of his postdoctoral thesis required to qualify as a university lecturer. According to Martini, Müller said it was the best one that had been published on gout and nucleic acids for decades. The study of nucleic acids is one of the milestones of Thannhauser's scientific work. As a non-internist, even as an orthopedic surgeon, I did not presume to enter the chemical kitchen in Thannhauser's laboratories; yes, I was frightened when I was asked to write about my friend. More competent scholars have long praised these scientific achievements. On the occasion of his 70th birthday, Paul Martini, Gerhard Schmidt, Rudolf Nissen, Ludwig Heilmeyer and, since his death, Nepomuk Zöllner, have described the work in detail. I can refer to these papers, which drew the attention of the Faculties to him, and in 1924 he was offered the Out-Patient Chair at the University of Heidelberg. It was here, in 1929, that he wrote the textbook on metabolism and metabolic diseases, his most important work, 714 pages long, "written in such a lively way that you really could read the book in one sitting", said Heilmeyer. By 1927,

he had already been invited to become a professor at the Medical Academy in Düsseldorf and by 1930, a professor of internal medicine at the University of Freiburg im Breisgau. Here, he was able to develop. Here, with the large staff, which included the chemist Hans Adolf Krebs, who went on to be awarded the Nobel Prize for discovering uric acid synthesis, and with the good laboratories, which numbered 16, he became scientifically very productive, as his many publications and books testify. It hit him like a bolt of lightning when the new Nazi powers, this “regime of baseness”, drove him into exile, as Nissen said. He, who felt like a German, who regarded Bavaria as his homeland and loved it, and who had taken root here with every fibre of his being. He never got over losing his homeland and never admitted his pride at being asked to return to his homeland, especially as he had found friendship and help, understanding and the utmost respect in his host country, the US. When I, as the first post-war vice-chancellor of Munich University asked him on behalf of our Faculty whether he, as a student of Müller, would ever return as a successor to his boss, something which so many people would have welcomed, he wrote to me on 10th Nov. 1946:

“That was Munich in the good old days! Royalty, poets, painters, doctor, businessmen, shoemakers and tailors, and not forgetting the tramway employees, found a common bond in the belief in the shared philosophy of ‘Laissez faire – laissez aller’, a pleasant, easy-going life. What a disastrous time, what a change in philosophy, lies between this all-embracing genius of my beloved home town and the deaths of the Scholl students in Munich! They urged me to help re-plant the former spirit of German idealism in the hearts of the youth. Nothing would have given me greater pleasure, if I had felt myself up to the task. A poet such as Ernst Wiechert would be the man, the prophet, they needed. He has suffered and remained pure. By his deeds, he has proven what he always wrote and taught in wonderful words. Young people should be offered the opportunity to come under his spiritual, deeply religious influence in order to understand that the only person who can or should be a philosopher or natural scientist is one who stands in deep awe of nature, and of the godly in nature and man. The spirit is more useful to the reconstruction of academic life than a genius in the technicalities of his specialist subject . . . I am sorry that I cannot return in person. In June next year, it will be 30 years since I qualified as a university lecturer in Munich, and 37 years since I received my doctorate. Our shared training is an indestructible bond.

Yours devotedly,

S.J. Thannhauser”

We understood his decision. For some individuals [who were forced to leave Germany like Thannhauser], I, as first vice-chancellor of the University of Frankfurt and later the University of Munich, managed to persuade them to return, and they did not regret it. They made new friends alongside the old ones.

In the USA, Thannhauser found a new sphere of activity working with eminent physicians such as Dr. Pratt and others in Boston. By now, he was already 50 years of age. But, as he himself said, it marked the start of his second period of productivity. The experts speak of all his important works; among them, his colleague, Gerhard Schmidt, who came from Embden's school in Frankfurt – an excellent scholar to whom I was attached during my time in Frankfurt. His research produced the standard work, "Lipoidosis, Diseases of the Cellular Lipid Mechanism". And it was also a joy for him that his principal work on metabolism and metabolic diseases was re-published by students, headed by our Munich Nepomuk Zöllner, something which has now happened.

This description of the career of Thannhauser would not be complete without mention of two more anecdotes. Towards the end of the First World War, Thannhauser returned from the military front line to a Munich military hospital next to the one I was working in. When he reported to the relevant "Generalarzt" [doctor holding rank of General] – he was something like a "Feldhilfsarzt" [auxiliary army doctor] –, the old doctor, who no doubt had a good grip of all the service regulations, said, "You're an outside lecturer? I'll tell you one thing straightaway, we'll have no pangs of conscience here, we're in the services here. There didn't used to be so many sick people. Kidney patients, kidney patients, that's all you get now. There was no such thing when I was young, but now we run behind every man with a urine glass and then the man gets a kidney disease". Thannhauser laughed as he told me about his encounter.

But there is something else from those days that I must relate. A senior gentleman, known as Luzi-Wuzi by those from Munich, was in charge of our military hospitals. The nickname was meant affectionately, not mockingly, and he liked it, according to an article written by his grandson in the "Süddeutsche Zeitung" newspaper dated 22.10.1959. An ambitious doctor in the hospital hit on the idea that the hospital would give a presentation to the medical association with the senior physician giving a scientific talk. This physician, however, declined. However, the junior army doctor and outside lecturer Thannhauser was determined to write this speech. He prepared a nice speech about "traumatic hemothorax", with slides. At first, the senior gentleman did not want to give a speech written by someone else. But he gave in. Everything was going well, until the light was turned out to view the slides, and the speaker's voice tailed off. There was a painful silence until the light was turned on again. Thannhauser told me the details of this story in a

letter and concluded, "It was a splendid time, in which we enjoyed our youth." May I be excused for this "appendix" to the tribute to Prof. Thannhauser's life. The events are imprinted on my memory.

In 1951, Thannhauser was given emeritus status in the US, and continued both his scientific work and lecturing. He received many honours in this host country, in which he had settled and where his three daughters married and live: He was elected a member of the exclusive Association of American Physicians, the Academy of Arts and Sciences, and made an honorary member of the Fraternity Alpha Omega Alpha. After the end of Hitler's rule, the universities of Munich and Freiburg attempted to win him back. He was made an honorary doctor of medicine in both. He also received the order of the Federal Republic of Germany, and Friedrich von Müller plaque of Munich Medical Faculty.

But what a kind-hearted man with a love of the pleasures of life he was! The carefreeness with which he expressed his opinion is wellknown to all, as was his keen observation of things and his critical mind. I see his brilliant figure in front of me, just as he used to look. What a great loss Germany suffered when it dispensed with his energy, how stupid the monsters were in their racial madness! We shall hold Siegfried Thannhauser dear.

S.H. Proger

Siegfried Josef Thannhauser, M.D.
June 28, 1885 – December 18, 1962

We are here today to do honor to the memory of an extraordinary man. As a teacher, clinician, and investigator, Dr. Thannhauser was a preeminent figure in the last glow of brilliance in German medicine before the darkness of Hitler set in. Through the efforts of his friends, the late Dr. Lambert of the Rockefeller Foundation and the late Dr. Pratt of this institution, he moved from Germany to this country in 1934 with Mrs. Thannhauser and their three spirited and charming daughters. Though he had reached the pinnacle of medical achievement and acclaim as the chief of one of Germany's greatest university medical clinics in Freiburg, he quickly made himself at home in the modest surroundings of the Boston Dispensary, where no task was too menial and no effort too great in his determination to learn the ways of American medicine. He had much to offer, and did, but he always insisted that he had much to learn, and so it was only natural that he was soon in the forefront of American medicine as well. The manner in which he made what must have been an extremely difficult transition was an inspiration to us all. He was tested in adversity and responded gloriously.

As a teacher, Dr. Thannhauser was enormously stimulating. When I meet former students and house officers around the country, the first ques-

tion is usually, "Tell me about Dr. Thannhauser." Those of us who were privileged to be his pupils and colleagues have long recognized our great good fortune and vibrant personality. His presence was deeply felt, his influence was broad and penetrating. One need only note the great void that developed suddenly throughout this institution on his passing two days ago. This sudden emptiness was felt by all, not just his medical colleagues.

Let me speak of Dr. Thannhauser as a teacher, for it was in this capacity that he was best known in the hospital. In the clinical field one can recognize the teacher who is extraordinarily conversant with medical literature. His teaching is studded with frequent references to published material. He is the encyclopedist. Then there is the instructor who calls upon his vast personal experience as a source of teaching. He is the empiricist. Also there are those who think and teach largely in terms of mechanisms. Illness to them is essentially a demonstrable disturbance of physiologic or biochemical behavior and hence subject to quantitative measurements. They are the mechanists. Then, finally, there is the too rare soul whose thoughts and interests lie chiefly with the patient as a person, as a thinking and feeling human being. He purveys the warmth and spiritual quality that have given medicine its exalted position. He may be called the humanist. Most teachers in medicine will be found to fit predominantly into one or another of these categories. Dr. Thannhauser, on the other hand, was pre-eminent in all. He was at the same time encyclopedist, empiricist, mechanist, and humanist. It was this extraordinary blend which characterized him as the great teacher that he was.

