Peter M. Witt
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SKETCHES FROM MY MEMORY.
Volume 3.

Contents:

Note: This is the third preliminary part of my Thoughts and Memories. It is ownly written for my own amusement, and to entertain my favorite people. The assistance of my friends C.F. Reed and J. von Adelsheim is gratefully acknowledged.

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Schools

Only much later did I realize, that I stayed longer in school than many others: from 1923 to 1946. During all these years I enjoyed the learning, and only at the very last did I wait impatiently for the time, when I could start to work as a professional.

After four years of beginner's school, I attended the German "Gymnasium" for nine years; than I spent 6 years in medical school at German and Austrian universities; and finally it took me one year to finish the doctoral thesis. The whole period was extended through several interruptions by labor- and military-service and the Second World War.

After all those years I harvested ample and long lasting rewards: even at 50 years of age, when I began work with the North Carolina Mental Health Department, I received preference and an especially high salary as a doctor with a medical degree.

Schools have a profound influence on a pupil's later outlook on the world; the schools which I visited at different times on different continents hardly resemble each other. It should be worthwhile to look at my early schooling in Prussia in the Twenties and Thirties and compare it to the South German private school later, and in general German with American schooling.

In the Berlin of the Twenties 3-4 years of preliminary instruction were required, before one was admitted to 9 years in the Gymnasium. The publicly supported Volksschule provided the preliminary instruction; however, in my family and those of my acquaintances private schooling during the first 3-4 years was preferred. At my time this was already different from the days of my mother's youth, where private schooling at home was frequently provided until pupils were 18 years old. I always believed that my mother's lack of public schooling had given her a first class education, but it had also made her unfamiliar with public institutions for the rest of her life. As was the custom, the family physician wrote an evaluation for each child, which stated that our health made private schooling for the first three years preferable. It was a hypocritical statement; and the physician was in cahoots with the parents against the state.

For reasons which I never understood, my father insisted that I start private school with 5 years,-unusually early. For three years I walked in the morning around the corner to my aunt's house, where private lessons were given to myself and my cousin Eleonora von Haimberger together with a few other children. Very little remains in my memory from that time. The teacher, Mr. Jesse, was a strict disciplinarian, and he gave us from time to time a good thrashing. There was obviously some doubt in the mind of my mother and her sister as to the suitability of his methods, but they only rarely interfered; and my father as an advocate of corporal punishment prevailed.

For handwriting we first learned a script called "Sütterlin", which is now mostly called "gothic".It took several years before we learned "latin" script, which is the way one writes in most European countries, and which is generally used today. I never forgot Sütterlin and find it strange that my children, who grew up in the United States cannot read it. Only recently the North Carolina State Archives wanted a number of German letters deciphered, which had been written in Sütterlin by some artists in the 1920s, and it was discovered that I was one of only very few people who could read them. Of the large German colony in Raleigh the older members were no longer able to produce translations, while the younger Exgermans had gone to school after Sütterlin had been abandoned. I was hired to dictate old German letters into a machine, from where a secretary transcribed them. It felt like being a leftover from ancient times.

In addition to Mr. Jesse's several hour of instruction in German, we had a French lady, who came regularly to our house to speak French with us. Actually, we four children were in our earlier days quite fluent in French.This was important, because in contrast to now French was still the general language of polite society and of international diplomacy. Also, my grandfather Franz von Mendelssohn had a mother, who came from the Bordeaux area, and he spoke French as well as German with his family and friends. He was so pro-French, that at the time when my mother, his oldest daughter, was born, he insisted that a French wet-nurse from Bordeaux come to Berlin, so that his daughter would receive the best mother's milk;- ladies were not supposed to nurse their babies themselves at that time. It was told that the French "Amme" had arrived in Berlin in her national costume with many skirts, and that it was difficult to install her satisfactorily in the Berlin household. My mother remained fluent in French and German to the end of her life, while in my case the French slowly gave way to English, which I spoke more and more like most Europeans in my time. Today I no longer speak French fluently, though I can read and understand it, and I improve fast when French speaking people are around.

According to the brain surgeon Wilder Pennfield a child's ability to learn and speak a second and third language is strongest before about the age of 14 years; afterwards one learns languages predominantly with the intellect, and it becomes more of a conscious effort. Like most Europeans of my time, I was early exposed to several languages, and I am still grateful for this. Later, while we lived in Switzerland, most street signs and advertisements were written in three or more languages, and that helped to enlarge my vocabulary.

Contrary to expectations, I find that bi- and trilingual people frequently speak each of several languages better than individuals who have learned only one tongue. That may have to do with greater language consciousness of multilingual people, who pay more attention to words and sentence structures than those, who are only aware of one. Once I asked the schoolteachers of my children whether they found that they spoke less good English than their comrades, who knew only one language. I was willing to stop speaking German with them at home, while they conversed in English in school, if that practice appeared harmful. I was pleased to hear that their English was better than that of many of their monolingual comrades.

There are also a lot of people who speak many languages, all of them poorly, and they frequently mix up several languages. I found this in my students at the university of Bern in Switzerland; they had been brought up to understand and speak three or four languages. They knew all of them incompletely, and got them frequently mixed up. It seemed that they had become so accustomed to switch from one language to the other, that they no longer could express a thought in one alone. They had to write their dissertation in Bern in one language only, and their German vocabulary frequently proved inadequate. When I read the thesis and had to correct the German, I felt some embarrassment, because my language skills were not that much better.

There are a number of acquaintances of German origin, who seem to have forgotten their original German and never learnt good English. Their English friends believe, that if they could only listen to them in German, they would understand them better. The German listeners think the opposite, namely that they now remember only in English. The surprise is great, when I tell them that their German is as full with mistakes and has as much foreign accent as their English.- This may have to do with a lack of attention to the spoken word and a limited gift for keeping languages apart.

My mother had learned a language called Voecklapück, which was promoted as the future international language of mutual understanding. She believed that its knowledge might contribute to world peace. I doubt whether she ever found a second person, who could speak in that language with her.

The language lessons in school taught me, that I had no gift for foreign tongues; but during my life I found out, that under pressure I could learn whatever was necessary. I received early,- and particularly later,- in school poor grades in English, French and Latin; but I managed to publish about 150 scientific papers and 3 books in these languages, and I enjoy speaking them.

Another set of lessons was in physical education: Swedish gymnastics, boxing, fencing and horseback riding.

After three years in private school I was too young to be admitted into gymnasium, and I spent a fourth year in the house of a family which lived down our road, and who had 10 children,-all taught at home. The enterprising mother had started classes for all of them, and neighbors were encouraged to join. A lady, which I regarded at that time as rather elderly, Fräulein Voelker, taught my class for one year and prepared me for the entrance into the Grunewald Gymnasium in spring 1927 at the age of 8 years.

From the classes Sexta to Unterprima, that is for 7 1/2 years, I went by foot every morning 2 blocks along the Linden tree-lined Koenigsallee to the Grunewald Gymnasium. A few days ago I received a collection of curricula vitarum of my schoolmates of that time, and it struck me how much all our lives were shaped by the political events which took place in Germany between 1927 and 1935;- the latter is the year I left this school.

Grunewald, where I lived most of the first 25 years of my life, and where my school was located, was a suburb at the South-West end of Berlin. The Kufürstendamm, a well-known Western artery, runs in that direction out of the city and changes its name to Koenigsallee. It continues toward Wannsee and Potsdam. Our street was named after Mr. Koenigs, who had built a house there in the 19th century. From him my grandfather and his brother had acquired a large piece of land around an man-made lake. The lake had been created from a swamp, and had received the name Herthasee. Through canals which run under bridges this lake connects with three others. The Kurfürstendamm-Koenigsalle started downtown at the Kaiser Wilhelm Gedächniskirche and went straight to the gate of my greatuncle's estate. Whoever wanted to go further out had to go along a S-shaped bend in the street around our gardens. The whole colony of villas had been developed under the sponsorship of Johanna Bismarck, the wife of the iron chancellor, and there were special rules and regulations, which tried to protect its rural character. There were no apartment houses, no shops,- and gardens surrounding the villas had to have a minimal size.