Dr. Thannhauser began his career before the First World War as a clinician and biochemist. His vision of an academic career in medicine was some two generations ahead of his time, for in his early years the background for academic medicine was still chiefly pathology. Then came the era of physiology, and only recently have we in this country come to view combined training in medicine and biochemistry as ideal for academic medicine. Even more notable, however, than his pioneer efforts toward a new medical orientation was the fact that he was able to develop a career in biochemistry simultaneously with a career in clinical medicine, while at the same time relating the two. Thus, he might present material at a biochemistry seminar in the Department of Biochemistry at Harvard Medical School one day, and the next day discuss a patient with high blood cholesterol and atherosclerosis at Tufts Medical School and the Center Hospital. Thus, also, one of his students might become a Nobel Prize winner in biochemistry, as he did, while another becomes a distinguished physician, as many did. And thus, also, his bibliography included major original research contributions in the fields of biochemistry and clinical medicine.

As I have indicated, he had a vast knowledge of the literature in both medicine and biochemistry and an uncanny ability to apply this knowledge to a given problem. Yet, at the same time he was highly imaginative. He prized

what he called phantasy and bemoaned the fact that we are so often weighed down with statistics and facts that we can not set the mind free. He was often given to presenting ideas in broad strokes like the artist that he was. These ideas might be provocative and they occasionally lacked final proof, but it is remarkable how often he proved to be right. There were those who disagreed with some of his vigorously expounded and colorfully presented thoughts, but they could not ignore them for he was known as a creative and sound thinker.

He had impeccable and highly refined tastes. In painting, sculpture, and music he was given to strong likes and dislikes. He liked music – that is, through the romantic period – and he was knowledgeable about music. He liked painting – that is, through the impressionists – and he had deep knowledge and critical judgment in this area. He had to achieve a certain expertness in every field of his interest since he could not tolerate diletantism in any form. It was his unusually broad cultivation, his learning and wisdom, that enabled him to live such a rich and full life.

All of us here have lost a great and valued friend. His colleagues have lost a great and esteemed teacher. His patients have lost a great and devoted physician. His children and their children have lost a great and wonderful father and grandfather. And the world has lost one of its few authentic medical giants.



Dr. Thannhauser celebrating his 75th birthday in 1960 with his friend and colleague, Dr. Samuel Proger of the New England Medical Center.

H.A. Krebs

Letter to N. Zöllner

| | | |
|---|--|---|
| From: H. A. Krebs | METABOLIC RESEARCH LABORATORY RUFFALO DEPARTMENT OF CLINICAL MEDICINE | Raceville Infirmary, Oxford 082 405 |
| Telephone Oxford 48891, Ext. 244 | | |
| 17. 7. 80 | | |
| Lieber Herr Zöllner, | | |
| vielen Dank für die Zeitschrift mit Ihrem Worten über Seyffrid Thurnauer. Ich habe sie mit großer Interesse und Vergnügen gelesen. Ich freue mich sehr darüber, daß Sie das Interesse an der Werkstatt haben. Übrigens empfand ich ich als Chef mit unbedingtem. Es war in Richtung der Stationen gegenüber sehr großzügig und sicherlich Ihnen viel Freiheit. Auch die ^{neue} Vorlesung assistent war er sehr angenehm mir gegenüber. | | |
| Herzliche Grüße Ihr Hans Krebs. | | |

His family remembers him

Recollections of Gretchen Thannhauser Munson, his youngest daughter

Mrs. Munson was educated in art and art history at Radcliffe College, graduating Phi Beta Kappa. She pursued additional studies in art history at Harvard University. She became an art critic and writer for ArtNews. She has now retired from her profession and lives with her husband, a management consultant, on Eastern Long Island (New York).

I Dr. Thannhauser and Franzisca

A Courtship and marriage

Place, occasion and time: The Automobile Club Ball.

Munich, in the early part of the century indulged itself a few times a year by throwing a “gala” which people (mostly young) from all walks of life could attend.

My father, attired in his ubiquitous white tie and tails had come with some of his university friends to watch the “chicks” go by and maybe raise a little “whoopee.”

My mother, then nineteen years old, was attending one of her first “social” functions, not so much to meet people but to display her glamorous satin evening dress and feathered head piece – all of which she had sewn herself.

Moment of meeting. My mother, Fräulein Franzisca (called Fannerl) Reiner, had been chosen Beauty Queen by a panel of unprejudiced judges who dropped a great big red heart around her neck. Siegfried, thus seeing her for the first time, immediately fell madly in love with her (such things do happen outside of romantic novels).

He grabbed her by the arm, and clasping her to his breast, dragged her on to the dance floor.

“So, jetzt gehörst du mir,” (Now you belong to me) were his first words to her.

And he meant it, although it was unlike him to make tempestuous decisions, this time he did. It was a decision that was to affect and mold the rest of his life.

Mother may not have been smitten so immediately, but she was terribly impressed by father. Her first words to him were, “Ein feiner Herr (a fine gentleman) like you could never be seriously interested in me.”

She was referring to her background, which was lower middle class at least at a time when class distinction was all pervasive.

She, too, was an only child from a religious Roman Catholic family. Her father, Benedict Reiner, came from the Bavarian Alps, where at his mother's insistence he had studied for the priesthood in a seminary presumably in Passau. He didn't care for the sexual abstinence part, and ran away before completing his priestly studies.

Eventually, he settled in Munich. I believe he started out as a bricklayer and soon became a master builder of arches for the beerhalls and restaurants.

After his wife "Retterl" had served him dinner and he had put on his slippers, he sat back and read Greek or Latin texts (his seminary training) just for fun.

My mother often complained to me of how much of a "bore" he had been. Nevertheless, he sent his only child, Franzisca, to an upscale convent school, where, among other things such as sewing exquisitely and embroidery, she was exposed to the refined, lady-like manners of her classmates who came from more affluent and socially acceptable backgrounds.

My mother was inherently a lady and, even if she didn't know it then, was determined to become one herself.

However, still very modest, at the time of my father's firm and seriously meant declaration, she was overwhelmed by his good looks, his height (six feet), and elegant clothes and deportment.

Often, much later in life, when my father did such things as leave a messy jungle of wet towels, socks and soiled underwear on their joint bathroom/dressing room floor, she would turn to me and humorously say, "See what a "feiner Herr" I married."

However, at the time of their meeting and subsequent serious courtship, the couple's respective parents were appalled.

While interfaith marriages at that time in Munich and Germany in general, were condoned – but only if the Christian girl were an impoverished daughter of a baron, or at least had the "von" in front of her surname.

But a bricklayer's daughter! No matter how beautiful – horror of horrors!

My grandmother, Lotte, who by that time had acquired a title of sorts – Frau Kommerzienrat – through her husband, was very displeased. Joseph himself was mystified, finding Fannerl too thin and flat-chested (buxomness being "in") at the "fins de siecle." and in the early days of the 20th century.

However, the Thannhauser parents became somewhat resigned to this undestroyable romance to the point that Lotte, when approached by one of her acquaintances with the name of some suitable mate for her most eligible son, she would look down her long nose and say, "Mein Sohn hat schon gewählt" (My son has already chosen) with some satisfaction.

The greatest trouble came from my mother's father, Benedikt Reiner, who had strong antisemitic prejudices.

Anyhow, "The old Reiner" or "Der alte Reiner", as my father always would refer to him, showed nothing but contempt for young Siegfried who

was the son of that woman, “die hochnäsige Jüdin” (the stuck up Jewess) Frau Kommerzienrat Thannhauser, who was well known all over Munich by that time.

She was referred to by many unkind, wagging tongues as Frau “Chamberpot Kommerzienrat,” denoting the real source of her wealth. There were numerous people who remembered her sitting behind the cash register when she and Joseph first started their business. And now she was a Frau Kommerzienrat and hobnobbing with aristocracy!

I want to mention here that my father was never any kind of snob nor was he ever arrogant. Well, maybe he was a bit of an intellectual snob, showing little patience with stupid people or “unbeautiful” women – unless they were his patients.

Dr. Thannhauser and Franzisca were not able to marry for some years. This situation was not only due to family opposition but also to the fact that my father not only had to finish his education but had decided to get his Ph. D. in biochemistry. This was not a time when lenient well-to-do parents supported their children before they had finished their education – nor would Joseph and Lotte, while tolerating the match, have supported it financially.

And also there was World War I that intervened.

Before that first catastrophe of this century, my parents had a very good time together. “Der alte Reiner” soon lost patience and interest in what he thought was a hopeless liaison. He preferred reading Thucydides or Herodotus and left his sweet dumpling of a wife, Retterl, to handle the situation. She wanted her Fannerl to be happy, and if Friedl could accomplish that, everything and anything was all right with her.

Therefore my parents saw a great deal of each other. They went to the opera and concerts together and my father soon infected my mother with his love and knowledge of collecting German Gothic wood figures (Plastiks.)

They hiked and climbed mountains together, reaching remote Catholic village chapels which housed some of these ancient, often worm-eaten representations of assorted saints, the Virgin Mary or a large crucifix with a peeling, painted Jesus Christ dangling from the cross bar.

Friedl and Fannerl lost no time in persuading the local priest to sell these time-worn pieces to them, in return for which Friedl paid enough money for the priest to buy a newly carved, freshly painted version of the same subject as well as giving him extra money for his small parish who would so much enjoy worshipping a new, more glistening realistic religious piece.

These transactions were perfectly legal – even generous – as not many people were interested in “die deutsche Plastik” at that time.

Then came what is called “The Great War.” My father at first did not want to participate in it – not because he had any liking for the French, but he, as most Bavarians, hated the Prussians, and my father, at first, thought this was strictly a Prussian war.

Whenever he was to take a physical examination for induction, he drank so much coffee (to accelerate his heart beat?) that he was turned down. Finally, as war fever spread all over Germany – even to Bavaria – and due to peer pressure, he left off his coffee routine, and eventually became a major in the Royal German Army Medical Corps in charge of a field unit at the front in the Vosges mountains.