The whole "Villenkolonie" (as it was called) was green with trees and shrubs. Between the trees one had views of the great houses, which were built in many styles,- from medieval fortresses to baroque castles-, grouped around lakes. Two of the lakes had islands in the middle. My mother's house was one of the very few more modern buildings. The majority of pupils in the Grunewald Gymnasium came from families which lived in Grunewald, and only few commuted from apartment houses along Kurfürstendamm and Halensee to school. Consequently my classmates came from a rather select group of families. Most families were very wealthy and bore famous names; however, I did not know that at the time. Much later, when it suddenly became important, it turned out that nearly half the number of our pupils were jewish.

Only one boy in our class was catholic, all others were protestant, or, as they would be called in modern America, Lutheran. The first hour of the week was devoted to religious instruction, and the majority of pupils went to the protestant lesson. The schools in the United States are different, because a state-run institution provides no religious instruction as a consequence of the constitutional separation between church and state. The Prussian school system was still a product of the Westphalian peace treaty after the Thirty Years' War, when German states adopted one religion each, according to the prince's church. Our Hohenzollern kings had been protestant. I am not sure whether the free American system makes life easier.

I liked the protestant religious lessons; particularly the reading of the bible in German provided me with ample material for my efforts in drawing and painting. But lessons could also be quite boring, and frequently I began to doze off. This was dangerous, because I was still sensitive to the pronounciation of my name. Frequently it turned out that I had reacted to the common German word "mit", got up and reported as present, when I had interpreted it as "Witt". Strangely enough this kind of incident is the most lively memory I have left from my religious instruction.

This is the place to describe briefly the role which organized religion and the church played in my life. I was aware of my greatgreatgreatgreatgrandfather's reputation as an emancipator of the jews in Prussia. As a true philosopher of the Enlightenment he believed, that it was more important for a human being to be good, kind and decent, than to adhere to a specific organized religion. The church was only as good as it enabled a person "to become beloved by God and man". Moses Mendelssohn remained jewish throughout his lifetime. By translating large sections of the bible into modern German for his fellow jews, he wanted to teach German to jewish children and help them to become at home in German society. For that he is still criticized by orthodox jews. Many of his closest friends, like Nkolai and Lessing, where non-fanatic protestant christians.

Several of Moses Mendelssohn's children converted to christianity, even tried to change their name: like the parents of the composer from Mendelssohn to Mendelssohn Bartholdy,- with the plan to drop the first part later; this was never carried out. Moses' daughter Dorothea together with her second husband, Friedrich von Schlegel, converted to catholicism. My ancestors, Moses' oldest son Joseph together with his wife Henriette nee Meier, stayed jewish throughout their lives,- patially out of loyalty to the admired father. Their son Alexander and his wife Marianne, my greatgreatgrandparents, stayed also jewish, but had all their 8 children christened protestant: that included my greatgrandfather Franz and my greatgrandmother Clara. Franz married a catholic wife from Southern France, Clara married a half-jewish husband.

My father's mother, who was of Spanish origin, was catholic and had my father christened catholic. We children were brought up in the protestant church; we went regularly to the Grunewald church, which played an important part in our lives; the church was an integral part of our holidays- like Christmas. My mother had been christened, was confirmed and married by the same Grunewald minister, who also had christened all four of us children. Whenever we met the minister, Pfarrer Priebe, in the street, he greeted us children as:"Meine Täuflinge", which we understood as "my little devils" (Teufel), while he only tried to say that he had christened us (getauft).

In my teens I received together with most of my classmates and friends special instructions in preparation for the confirmation. It made me enter a period of faith in the protestant teachings. I never made a clear decision for or against the accustomed church, but followed my elders and friends. Our instruction was mainly in church history, with special emphasis on the reformation and Luther, and the catholic church was described quite unfavorably. Nothing was ever taught about the jewish faith, or about islam or buddhism.

Much later, when I attended the university, I took a special course in comparative religion. I learned to my great surprise that all churches had developed and changed, and that they had similarly modified their original teachings. During the Second World War I observed ministers and priests blessing our weapons and learned songs which indicated that god was on our side. The people who blessed the weapons were the same, who had taught us to present the other cheek when attacked. I could not help to discover much hypocrisy in the church of my childhood. The greatest shock came, when the minister of my childhood days, who had always praised my grandfather's gifts to the church, became an enthusiastic Nazi and appeared as a materialist, who was more interested in the preservation of a building and its treasures than in the spirit of christianity.

My doubts in the merits of organized religion grew when my brother became a Benedictine monk in the 1950s, and I had a chance to make close observations. I found much hypocrisy in the adherence to the vows of poverty, chastity, and obedience, none of which seemed to apply to the conduct of his affairs. He was interested in having a private bank account unknown to the abbot, and we learned that a child of his had been conceived while in the monastery.

When we moved to the United States in 1956, and when the familiar passages of the bible were quoted in unaccustomed English, the magic of hearing the old words had disappeared, and I felt like a stranger. I declined to go any longer to a church service.

I find the greatest miracle on earth the existence of life and the development of plant and animal species. If there is a god, it seems to me that he manifests himself through that. By Goethe this was called pantheism, and he put it beautifully into words. But the idea of a physical life after death, a life which would be more than just in the memories of survivors, seems to me as absurd as the trinity, which we learned to be really "monotheism", or the creation of the world according to a supervised plan.

Maybe the Grunewald protestant church laid the seeds of doubt during my teenage years. The old minister, Pfarrer Priebe, who had had such a close relationship with my family over many years, was a vain and worldly person. He worshipped Martin Luther, who was for him- together with Bach- as divine as the biblical god. He traveled with all of us before the confirmation to Wittenberg, where we visited every place which was even remotely connected with Luther's life. The trip also proved an opportunity to put down the "mercenary" catholic church. But our pastor laid great stress on wealth and beauty in the Grunewald church, where he had collected valuable prints and manuscripts from the time of the reformation.- After the bombing of that church in 1944 I met him, as he wandered over the ruins of the building, bemoaning the loss of the treasures, and finding no spiritual consolation. He had become an ardent Nazi, had started to preach against jews. This was in contrast to all I believed, and I was shocked by the lack of spiritual values and charitableness in a christian minister.

Looking back, I find the Grunewald Gymnasium, which I entered in 1927 and attended until 1935, a school in which I learned much, where I received much education and knowledge which shaped my thinking, but which when compared to modern American schools was very Prussian in its stress on learning mostly by heart rather than through understanding.

In history, for instance, we had to learn by heart the birth- and death dates of all the Hohenzollern rulers, first as Markgrafen, than as Kings, and finally as Emperors of Germany. Most of these dates remain still in my memory. We were told to admire the rulers' simplicity and austerity, honesty and wisdom; I still find it puzzling, when I read now that Frederic the Great did not keep his promises made in treaties, and that he was unjust. The Hohenzollern castles around Berlin, like Glienicke, Paretz and Charlottenhof are timelessly elegant buildings of great simplicity, which served as models for the steel and glass skyscrapers of Mies van der Rohe.

But Frederick's treatment of Moses Mendelssohn severely tested my loyalty, because it seems that, when Moses Mendelssohn was unanimously elected to the Prussian Academy of Sciences, the king did not sign in confirmation, which made the election invalid. Moses Mendelssohn seems never to have held a grudge against him, nor did it intimidate him, but it sheds a poor light on the image of the "enlightened" ruler, in whose "kingdom everybody was entitled to achieve blessedness after his own fashion." History is probably always taught with a slant, and it depends on where and when it is discussed. We know that even a biographer can interpret a life differently, depending on where and who writes it.

Our teachers were strict and just. When they entered the classroom, we all stood up and shouted "good morning,sir", and they greeted us in return. My classroom teacher (KLassenlehrer) for many years was a gentlman called Dr. Ernst Walther. When Hitler came to power, and he was required to raise his right arm and shout "Heil Hitler", he would afterwards bring his arm down in a discarding fashion, which left no doubt about his feelings. He continued that throughout the Third Reich, never making a secret of his convictions. The director of the school, Dr. Vilmar, was a conservative, very upright old gentleman, who was mainly concerned with the high quality of teaching. In the upper classes we had flexible schedules, in which we could choose which subjects we wanted stressed; for me this meant as much biology as possible. Vilmar had to leave his post in the mid Thirties and was replaced by a political appointee, whom almost everybody seemed to hate or detest. At that time the atmosphere in the Grunewald Gymnasium changed rapidly.