I think he must have done his job well. He even received the Iron Cross (second class and the Bavarian Distinguished Conduct Medal). I will mention the circumstances surrounding this “honors” later.

During this time, father must have been one of a few people who gained bodily weight (particularly among the Germans) – quite a lot of weight, which he never was to shed.

Being stationed at the front in the Vosges mountains, which are in Lorraine-Alsace, French supply shipments were captured regularly and Friedl helped himself to the French food.

My mother complained to me that when he came home on leave – which he did quite regularly – he was always fatter than he had been the time before.

She, at that time, was called “Das Stäbchen” (the little stick) by Friedl’s father Joseph.

Friedl did not correspond regularly with his parents. Instead he wrote almost daily to his beloved Fannerl. Therefore, Herr Kommerzienrat Joseph Thannhauser – quite a distinguished figure at that time – lurked around streets and street corners to waylay “Das Stäbchen” (the little stick), my mother, who would tell him what his beloved Friedl was doing.

This marriage finally came about in February of 1918, several months before the end of World War I.

There are two versions of how this inevitable event finally came about.

Joseph Thannhauser had contracted stomach cancer, and while at the hospital – certain that he was about to die – he called Friedl and Fannerl to his bedside and gave his blessing to the marriage to take place as soon as possible. This version has a certain biblical ring to it, and most probably has some truth to it as well. Nobody ever denied it. Joseph did die shortly thereafter but not of the cancer which my father said was in its early stages. No, according to Friedl, Joseph was smothered to death during his operation by an inadequate nurse who applied the ether-soaked cotton ball to grandfather’s nose too assiduously.

This tragic occurrence made my father take a life-time anti-surgical view. Operations were to be avoided as much as possible.

My mother’s version of the final proposal and one that my father never denied, is much more amusing. He was in the custom of walking her home at night from wherever they had been.

One evening, he stopped in the middle of the sidewalk and addressed my mother with, “I’m tired of walking you home all the time. So let’s get married.”

Friedl did go through the formality of asking “the old Reiner” for Fannerl’s hand.

My father refused to marry my mother in a Catholic church. They only had a civil ceremony as German law required. “Der alte Reiner” and his submissive wife deliberately did not attend, but celebrated by themselves at home with a “grossen Braten” (a large roast).

As Germany was still at war and my father only had a short leave, they spent a brief honeymoon in Berchtesgaden.

My father then went back to the front, returning at the war’s end in November of 1918.

In 1919, his first child, a daughter whom he named Anastasia Josepha (Stasi, for short) was born, very much to his excitement and joy.

B The early years after marriage

Because of the extreme housing shortage in Germany after World War I, the young couple moved into his now widowed mother’s large domicile. Mother claimed to have suffered extremely. She could not stand Lotte or Lina and the constant bridge-playing with their friends nor all the attention that Siegfried was paying to his own mother. She employed nursemaids to take care of Stasi and Trudi (Gertrude Theresa) who was born in 1921 while she went back to take art history courses at the University as well as courses dealing with French and German antique furniture.

Also, she was very involved in father’s fast flourishing practice. It was the custom – particularly for wealthy Americans – at the time to seek medical advice in European cities such as Vienna, Munich, and Heidelberg.

As my father had a large number of American patients, mother insisted he was paid in twenty dollar gold pieces, many of which were soon converted into her beloved antiques as well as into some of father’s Gothic wood figures.

The great inflation hit Germany shortly after the war, and if one had American twenty dollar gold pieces, one could obtain treasured antique furniture, Persian rugs, chandeliers, porcelain, paintings, etc. at very advantageous prices – even silverware was outdone by the gold pieces. Siegfried, who did not have much of a head for business, was happy to reward his beautiful and clever wife with as many gold pieces as he could obtain.

In this way, the bulk of my family’s possessions were acquired.

My mother disposed of some of Lotte’s furniture which she found not “up to snuff,” replacing it with 18th century antiques. These actions did not endear her to her mother-in-law.

Tensions grew at the Prinzregentenstrasse residence to the point that father found solace in his laboratory and his medical practice.

In 1924, the couple was able to move out and establish their first home. However, later that year, my father received the “Ruf” (call) to the University

of Heidelberg. He informed my mother of this desired turn of events when she was in the hospital, just having given birth to me. "So, jetzt ziehen wir nach Heidelberg," (So now we are moving to Heidelberg), he informed her while the sheets were pulled around her just after my delivery.

Mother found a beautiful house in Heidelberg and, taking all her antiques and possessions with her, settled into a very comfortable existence.

It was an "alone-at-last" kind of situation. But not really. They were surrounded by servants not to mention their three young daughters.

Father, until the end of my mother's life, was to frequently mumble under his breath, "What does she need so many servants for?"

C Dr. Thannhauser's love for his mother

The only other big family event of those last years in Freiburg was the occasion of my grandmother Lotte's 70th birthday. We called her "Omlo" instead of the usual "Oma" (grandma) which was perhaps due to either mine or one of my sister's early infant speech defections. I shall refer to her as "Omlo" from now on.

Omlo was to come from Munich to the big house in Freiburg for the celebration. My father, with my mother's assistance, planned the whole affair to the minutest detail.

Everything had to be white and blue, the Bavarian colors. White carnations and blue cornflowers were the flowers of the day. Therefore there were garlands of these festooned around the second floor gallery which rose above the downstairs hall. Father had hired a "Bändchen" (small band) to play for her from the downstairs hall to sound to her as she emerged from her upstairs bedroom and descended the imposing staircase. The band played her favorite tunes – mostly Bavarian I think.

Her three granddaughters, dressed in identical blue and white outfits, tailored specifically for this event, held hands and danced around her before presenting her with their gifts.

My father had taken the whole day off from all his obligations to devote himself to his mother.

For weeks before, he had sequestered himself in his study in the evening not to work on his scientific manuscripts, but "to do something special" for Omlo's birthday.

This "something special" emerged – and I thought magnificently – that evening when my father made his special presentation.

He had rented one of these early slide machines in which he used pictures – many, many old photographs – of Omlo, following her from her maiden days in Floss to the then present. Every single picture was accompanied on his part by charming, humorous verses that he had written himself, interspersed with numerous Bavarian phrases. He was affectionate, witty

and abjectly human in paying homage to this great lady, who was also his mother.

It was the first time that I saw this pleasant, genial and human side of him. He was not the house tyrant that I knew, the temperamental and – I thought – often unfair arbiter of his family’s domestic problems, but a really loving and lovable human being.

Later, much later, in America, when I discussed this “Dr. Jekyll – Mr. Hyde” aspect of my father’s personality with my mother during one of our numerous long conversations, she sighed “Now you know how much I have suffered all my married life.” People, particularly his patients, come up to me all the time and say how wonderful it must be for me to be married to such an angel of a man – a man who is so considerate and thoughtful of their problems.

“And there is nothing I can say to contradict them. Just agree and nod smilingly. And you know, “Kind”, how often he behaves obnoxiously at home – and what a temper he has”!

“Well, it really must be a terrible problem for you, Mutti,” I answered, giving her predicament considerable thought. “But if you let people know how he really is, we would all starve.”

Even then – I must have been in my early to middle teens – I knew that the bulk of my father’s income came from his private practice.

D The gathering storm

Omlo’s 70th birthday celebration was really the end of an era as lived by the Siegfried Thannhauser family in Germany.

For, BOOM! Hitler had arrived early in 1933.

Freiburg, except for its exceptional university, was really a backwater in the southwestern part of Germany. Political changes did not erupt there immediately.

My father was not dismissed from the university for several months. Actually, he was never dismissed, but “pensioned off” because of his war record and having received the Iron Cross.

He opened his own “clinic,” receiving many national and international patients. His scientific explorations continued, the major part of his lab being financed by the Rockefeller Foundation, I presume.

My father was one of those German Jews who thought that Hitler was just a passing fancy – only one of numerous ones on the post World War I scene in Germany.

Anti-semitism, at first, had little stronghold in Freiburg.

But my mother was more prescient. She read “Mein Kampf” and listened continuously to Hitler’s speeches on the radio. I can still hear that loud, gravelly sound as it echoed throughout our house.

It didn’t mean much to me nor did I understand it, but my mother did.

When these speeches reached the part where Hitler shouted “Ich will alle Juden und Judensbrut ausrotten,” (I will destroy all Jews and their “brood”) she made up her mind to get us all out of Germany as soon as possible – and, hopefully, – in as great a style as feasible.

Early in 1934, my father, mother and myself left for Samaden, a sort of remote suburb of St. Moritz, Switzerland. There, we seemed to be surrounded by English-speaking gentlemen who had come without their wives. I was told they were American and there was a business-like atmosphere pervading this “vacation.” Everybody spoke English, a language I did not know and my mother was more proficient in it than my father. The secret meetings, as it turned out, were to determine the future fate of Siegfried Thannhauser and his family.

The entourage was from the Rockefeller Medical Foundation which questioned funding of my father’s scientific research in Hitler’s Germany.

“Later that year my parents travelled to Turkey, where Dad had been offered an excellent position. On their return they met Dr. Alan Gregg in Paris, and my father was asked if he would consider coming to the U.S. Shortly after his return to Freiburg he was offered the choice of a professorship at Duke University or Tufts Medical School in Boston. My mother, always one for “die grosse Stadt” (the large city) opted for Tufts and what was then called the Boston Dispensary. During that summer my older sisters were put into a “Pensionat” near Geneva, Switzerland. The Nazi government insisted that at least one person in the family remained in Germany. I had to stay with my governess and the staff alone in Freiburg. On my parents return we were told that we would be going to America.”

America was just a concept to me of Indians and cowboys, but my mother assured me that none of these were romping the streets of Boston.

E The move to America

My mother, who was so realistic about Hitler and the Third Reich, went into action as she had never done before, or afterwards. There were a myriad things to do at the German end of the emigration. I found out later that it would become difficult for other Jewish or part Jewish families to enter the U.S.A. There was such a thing as quotas, which somehow did not apply to us as my father and his family came under a rule which exempted him from the quota system as “a very important person.” My mother, being non-Jewish, handled all the details with the Nazi officials.

The most difficult obstacle to overcome was “The Reichsfluchtsteuer” (emigration fee). My father’s was enormous – a quarter of a million marks. My mother who had kept my father’s books ever since Hitler burned down

the Reichstag showed the German official these, pointing out that we had lived beyond our means and no such sum was available.

Batting her big blue eyes, she convinced him to take all my father's monthly pension and over the years put it toward the Reichsfluchtsteuer, sort of on the installment plan. German law at that time allowed no German money to leave the "fatherland." Therefore the pension would do my father no good in America. As the Nazi official agreed to what-to-him seemed logical, my father had to pay nothing of this vastly inhibiting tax. But how German – at its worst – this transaction was! As the university salaries and pensions were state controlled, the Third Reich was only taking money out of one of their pots and putting it into another.

That, actually, was my mother's greatest coup, but others were to follow.

Later in 1934, my parents made an exploratory trip to America. I presume that my father looked over the laboratory and teaching facilities as well as a suitably equipped office in which to see his patients.

He spoke English adequately well, if with some difficulty. He had a heavy German accent, which although his English over the years became fluent, remained with him throughout his life. My mother's English was much better as she was quite an adept linguist.

I would like to mention that once we settled in America, on order from our parents – particularly my father – we spoke only English at home for everybody to become "Americanized" as fast as possible and, particularly for my father, to adapt himself more quickly to his new position. This phenomenon was almost unique among "refugee" families, but it worked.

On this first trip, my mother went apartment hunting and found a very large one of about fifteen rooms over the Brookline line on Beacon Street. It being the time of the "Great Depression", the rent was reasonable, particularly as a great part of the apartment house stood empty.

My mother was very clever. Realizing that we would have to live on a reduced income in America, she measure all the windows in the new apartment for curtains and draped to be made in Germany with the Reichmarks which could not be taken out of that country. Also, she had all German 210 volt electrical appliances rewired to the American 110 volt standard while still in Germany. Furthermore, she measured for carpets where they were needed.

I don't remember how long they stayed in Boston. I think it was about three weeks.

My father, overwhelmed by mother's unusual activities, seemed to suddenly realize the actuality of his new life.

Still thinking that Hitler was only a passing phase in German history and not worthy of uprooting himself, he said aboard the ship on their return trip, "Weil Du nach Amerika gehen willst, muss ich auch gehen"! (Because you want to go to America, I must go also.)



Dr. and Mrs. Thannhauser on the ship Europa as an emigrant to the United States. The year was 1935. Later that year, Dr. Thannhauser would celebrate his 50th birthday in his newly adopted country.

Upon returning to Germany, my mother went into immediate action. Not only were the new drapes made in the best fabric, but any upholstery that showed the slightest wear was reupholstered.

Then came the movers!

My mother had carefully chosen the best of these that Freiburg had to offer, and they were very good indeed. Challenged by such an enormous and never-before-executed task, they went to great trouble to crate, wrap and barrel every one of our possessions. Everything went. From my father's "Plastiks", the antique furniture, his wine cellar to their daughters' scratchy school notebooks.

My beloved grandmother had died shortly after her 70th birthday. Even those of her possessions which my mother considered of value were packed. Nothing was to be left for the Nazis!

This was a time when one could still remove all one's possessions from the "Fatherland." Later, not much later, people of Jewish ancestry were lucky to escape – escape if they could – with just the clothes on their backs.

Anyhow, at that time in early 1935, from Freiburg the Siegfried Thannhausers moved in their usual style to America.

Five huge wooden containers were filled with all the flotsam and jetsam they had acquired over centuries in Germany.

The containers were so large that once they were emptied in Boston, my mother sold each for two-car garages. Only one wine glass had been broken and one bottle of father's wines was missing.

The movers were so proud of their work and not lacking in a wish for self-advertisement, the almost monstrous-sized containers, draped in garlands, were paraded through Freiburg with the signs of "Umzug nach Amerika von Prof. Siegfried Thannhauser und Familie" (Move to America of Prof. Dr. Siegfried Thannhauser and family to America).

Thus we left Germany, and in my mother's and father's case, forever. Neither ever set foot in Germany or the rest of the European continent ever again.

F Immigrants in America



The postcard announcing their emigration that was sent to their friends by the Thannhausers after their arrival in Boston. The card indicates the name of the ship (Europa) and the date of embarkation (March 29, 1935). The address on Beacon Street was that of a large apartment where the Thannhausers lived after their arrival. The postcard was drawn by Edwin Kirr, a well known Munich artist who was a friend of the Thannhausers.

The five containers which seemed so huge to me, must have seemed small to my father. They must have symbolized not only a life style he would never see again but also a rejection of his scientific discoveries, his patients, his ambitions, and worst of all: his self-esteem.

But he never complained.

He was fifty years old and he had to face a new world (not “The New World”). A language he had not mastered, working conditions that were largely out of his control, patients – if any – that he did not know, not to mention the support of his materialistically spoiled family.

He knew he must start all over again, that his finely honed scientific mind must reach new plateaus in a foreign and not always friendly environment.

For the next few years, he was hardly ever to mention Germany nor what could have been. He strove onward and onward with a grim determination that overcame slights and obstacles – whether real or imagined.

He never mentioned his scientific work at home, and if he had I would not have understood it as I still don’t today.

While he never complained, the rest of his family did. My mother missed all the servants and was reduced to one maid whom she had brought with her from Germany.

My sisters complained about not having a chauffeur. My father had bought a modest Ford and drove it himself – rather poorly.

Quite some time before that, as his income increased, we had moved to a large colonial-style house on Ivy Street in Brookline where his collection of “Plastiks” and antique furniture were more advantageously displayed than in the large but cramped apartment.

About two years after we were settled in Brookline, there was family talk about moving to Chicago. It seemed that my father, at a large increase in salary, had been asked by what is now known as the Lasker Foundation to do his scientific research there. But that possibility was eliminated as my father was only to engage in pure research without teaching or seeing patients – a thing he refused to do as he felt one could not do one without doing the other. It was his life-time belief that one had to keep in touch with the actual patient to reinforce and advance his scientific studies.

II Dr. Thannhauser and his maternal uncle, Max Langermann

Dr. Thannhauser had a close relationship to his maternal uncle, Max Langermann, Lotte’s brother. Uncle Max – as he was always referred to in some awe by my father – was the one who did so well, – really well – in South Africa. He, however, returned often to Germany to see his favorite sister, Lotte, my grandmother and soon favored “Bubi” (who had graduated in name to the young “Friedl” (by that time), above all the other young Langermanns.

Uncle Max was, among many other things, a most cultured and urbane man and very generous. Although married, he had no children and he began focusing his benevolent attention upon Friedl.

Uncle Max had become a British subject and took my father on several trips to England, helping him develop a natty taste for Saville-Row type clothes, art, music and travel.

My father told me an amusing tale of how Uncle Max took him to the opera in London (Most probably a Wagnerian performance which was always favored by my father.) Anyhow, the young Friedl, glorying in his English-made white tie and tails had not been so happy with his perhaps-not-custom-made and pinching English evening pumps, slipped the latter off during the performance.

When the intermission came, father, having become very excited by the stage presentation, left his seat and forgetting his shoes, left them behind.

Uncle Max introduced him to all his distinguished friends as they gathered in the lounge. Everyone was cordial and seemed delighted to meet this handsome young nephew of Max's whose outgoing charm was contagious.

It was not until the first bell rang that Friedl noticed he was standing in his stocking feet. He was very embarrassed, but none of the other men seemed to have noticed or commented upon his sartorial defect.

So much for the English stiff upper lip!

As a post script to this episode, my father, from the time that I became aware of these "things," until World War II, always wore custom made shoes – made by a shoemaker in Milan who had his foot last/pattern. These shoes were even sent to him in America.

I think that Uncle Max became a kind of father figure to Friedl (Siegfried). His own father was not an educated man. He shone in business and was held in high esteem by his merchant cronies, but lacked the "class," (for lack of a better expression) that Friedl aspired to. Also, Friedl was not the least bit interested in business – particularly his father's.

Uncle Max was very foresighted and invested the bulk of his fortune in vast tracts of land just outside of Johannesburg which he felt were the most desirable for the city's expansion.

Unfortunately, the city expanded in the opposite direction, and Uncle Max lost most of his money. However, today, all the land he had purchased is the most prestigious section of Johannesburg, and (as told to me by a South African) even has a Langermann Avenue running through it.

The reason I have dwelled so long on Max Langermann is that he and Siegfried displayed many of the same personality traits: foresightedness and a conviction of the rectitude of their own judgment, being among them.

III Dr. Thannhauser's heroism in World War I

Once, my father had a patient with some unusual ailment near Hartford, Connecticut. Although he seldom – almost never – made house calls, this one seemed so important that he thought it needed his personal attention despite the near one-and-a-half hour drive.