Last Years of High School.

At the end of January 1933 Hitler was appointed German chancellor by the president of the republic, fieldmarshall von Hindenburg. It was a legal takeover, even if the means to get there had been frequently devious. In retrospect I find, that the political situation in Germany in this and the following years influenced profoundly my microcosmos. It is of interest to trace the events at the individual and the national level and try to establish parallels.

The ageing Hindenburg embodied the bridge between the old German empire, which had ended 1918, and the new German government of the republic. In the First World War Hindenburg had been the commander in the successful battle of Tannenberg, where the Germans achieved a victory over the Russians at the time of the last emperor Wilhelm II. Hindenburg had become the president of the republic, in return for having served his country in honesty and loyalty, disregarding political expediency. He was very old, and there was a question whether he was still able to judge the political situation correctly. Difficulties had begun with the last emperor's vanity and unreasonableness, and the very old fieldmarshall appeared lost with modern politics.

Earlier I had seen Hindenburg when he had come to Grunewald to greet the king of Egypt, Farouk, who stayed a few days with the Egyptian ambassador to Germany. The embassy was around the corner from where we lived. At that time my brother and I, two little boys, had walked by when a big black limousine stopped in front of the Egyptian ambassador's villa. A very old man, Hindenburg, got out and crossed the sidewalk in a slow, ponderous walk to get to the garden gate of the ambassador's residence. I remember clearly, that I told my brother that we should both touch Hindenburg's coat, because he was an important historic personality;-we could later tell our children about it.-Many years later I had a similar feeling of touching history, when I shook the hand of Rosalyn Carter, the wife of the president of the United States.

Because of this opportunity of seeing the very old president von Hindenburg close-up, and because I had read much about him and had discussed him with my conservative friends, I had become particularly observant of the events in Germany in 1933; I was keen to follow the evolving changes and tried to judge them. On the day when Hitler took over the German government, and after a parade of torch bearing SA men had marched past him while he stood on the balcony, nothing changed in my little life. I went to school the next morning as usual, and only in retrospect became the day endowed with special meaning. But it was the point in time, when life began to change subtly, and I began to grow up and began to think politically independently.

The strongest impact of Hitler's rule, which had begun in January 1933, was the slow change in the relationship between the German jews and a few other minorities, and the rest of the Germans. I had always been conscious of my position on both sides of the fence: on the one hand side the double descendant of the jewish philosopher and reformer Moses Mendelssohn, on the other side long lines of protestant and catholic Germans and Frenchmen; but they had never appeared in conflict. We had always heard, that Lessing in"Nathan der Weise", who was supposed to be a portrait of his friend Moses Mendelssohn, had put forth the idea of the enlightenment, that all religions were candidates for the "true religion", and that they could be judged by the degree in which they presented an opportunity to make people good, kind, and pleasing to god and man. On the other hand, in the weekly religious instruction in school and in the local protestant church I had learned about the greatness of Martin Luther and his opposition to the "pomp and decay of the medieval catholic church". Luther had become a nearly god-like figure, who was upright, and who lead the Europeans back to simple goodness. The local minister had called him "our Luther", and we took a pilgrimage trip to Wittenberg, where we visited all the places where the great man had been. The composer of the reformation, Johann Sebastian Bach, had become my favorite musician, and the minister had exclaimed frequently:"The man should be called Sea, not Brook (Bach)". It seems to me now that religions, and what we began to call races, were really to me all equal and all worthy of attention and exploration.

As far as I know, my friends had similar thoughts. We were a group of boys who lived near each other, celebrated our birthdays together, and discussed political events in a boyish fashion. There were some of us who believed, that Germany should return to the pre World War I empire, while others defended the republic. Some, like myself, would have preferred a more equal distribution of property, the purest form of communism,- others liked continuation of the present system,- or a return to earlier feudalism. But even now, when I look back with a searching and discriminating eye, I cannot detect any antisemitic feeling in our group. It just had never occurred to us that something like that could exist. Hitler's evil creation was the polariztion of people into pro and anti special groups.- Hitler transformed a reasonably balanced society with widely differing ideas and opinions in a short time into a black and white assembly of hatefilled scoundrels and a few saints.