As the only time he had available was in the late evening, my mother insisted that I drive him as he drove, she felt, so badly and actually dangerously at night. So, I was to drive him.

It was during these late trips that I got to know my father and his rather strange and often humorous opinions.

He pointed out to me never to be a “hero.”

“Heroes are stupid,” he said. “They never think of the consequences of their actions. They just plow in.”

“Really,” I answered, and summoning my courage, I asked “How come you won the Iron Cross then during the Great War?”

“Oh,” he said, “that was by accident.”

And he proceeded to tell me how this achievement was accomplished. It seemed he was sent out with a driver and a large flat carriage driven by



Dr. Thannhauser as director of an Army hospital in Belgium during World War I. During this time, he studied renal function in shock due to blood loss. For his bravery as soldier, he received the Iron Cross and the Bavarian Distinguished Conduct Medal.

horses to collect the dead and wounded after some minor battle in the Vosges mountain area. But after he had been driven some way, the enemy started up again forming a new battle line.

“The bullets were hailing all around us, and just as I was turning to the driver to tell him to turn around and go back, he was shot in the head, dead.

I tried to get hold of the horses reins to get them to reverse course, but I fumbled and couldn't find them. Those dumb horses, they just kept running, right into the battle line. There was nothing I could do about it. Automatically, I reached out of the carriage and scooped up some more of the dead and wounded – as many as I could. The horses kept on running towards the enemy line. I could see the French rifles. I really don't know what actually happened. Perhaps the horses had had enough or perhaps I had gotten control of some of the reins. In any event, the horses turned around finally toward home camp and I was still picking up the wounded. Back at the medical unit I was covered with the blood of the dead and wounded and was examined as if I had wounds myself. But I had not a scratch on me. Unfortunately, because of the stress, I had “shat” in my pants. I was hailed as a hero.

“And you got the Iron Cross second class for that?” I exclaimed. “You should have gotten a first class one!”

“Well, maybe.” He laughed. “I might have if I hadn't shat in my pants. A true hero would not do that . . .”

That was one of our conversations. It cleared up the mystery of the Iron Cross.

IV Dr. Thannhauser and art

A His relationship to Heinrich and Justin Thannhauser

Dr. Thannhauser had a cousin, Heinrich Thannhauser, who sold his business in Munich in 1905 and decided to become a painter. Later, Heinrich became a highly successful art merchant. Dr. Thannhauser's relationship to Heinrich was a complex one, in part because of their differing tastes in art. Heinrich's son, Justin, also entered the art business.

In 1910, Heinrich sat in some sidewalk café in Paris where many unknown artists paraded around each table, exhibiting their wares – mostly very bad. But Uncle Heinrich spotted a short, stocky, dark and unkempt man who was lugging around a painting so large that he could hardly carry it. It caught Heinrich's eye and pleased him. He bought it for 100 francs.

It was only after the purchase was completed that he asked the disheveled artist his name. It was Pablo Picasso, and the painting was then called “Night Life in Paris,” by the nineteen year old artist. The painting, renamed “Le Moulin de Galette,” now hangs on the Guggenheim Museum's

walls, worth millions if not more, as it is pivotal painting by the 20th century's most important and prolific artist. The painting is derivative of Toulouse-Lautrec, an artist that the teenager very much admired when first reaching Paris from Spain. It was not until seven years later that Picasso was to be the first to introduce the revolutionary cubist style. (Heinrich became Picasso's almost exclusive agent until his own death).

Heinrich's gallery in Munich was the first to exhibit "Die Blauen Reiter" (the Blue Rider) group as well as "Die Brücke" (the Bridge). Also, Heinrich gave Paul Klee, the Swiss/German artist who was associated with the Bauhaus school, his first one-man show. Perhaps of all the German artists that Heinrich introduced to the world – most of whom eventually reached fame and fortune (the latter if they lived long enough). Paul Klee became the best internationally known and valued.

Heinrich Thannhauser made a thriving business by dealing with all the French Impressionists, Neo-Impressionists, "Intimists," fauves, etc. The bulk of his permanent collection is now in the Guggenheim Museum.

B Dr. Thannhauser's tastes in art

In contrast to his cousin, Dr. Thannhauser was a most conservative man. In all of his tastes and attitudes – except for his medical and scientific contributions – he was strictly mid-19th century.

The decline of art, in his opinion, started with the French Impressionist painters and went into a deep dive forever after. In paintings he liked the "kitschy" German Romanticists of the early and mid-19th century. He liked artists like Böcklin, Feuerbach, and Spitzweg – names unfamiliar to anybody who doesn't live in Germany and are of little international monetary value.

Over the years, father acquired a nice little cache of impressionist and post impressionist art, which he had previously stated he disliked. However, the staggering prices these pieces fetched made him change his outlook if not his opinion.

Thus, he acquired a large, beautiful Paul Signac watercolor landscape of the artist's best period – when he was working closely to Seurat's pointillistic style.

Also, father became the jubilant owner of a magnificent Renoir drawing of a nude which I had recognized as being a study for Renoir's famous bathing series.

He thought a fat nude by Rubens the epitome of beauty and texture, while he considered that some of the English land and sea scapes by the English painter, Turner, looked just like erupted boils.

He thought the Eiffel Tower in Paris an atrocity. A view I tended to agree with him over the years. It ruins the Paris skyline.

On another occasion, I remember one conversation we had about Paul Klee. I was writing a paper about him and knew that father disliked him immensely.

“What do you see in HIM?” he asked.

“Oh, he is expressing – quite sophisticatedly – the cosmos as seen through an infantile mind.”

“It’s nothing but *philosophy* with a *pencil*,” he said. Well, that was that for Paul Klee.

C Dr. Thannhauser and his collection of German plastic art

Dr. Thannhauser was introduced to the beauty of German Gothic religious (Christian) carved wooden figures through his maternal uncle, Max Langermann. He was so entranced with these statues that when Uncle Heinrich Thannhauser in 1905 tried to sell him one of the better of the Van Gogh “Sunflower” series for 500 marks (\$125 at that time’s currency value) my father exclaimed, “Five hundred marks! For that „Quatsch” (junk)! Why I can get a beautiful „Plastik” for that kind of cash!” (“Plastik” is the German word for these Gothic figures.)

V The summer house at Wolfeboro

My father’s greatest joy and relaxation was the house he bought on Lake Winnepesaukee in Wolfeboro, New Hampshire just before the U.S. entered World War II.

My parents had rented in the area for summer vacations several years before that, always on the look-out for one they could afford to buy.

My mother found this longed-for treasure while walking through the woods just above the lake. It was a “haunted” house, long forgotten by the community as a Victorian monstrosity with broken windows, sagging shutters, vines clinging to the outside as well as inside walls. There even was a small third floor balcony that had collapsed on the roof of the sagging first floor porch.

But my mother, strutting around the house and the easily accessible inside, walking over broken crunching glass and ignoring the scuttling displaced vermin population, knocked on all the walls and supporting beams, the foundation and the surprisingly still intact interior woodwork, and came to the conclusion that the house was basically sound and could be salvaged.

She persuaded my father to buy it – obviously for very little money as nobody else wanted it. As the house had no access to the lake, he used all his charm to persuade the neighbors to sell him a hundred feet of their beach (mostly pebbles) frontage for an even smaller amount.

Thus Dr. Thannhauser's "Dream House" was born.

I never liked it, but then I wasn't asked. But my parents loved "Ferncliffe," and it was restored to its previous lack-luster splendor by an illiterate, but very able French Canadian who had settled in a remote area of Wolfeboro. His fee was \$1 (one dollar) a day!! Even a greater bargain than the house by pre-World War II standards.

However, the Wolfeboro house was to become the greatest joy – a place of peace and work – for my father's post-Germany days. He played golf at a nearby public golf course and sat at the lakeside enjoying the view and working on his scientific journals at a specially constructed table.

Eventually, he even acquired a motor boat which he handled enthusiastically if almost as badly as his car.

His children enjoyed the motor boat as much as he did. They water skied, which he was not able to do because of his weight and advancing age.

VI Epitome

The war and post-war years seemed to pass very quickly.

After World War II, the radio in his bedroom disappeared.

All of us, particularly my father and mother, were deeply shaken by the news of the Holocaust. None of us had been aware of the depth of Hitler's wrath. Also the bombing and subsequent ruin of German cities – particularly of Munich – deeply troubled their basically Bavarian souls.

My father refused a "Ruf" (call) to Munich to take the place of his former mentor, Dr. Frederick von Müller. He told us a whole generation of German doctors had been lost. He refused all subsequent offers of special lectures in Germany. The hurt of his rejection by his colleagues during the early Hitler years had cut too deeply. He now had made his way in America and refused ever to leave it.

However, he did make a special effort to take advanced German students for research in his laboratory.

The Americanization of Siegfried became complete with the marriage – shortly after the war – of his two younger daughters to American-born young men and the appearance of non-German speaking grandchildren.

During these last one-and-a-half decades of his life, Dr. Thannhauser's major concern was the health of his beloved Fannerl. My mother had her first major heart attack in 1952 at the age of 62. My father – as we all – pampered her for the next eight years until her death in 1960.

He missed her terribly and never really recovered emotionally. Just before Christmas of 1962 he succumbed and died of a stroke. He was 77 years old at the time. He had continued his work with patients and the research laboratory until the very end.



In 1943, on the occasion of the Thannhauser's 25th wedding anniversary, the daughters presented their parents with this photograph. To do this, they pooled their very limited resources and arranged to be photographed together by Bachrach, then among America's most prestigious photographic studios. Left, Gretchen, then 19 years old; center Anastasia (Stasi), then 24 years old; and right, Gertrude (Trudi), then 22 years old.