Suddenly it became important, when one dealt with the state officials and in many other instances, whether one was jewish or not; if yes, how much jewish was a person? When writing the new laws, the only bureaucratic definition of jewishness was membership in the jewish religion,- or, in case of doubt, how many of the four grandparents were of jewish religion. People went to work on falsifying christening certificates for their ancestors.- From my father and maternal grandfather I learned soon, that I fitted none of the new categories of either jew, arian, or mixture (Mischling). You were a Mischling of the 1.,2. or 3. degree, if you had 1-3 jewish grandparents. I did not have a single jewish grandparent. If you were singled out to become an officer, party member or another illustrious "leader", you had to document that you had no jewish ancestors at all.

This was the rather absurd state of my affairs: I did not have a jewish grandparent; I did not have a jewish greatgrandparent. When it came to greatgreatgrandparents, I had only 14 instead of the usual 16, because of in-family marriage. Of the 14, 6 were catholic, 5 were protestant, and 3 were jewish all their lives long. The latter were:1. Alexander Mendelssohn, the grandson of the philosopher Moses, who had found it proper to stay with his grandfather's religion, but had all his 8 children christened; 2.his wife Marianne, nee Seligmann, who was a greatgranddaughter of Daniel Itzig, the well-known court banker of the Prussian kings in the 18. century; and 3. Caroline Westphal, nee Heine, the aunt of poet Heinrich Heine. Expressed mathematically this made me either 3/14 jewish, or, if one counted double ancestors twice, 5/16 jewish, a figure which did not fit any legal definition. Some of my cousins declared on questionnaires that they were "Mischlinge", others stated that they did not know of any jewish ancestors, and they asked us all in letters to please destroy any papers which would document the true religious affiliations of our ancestors.

The polarization and increasing hatred between factions of the German people were the most noticeable reflections of national events in our school. The Grunewald Gymnasium, which I had entered after pre-school in 1927, was a state institution only two blocks away from where we lived. In the morning it took me less than 10 minutes to walk over there. Halfway I stopped to meet my cousin Walther Bohnke at a Litfass-Säule at the corner of Koenigsallee and Herthastrasse. My cousin lived with our grandparents, after his parents had died in an auto accident in 1928. We both left our gardens at the main gate, walked around, and met in the middle. Together we walked the last 5 minutes to school, where we arrived punctually 10 minutes before the start of the first lesson, when the gates were opened. All lessons started every day at 8.00a.m. My younger brother never went with me, but left the house somewhat later, and he came frequently late for the first lesson.

His punishment consisted in having to report early for 3 days; after that he was soon late again. This happened probably only a few times, but in my recollection he alternated between too late and too early, and we never walked together.

The director of the Grunewald Gymnasium was a widely known educator named Dr. Vilmar. He always wore a stiff, high, white collar, looked very dignified, and he advocated a progressive curriculum. In the higher grades we designed our own distribution of lessons and were only limited by the need to cover all main subjects; we could assign to a subject high or low priority.One of my high priority subjects, the biology laboratory, took nearly all afternoons, and it consisted of a university level course.The teacher, Professor Gruner, had studied chemistry with my grandfather Otto N. Witt, and he never forgot to mention the "distinguished professor in Charlottenburg" as his teacher.

In the early Thirties Dr. Vilmar, the principal, was suddenly dismissed as politically undesirable; he was replaced by a Dr. Waldvogel, whom we abbreviated as "birdie".He immediately began to change the school. He seemed to us incompetent; his chief merit lay in his Nazi party activism. He was one of the reasons that our little world began to change.

The Berlin suburb of Grunewald was widely known for its prosperous inhabitants. After it had been founded under Bismarck in the late 1890s, my grandparents had become one of the first inhabitants, living on 17 acres of gardens or parks in what was frequently called a palais. In the many large houses in Grunewald lived families with well-known names i.e. of publishing firms (Ullstein),factories (Siemens) etc. They sent their sons to school in the Grunewald Gymnasium. We discovered now to our surprise, that a great number of these families were jewish. However, many pupils came from adjoining suburbs to our school, from Halensee or Schmargendorf, where they lived in apartment houses. I remember a healthy mixture of backgrounds and social status, which made for a pleasant atmosphere in school. But all this changed: In the pauses between lessons, while we walked around in the school courtyard, one began to notice fights. These were against jews by "arians",- and the teachers did nothing to interrupt.