Siegfried J. Thannhauser left the bulk of his collection to the Boston Museum of Fine Arts. As it was an unrestricted gift, the museum, over the years, has sold all but two pieces, most probably in Germany. Six of the wood sculptures (Plastiks) were left to the Busch-Reisinger Museum of Germanic Art at Harvard University where, to the best of my knowledge, they have remained. They are listed and illustrated in its permanent catalogue. "The Division of the Spoils"

The remainder of the Siegfried J. Thannhauser estate was left to his three daughters.

My father's life was one of great heights and great depths. A physician and scientist of international fame, perhaps his career peaked while still in Germany. But he overcame the cataclysm in Germany, and later in Europe, by working harder in the New World than ever before. He achieved much but never as much as he wanted. Nevertheless, his legacy remained for future scientists.

Recollections of Marty Beyer, his first grandchild

These are excerpts from a letter written by Dr. Margaret Beyer in 1999. Dr. Beyer, the first grandchild of Dr. Thannhauser, is a clinical psychologist and lives with her family in Great Fall, Virginia.

“I became a psychologist and have developed particular clinical skills in part because of the time I spent observing my grandfather with patients. It was a family joke about my grandfather “having patience” was very different from “having patients.” When it came to mechanical things or waiting or events not occurring as he expected, my grandfather was impatient. But with patients, he was calm and responsive, spending the time with them that they needed. I remember wondering whether his patients could have imagined that at home he was not considered patient.

I do not recall what Opa was treating them for, or any of the content of their German or English bedside discussions. What I remember with clarity was his manner. Although it might seem out of character with a person who drove himself to accomplish so much research and writing, Opa soothed patients. I could sense his patients feeling calmed, an experience I have never forgotten. Of course, they felt better in part because of his medical explanations. But what I learned was that regardless of content, his bedside manner was remarkably soothing.

Opa was the best dresser I have ever known. I adored his perfect shirts with cufflinks and his elegant suits. He was a distinguished figure in the halls of the hospital, often not wearing a white coat like the other doctors. There was something about his European bearing that was part of what I learned about his unique presence. I liked accompanying him on rounds with a group of white-coated medical students and residents, all listening to what he said. Again what I remember is his attentiveness, his way of inclining his head as he tuned in to a young doctor’s presentation.

Sometimes I went with Opa to visit patients at the hospital in Wolfeboro, New Hampshire in the summer. He managed to look impressive in pressed shorts and knee socks. He was proud to introduce me to his patients and told me before we went in that a well-behaved little girl would cheer them up. But I knew that more was going on than a social visit, and I saw the powerful impact of a few minutes spent listening and responding.

It does not astonish to me that more than 30 years after my grandfather’s death, I am teaching others how to listen. I have written about and coached many people who work in foster care and juvenile justice to appreciate every child’s unique needs. I experienced attentive listening by a master an impressive age. I hope in that sense I have continued Opa’s work.

I was very aware of my special role, not only as the oldest grandchild, but the first in the Thannhauser family born in this country. My grandparents’ lifestyle was totally European, and I grew up feeling bicultural. I liked



Dr. Thannhauser with his first grandchild, Marty Beyer (1948).

the combination of being American and European at the same time, although it was complicated by antisemitism and anti-German feelings that I experienced in high school and college. I will never forget my grandparents' formal dinner every night – even in Wolfeboro. I remember vividly my grandmother's elegant hair and pearls and perfume, my grandfather's courting her throughout the meal, the gorgeous table settings, and the elegant food served in courses. I had the opportunity to glimpse another world, another era. What I have preserved from these dinners is a treasuring of individual differences, and an appreciation of each person's unique combination of family and cultural influences.

My grandfather's relationship to my own parents also impressed me. My mother, Trudi Beyer, was the energetic organizer of many family activities. In Wolfeboro, my father kept the boat, cars, and plumbing going, and took us water skiing and fishing. My grandparents would sit in their beach chairs, entertained by all the activity. Then, both before and after dinner, their intellectual discussions and my grandfather's enjoyment of music with my family showed me unusual respect and equality between the two generations.

My parents have talents in so many areas that we probably took them for granted. But observing my grandfather taught me that a person could be

remarkably competent in one area and totally incompetent in another. Opa's driving was a joke in the family. He was so preoccupied that he paid little attention to driving. It never occurred to him to change a light bulb. Fortunately he had Oma to organize his world so he could get out of the door in the morning!

It was an honor to fly by myself to Boston and be spoiled by Oma and Opa. Opa introduced me to the glass flowers at Harvard and the Boston planetarium and later encouraged my interest in astronomy by getting me a telescope. Of course, you can see from these memories that I idolized my grandfather. I went with Opa to the hospital perhaps only ten times, but these events were unforgettable. I was only 14 years old when Opa died, but I have a child's sense of moments with him that perhaps he could have only shared with his oldest grandchild."

The legacies of S.J. Thannhauser

His scientific legacy

Biomedical science has moved at an incredible speed during the past five decades, and Dr. Thannhauser's name is not widely known today among biochemists. Dr. Thannhauser shares his biochemical obscurity with many other distinguished investigators. The names of the chemists who built the foundation of today's biochemistry by elucidating the structures of individual amino acids, carbohydrates, vitamins, purines, pyrimidines, sterols, and complex lipids are seldom mentioned in today's textbooks of biochemistry or cell biology. The Falk Foundation has kept the name of Adolf Windaus alive by establishing a prize in this great chemist's name; Dr. Thannhauser shares that honor when the Thannhauser Prize is awarded by the Germany Society of Metabolic and Digestive Disease, a society which he founded. Harold Urey received the Nobel prize in part for his discovery of deuterium, but few have heard of Martin Kamen who discovered the key radioactive isotope ^{14}C that made the tracing of metabolic pathways possible. Watson and Crick obtained immortality when they deduced the structure of the double helix, and launched the revolution in molecular biology that is the predominant activity in today's science. Yet their elegant work was built on that of the Braggs, a father and son team who discovered x-ray crystallography and thereby started today's revolution in structural biochemistry. Few biochemists are aware of the contributions of this talented family. Fame, in biomedical science, is often short-lived. For the working scientist, discovery is more exciting than the history of science.

Dr. Thannhauser worked at a time when biochemical techniques were primitive. Separations were based on phase separation, a crude technique for

isolating pure compounds. Adsorption chromatography, which has proved so powerful for separation of lipid classes, was just being introduced during his last years in the lab. High performance (reversed phase) liquid chromatography and gas chromatography had not yet been invented. Mass spectrometry, a technique providing powerful insights into chemical structure, was unknown to Dr. Thannhauser, and lipids were discussed by class rather than in terms of individual molecular species. The introduction of physical techniques (monolayer studies, phase equilibria) into lipid biochemistry was just beginning from pioneers such as Dervichian in Paris. In his monograph, Dr. Thannhauser expresses his continuing puzzlement over the function of cholesterol in membranes. The field of lipoproteins had hardly begun, and the word is not mentioned in Dr. Thannhauser's discussion of hyperlipidemia. Dr. Thannhauser was a pioneer in clinical studies with radioisotopes and in his 1950 text, he presents data showing impaired chylomicron clearance in two hyperlipidemic subjects, based on a study with ^{131}I -labelled triglycerides. This was the first clinical study using radioactive isotopes to be presented before the American Association of Physicians. However, the use of ^{14}C and ^3H was not known to Dr. Thannhauser, and it is clear from the writings about the origin of bile acids that he distrusted the results of Konrad Bloch who had used deuterium labeled cholesterol to show that cholesterol was converted to bile acids. Communication with other laboratories was by mail, and extensive intercontinental air travel was just beginning. Because Dr. Thannhauser had only a small laboratory with one or two research fellows, and because his time was increasingly occupied by patient care, his output of biochemical research in America was not large.

The scientific legacy of Dr. Thannhauser is the recognition today of the unity of chemical, biological, and medical knowledge, a belief that Dr. Thannhauser expounded throughout his life. Enzymatic defects result in abnormal chemicals that induce pathological findings with clinical manifestations. The message of Dr. Thannhauser throughout his life was that the physician must not only generate and understand the basic science of disease, but that he must also apply it in the manner of a master clinician. His monograph on metabolic disease, published in 1929, was one of the very first efforts to join the emerging science of biochemistry with the much older tradition of pathology based medicine.

The term "metabolic disease" is used less frequently these days. Metabolic disease has been replaced by endocrine disease and genetic disease. The individual endocrinopathies have each developed into a subspecialty of internal medicine, and each hormone has its own textbook. The diagnosis of hormone excess or deficiency is routine, thanks to the power of competitive binding assays, and hormone replacement in deficiency states is part of conventional medicine. In his book "Lipoidoses", Dr. Thannhauser divides his presentation into 1) hyperlipemia (by which he meant hypertriglyceridemia)

2) xanthomatoses 3) Gaucher's disease (cerebrosidosis) and 4) Niemann-Pick's disease. Dr. Thannhauser's book includes detailed descriptions of these diseases in terms of heredity, etiology, histology, biochemical abnormalities, clinical presentations, and therapy. Patients' histories and physical examinations are given in detail, a tradition that exists today only in the Case Records section of the journals such as the *New England Journal of Medicine*.

Today, hyperlipidemia has been divided into five main types based on the electrophoretic studies of Frederickson and his colleagues. This classification is likely to be replaced in time by one based on genetic abnormalities. The writings of Dr. Thannhauser clearly describe familial hypercholesterolemia in both heterozygous and homozygous form. In his chapter on xanthomatoses, he also describes primary biliary cirrhosis in great clinical detail. In Thannhauser's mind, these diseases were linked by a common clinical manifestation – xanthomata, skin deposits rich in cholesterol.

At present, these two diseases have become widely separated in clinical medicine. Familial hypercholesterolemia is a genetic disease. The cloning of the LDL receptor by Brown and Goldstein and the demonstration that his receptor malfunctioned in familial hypercholesterolemia was a seminal advance that led ultimately to introduction of the HMG-CoA reductase inhibitors. These powerful enzyme inhibitors have been shown to reduce coronary events in the heterozygous patient, thus establishing the validity of the cholesterol hypothesis, which states that elevated blood cholesterol is a primary cause of atherosclerosis, Dr. Thannhauser described the tragic natural history of homozygous familial hypercholesterolemia. At present, this disease is treated by liver transplantation, an approach that was unthinkable fifty years ago. Gene therapy is on the horizon.

In the last three decades, the field of genetic disease has expanded enormously. Countless human genes have been cloned, and sequencing of the entire human genome will occur in the next five years. Development of the polymerase chain reaction by Mullis has permitted rapid detection of specific genetic abnormalities in a patient with genetic disease, as well as rapid genetic screening. The textbook "The Metabolic Basis of Inherited Disease" began with a single volume and has expanded into three massive volumes. Victor McKusick and his colleagues at Hopkins have developed a computer-based index of all genetic diseases, and this is available to any physician with a computer. Replacement gene therapy will be introduced in the next millennium. Progress has been extraordinary.

Primary biliary cirrhosis is considered an autoimmune disease but remains in the domain of the hepatologist because the dominant clinical manifestation is biliary obstruction that leads to liver cell destruction. At the time that his book was written, the concept of autoimmune disease had not been accepted into medicine. The American Association for the Study of Liver Disease, the organization to which all American hepatologists belong, was

formed in 1950, the year that Dr. Thannhauser published the second edition of his book.

In his chapter on Gaucher's disease, Dr. Thannhauser concluded on the basis of the experimental evidence that "Gaucher's disease is an intracellular metabolic disturbance of the reticulum cell itself, in which the cerebrosidases are formed and accumulated because of an intracellular enzymatic unbalance". He was, of course, quite correct. Later, DeDuve discovered lysosomes and the defect in cerebrosidase was elucidated by Brady and his colleagues at the National Institutes of Health. The enzyme has now been cloned, and a family of lysosomal diseases has been identified. Gene therapy is on the distant horizon. Dr. Thannhauser's training was in chemistry, pathology, and clinical medicine, and his book does not discuss inborn errors of metabolism using the concept of Garrod of the metabolic block. Dr. Thannhauser was probably not aware of the "one gene – one enzyme concept" developed in the 1940's by Tatum and Beadle from their study of yeast mutants. Tatum did not receive the Nobel prize for his seminal studies on yeast until 1958.

The leitmotif of Dr. Thannhauser was that we cannot understand disease until we define its biochemistry. The first requirement was to determine the chemical structure of the molecules that were involved. Dr. Thannhauser shared this view with the great Ludwig Thudichum who, like Thannhauser,



Dr. Thannhauser, on the occasion of his 65th birthday in 1950.

had emigrated from Germany (to England) for political reasons. Thudichum, like Thannhauser, was a great clinician but also an extraordinarily talented biochemist. In his book entitled "Treatise on the Chemical Constitution," published in 1884, he expressed his view which Dr. Thannhauser surely shared: "Premiums in the shape of sensational discoveries may be hoped for, but cannot be assured even to the greatest genius. But what has to penetrate ... into the consciousness of pathologists is ... that to understand zymoses, to be able to counteract them by rational ... means ... is only possible by ... complete knowledge of the chemical constitution of all the tissues, organs and fluids of their body and of their possible products".

Dr. Thannhauser also had a deep interest in gout, a disease characterized by elevated plasma levels of uric acid followed by its deposition of crystals of its sodium salt in the joints. The sufferers from this chronic disease have included many luminaries in the world of the intellect. At the time of Dr. Thannhauser's studies, the only treatment was a low purine diet and colchicine for acute attacks of joint pain. Dr. Thannhauser believed that the disease was caused by impaired renal elimination of uric acid, an opinion that was contested by some of America's most prominent clinical investigators, who attributed the disease to overproduction of uric acid. Today, it is recognized that there is truth in both of these views, but that more patients suffer from impaired elimination than overproduction. Powerful uricosuric agents have been developed, as well as inhibitors of purine synthesis. Attacks of gout are now preventable. Clinical manifestations of gout are disappearing and large painful tophi are seen only in illustrations of disease in the 19th century.

Dr. Thannhauser's last years were in a time of transition in many ways. A new generation of American professors had embraced his idea of uniting basic science and clinical medicine. The best and the brightest of medical residents were spending research years at the National Institutes of Health. Here they learned basic and applied biochemistry as well as clinical investigation and returned with these skills to their parent institutions. At the same time, the National Institutes of Health began to expand its extramural grant program and junior faculty members could receive partial salary support from a grant permitting their time to be divided between research and clinical practice. In Dr. Thannhauser's time, the lab work had to be done at night and one was not paid for one's labor except by intellectual satisfaction and a good recommendation from the Professor. Now, the American physician could do laboratory research, be paid for it, and still go home at night.

At the time of Dr. Thannhauser's writings, clinical investigation had not yet become a discipline. Often clinical investigation consisted of studies on a single patient, in which treatment periods were not randomized. Placebo controlled, double-blind studies were unknown. Multicenter studies with an independent statistical center had not been envisioned. The tradition of clinical

medicine was to describe the natural history of a disease. Controlled trials are not mentioned in Dr. Thannhauser's monograph. Recommendations for therapeutic approaches are based on disease pathogenesis and clinical experience. Dr. Thannhauser continued the tradition of professorial authority, although he believed that experimentation in the laboratory could provide scientific evidence for the views that were expressed.

His clinical legacy

Dr. Thannhauser was a master clinician. He had a deep knowledge of pathophysiology, an enormous clinical experience, and a manner that radiated omniscience, concern, sensitivity, and reassurance. His influence on his colleagues at the New England Medical Center was profound, as can be inferred from the deep respect and affection that is expressed in his obituary notices. The acts of great clinicians are often undocumented; patients seldom leave eulogies about their physicians. In Boston, at Tufts, there are no signs that Dr. Thannhauser was once a member of the staff. The tradition of clinical excellence promulgated by Dr. Thannhauser is threatened in these days when physicians are termed "health care providers", and when managed care organizations reward those physicians most who spend the least amount of time with their patients.

In Freiburg, at the Clinic at whose opening Dr. Thannhauser had spoken of his mission for the future, a ward has been named in his honor. Here one can find his picture and his words. "The academic teacher must constantly inculcate these three virtues into his students: love for your fellow man, humility in the execution and interpretation of experiments, and tireless perseverance in the study of knowledge based as well as the empirical practice of medicine".

His architectural and artistic legacy

In Freiburg, at the University Hospital, a ward bears his name, picture, and advice, as noted above. Another ward has been named in his honor at the Hospital of the University of Düsseldorf.

In Freiburg, in 1997, Uhlenhuthstrasse was renamed Thannhauserstrasse at the recommendation of the Gemeinderat (City Council). Paul Uhlenhuth had been Professor of Medicine at the University of Freiburg. Professor Uhlenhuth was an enthusiastic supporter of the Nazi party. In 1933 he had put his signature to the document that terminated the appointments of all faculty members with Jewish ancestry. Dr. Thannhauser was one of many distinguished faculty members who were forced to resign from the faculty of the University. Among those who departed were Rudolf Schönheimer, a legendary biochemist who joined the faculty of Columbia University in New York, and Hans Adolf Krebs, discoverer of the Krebs cycle while in



One of the authors (A. F. Hofmann) stands under the street sign Uhlenhuthstrasse, which will soon be.



The newly repainted street sign.



Virgin and Child, a Gothic sculpture that had been collected by Dr. Thannhauser. The sculpture is carved in lindenwood and has traces of polychromy. Lower Bavaria, early 16th century, attributed to the school of Matthäus Kneiss, sculptor of the choir stalls of the Collegiate Church in Altötting, Lower Bavaria. Dr. Thannhauser's three daughters donated the sculpture to the Busch-Reisinger Museum of Harvard University, Cambridge, Massachusetts in memory of their parents. Additional details about this sculpture may be found in Gothic Sculpture in America, Vol. I. The New England Museum, D. Gillerman, ed. (Publications of the International Center of Medieval Art, 2., 1989, Garland Publishing Company, London, 403 pp).

Dr. Thannhauser's lab, who emigrated to England. Krebs was awarded the Nobel prize in 1953 for his elucidation of the citric acid cycle, a key pathway in energy generation by the mitochondria.

The artistic legacy of Dr. Thannhauser lives on in the Boston Museum of Fine Arts to which he willed their collection of medieval Gothic wood sculptures "in memory of his wife Franzisca Reiner Thannhauser". There were 12 carvings, all in linden wood decorated in polychromes, and all dealing with religious themes. The earliest, called the Boston Pietà, dates from the late 14th century and is the crucified Christ resting on the lap of the Virgin Mary. Others include The Virgin and Child Enthroned, Ascending Virgin and Child, The Virgin and Child, the Immaculate Virgin, and carvings of various saints (St. Joseph, Saint Barbara, Saint Sebastian, and Saint John). Details of these sculptures are available in a book entitled "Gothic Sculpture in America" (Garland Publishing Company, London, 1989).

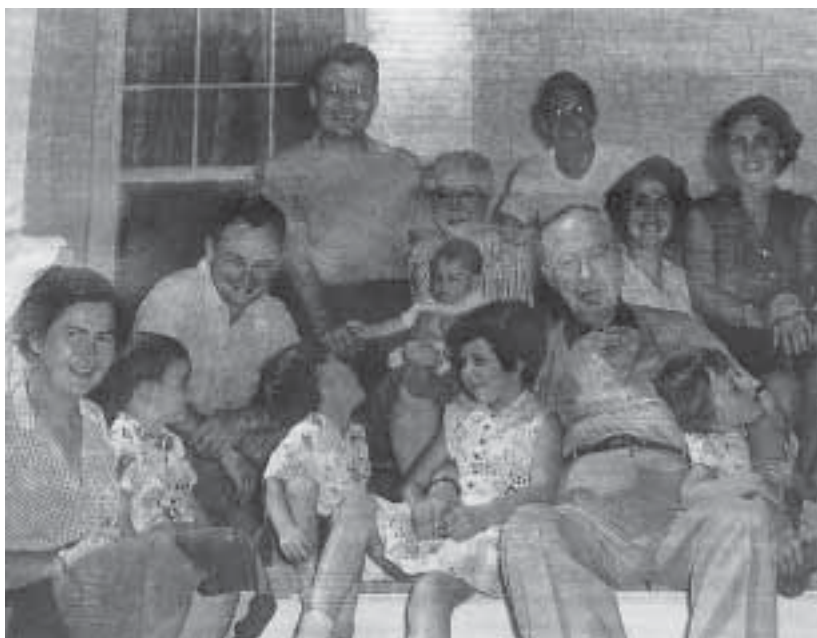
His family legacy

The Thannhausers had three daughters who were in their early teens when the family arrived by boat in 1935. Anastasia (Stasi) was the oldest. Gertrude (Trudi), was the middle child, and Gretchen was the youngest.

Anastasia Thannhauser attended Smith College (on scholarship), graduating cum laude. She then completed law school at Yale University. She prac-

ticed law in New York City, and then joined the National Labor Relations Board in Washington D.C. and ultimately served as an administrative law judge in the United States Department of Labor. She married Bernard Dunau who was a renowned appellate attorney in the labor field, and was a visiting Professor of Law at Harvard. They had three sons and one daughter. The daughter, Miriam, graduated with honors from Tufts Medical School and is practicing pediatrics in Massachusetts. The boys have pursued diverse careers, and details of individual grandchildren are beyond the scope of this brief biography. Together there are now nine grandchildren. Mrs. Dunau, now widowed, resides in Bethesda, Maryland.

Gertrude (Trudi), attended Vassar (on scholarship) and then pursued a master's degree in biochemistry at Rutgers University. She became a skilled laboratory assistant for A. Baird Hastings, Professor of Biochemistry at the Harvard Medical School. She married George Beyer, a distinguished physical chemist, who worked many years with the Kodak Company in Rochester, New York, where the Beyers now reside. They had three children – Margaret (Marty), Joseph, and Lawrence. Marty Beyer, who was the first grandchild of Dr. Thannhauser, became a clinical psychologist, after graduating from Yale



Dr. Thannhauser and Mrs. Thannhauser celebrate his 70th birthday on June 29th, 1955, with their three daughters, their sons-in-law, and their grandchildren, on the front porch of their summer home in Wolfeboro.

University (with distinction). Dr. Beyer is married to Robert Knisely, who is budget director of the United States Department of Transportation. Dr. Beyer is in clinical practice in Virginia, and the couple has two daughters. She has given us some memories of her grandfather. Joseph graduated from the Rochester Institute of Technology and is an industrial art teacher. He married Georgia Wochner Derby, a special education teacher, and they have one daughter. Lawrence Beyer is a lawyer engaged in the private practice of environmental law. He is married, lives near Rochester, New York and has two children. His wife Kate graduated from Vassar and spent her junior year in Freiburg studying German expressionistic art, thus returning to her academic roots.

Gretchen, the youngest daughter, pursued a career in art criticism after having graduated summa cum laude with a major in fine arts from Radcliffe College (affiliated with Harvard University). She married Lawrence Munson, a management consultant and author. They had two children, Kitty and Shipley, both of whom were educated at Harvard. Kitty, a national bridge champion and computer expert, has one son. Shipley, a financial consultant, has five children.

It seems evident that Franzisca and Siegfried Thannhauser brought some excellent genes into the American shores, and that they live on today to the betterment of the American nation.

Curriculum vitae

- 1885 Born, Munich, Germany
- 1895–1904 Student, Luitpold Gymnasium, Munich
- 1905–1909 Student, Faculty of Medicine, Ludwig-Maximilians-University, Munich
- 1909 Awarded M. D. Degree, Summa cum laude
- 1909–1912 Postgraduate studies in Biochemistry, University of Munich
- 1912 Ph. D. for thesis “Studies on homogentisic acid”
(Magna cum laude)
- 1912–1914 Assistant Physician, Hospital of the Ludwig-Maximilians-University
- 1914–1918 Physician, Bavarian Army. Director of a field hospital in France. Studies on shock kidney and the effect of poison gas on renal function
- 1918–1924 Assistant Physician, then Associate Physician (Oberarzt), Hospital of the Ludwig-Maximilians-University
- 1924 Habilitation for studies on gout (Thesis advisor: Friedrich von Müller)
- 1924–1927 Director, Department of Medicine, University of Heidelberg
- 1927–1930 Director, Department of Medicine, University of Düsseldorf
- 1930–1934 Director, Department of Medicine, University of Freiburg
- 1934 Dismissed from his position by the Nazi government
- 1934–1935 Laboratory assistant, University of Freiburg; private practice of medicine, Freiburg, Germany
- 1935 Rockefeller Foundation, New York arranges faculty position at Tufts University (New England Medical Center), Boston, Massachusetts
- 1935 Emigration with family from Freiburg to Boston, Massachusetts
- 1937–1962 Associate Clinical Professor, then Clinical Professor of Medicine, Tufts University; senior physician, New England Medical Center
Director, Thannhauser Research Laboratory, Boston Dispensary
- 1962 Death in Boston, Massachusetts; burial in Wolfeboro, New Hampshire

Honors:

Honorary doctoral degrees

University of Munich
University of Freiburg
University of Düsseldorf
University of Heidelberg

Fellow, American Academy of Arts and Sciences

Member, Munich Medical Society

Friedrich von Müller Medal, 1958

Distinguished Achievement Medal, American Rheumatology Association

Member, American Association of Physicians

Member, Bulgarian Association of Medicine (honorary)

Member, Spanish Academy of Medicine (honorary)

Member, Italian Academy of Medicine (honorary)

Member, Alpha Omega Alpha (honorary)

Publications: 400 original papers; 5 books (see bibliography)

Bibliography of S. J. Thannhauser, 1914–1964

I Books

Thannhauser, S. J.

Lehrbuch des Stoffwechsels und der Stoffwechselkrankheiten,
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Selection

A Renal failure in shock; other renal diseases

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3. Thannhauser, S. J.
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4. Thannhauser, S. J. und Krauss, E.
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5. Thannhauser, S. J. und Krauss, E.
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bei Bence-Jones'scher Albuminurie mit Nierenschwund, kleine, glatte,
weiße Niere.
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6. Thannhauser, S. J. und Brereton, H.
Uremia in multiple myeloma (plasmocytoma).
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B Nucleic acid structure, nucleases, and related topics

1. Thannhauser, S. J.
Experimentelle Studien über den Nucleinstoffwechsel.
I. Verdauung der Hefenucleinsäure durch menschlichen Duodenalsaft.
Isolierung der Triphosphonucleinsäure.
Z. Physiol. Chem. 1914; 91: 329–335
2. Thannhauser, S. J.
Nucleinstoffwechsel. II. Stoffwechselversuche mit Adenosin und
Guanosin.
Z. Physiol. Chem. 1914; 91: 336–343
3. Thannhauser, S. J.
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4. Thannhauser, S. J. und Dorf Müller, G.
Experimentelle Studien über den Nucleinstoffwechsel.
Z. Physiol. Chem. 1915; 95: 259–262
5. Thannhauser, S. J. und Dorf Müller, G.
Experimentelle Studien über den Nucleinstoffwechsel.
V. Mitteilung. Über die Ausspaltung des Purinringes durch Bakterien der
menschlichen Darmflora.
Z. Physiol. Chem. 1918; 102: 148–159
6. Thannhauser, S. J. und Dorf Müller, G.
Experimentelle Studien über den Nucleinstoffwechsel.
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säurelösung in der Hitze. Isolierung der kristallisierten
Cytidinphosphorsäure.
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7. Thannhauser, S. J.
Experimentelle Studien über den Nucleinstoffwechsel.
VII. Isolierung der kristallisierten Adenosinphosphorsäure.
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XIV. Studien zur Frage der Uricolyse und der Harnsäureausscheidung.
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D Cholesterol and bile acid metabolism

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2. Thannhauser, S. J. und Weiss, S.
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Die chemischen Leistungen der normalen Leber für die Vorgänge des intermediären Stoffwechsels.
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G *Lipoidoses (hypercholesterolemia, xanthomatoses, lysosomal storage disease)*

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Comment:

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