I was never involved in any of this, but I began to feel uncomfortable. We all started to become aware of the religion and the descent of other boys, and the general atmosphere became quite distressing. There were a few incidents, which indicated to me what was in store:

One day two boys in class were missing. We were told that they had left school and had moved abroad. At that time foreign travel was still rare, and I was one of very few pupils who had been in France, England and Italy. To move abraod was an enormous undertaking, and we became worried about our former classmates. Never again did we hear from them.- One of my best friends was suddenly sent by his half-jewish mother to school in Switzerland. On a later page I report on what happened to him and his mother.- As time went on, many others did not come back to class, and we missed them. These are only two examples of what went on.

There remains in my mind one event which shows clearly what changes had taken place in our sheltered lives: Across from our house on Koenigsallee was the rear entrance of the property of a family called Manovil. They had come to Germany from Hungary many years before, and the father was now a high officer in our family bank. Their religion was jewish, and they all spoke with a heavy Hungarian acccent. The son, who went to my school class, had been no particular friend of mine, but as neighbors we had played a lot together. One winter we even organized a theatre performance in their basement, the proceeds from which was to be given for "Winterhilfe" (winter-help, a Hitler organized fundraising drive). Without apparent reason the boy,named Robi, became the target of a group of Hitler youth pupils. One day Robi confided in my friends and me and told us, that on a specific day the Hitler boys had threatened to beat him up on his way home from school.

The only apparent reason for this persecution was his religion and foreign origin, two factors which we found rather endearing; there was certainly no good reason for violence. My friends and I quickly devised a plan, according to which we would accompany him back from school on a roundabout way, which would bring him directly to the massive gate and the protection of the watchman of my grandparents' garden.

When we arrived, the watchman stood ready, and he let us enter the large garden. We proceeded across the bridge into my mother's garden; from there he could cross the street under our watchful eyes from our front gate to his parents' rear gate, and be home safely. All went according to plan, and the attack never materialized. Robi Manovil never came back to school, and we all had received a severe shock. 25 years later he visited me in the United States. He had not much changed, and I still was not very fond of him. But the incident brought home to me and many others the cruelty and potential dangers, which threatened pupils who went to our school.

During that summer vacation I decided after more than 7 years in Grunewald Gymnasium never to go back to my old school. My younger brother stayed there and finished high school in Grunewald, while I entered in fall of 1935 the private boarding school Birklehof in the Black Forest.

The change from one school to the other was my decision alone. My mother had no experience with public schools, as I have described earlier. She left it to us to go or not to go, and frequently, after a late theatre performance, she would urge us to stay a day in bed. She volunteered to write an excuse for us, which would claim that we had a cold that day. The effect of such an offer was usually to make us want to go, and I only rarely missed a day of school.- I never told my mother about the events in Grunewald after 1933. I did not want her to worry; and I probably would have found only little understanding, but would mainly have upset her.

In spring 1935, after the above mentioned incidents, I systematically explored alternate schools. When I decided that summer that I would not return to Grunewald Gymnasium, I was already exploring a suitable new place. I had collected literature on the conditions of acceptance and on the rather high tuition fee. I remember that I confronted my mother one day with my new plan. I said to her:"All conditions in the new school are good for me, and the only reason you could give for not sending me there would be that you cannot afford it." I realize now how juvenile and childish I was: it came as a complete surprise to my poor mother. After a moment's hesitation, in which she had gotten quite pale, she answered something like:"If you really think that this is right for you, I will support you."

The owner and chief administrator of the new school was Baroness Edith von Wolff, who had grown up together with my mother in Grunewald. My mother liked her very much, and I, like all other pupils, soon became convinced, that she was a model of warmheartedness, elegance and literary knowledge. She came from a family, who was said to be so rich that they ate every day from golden plates; and she had twice married well-to-do husbands. For reasons not known to me she had lost all her possessions, and she had found herself in the early 1930s with 5 children and a large, lovely house in the Black Forest, but without a sufficient income. She got together with other families in the area, who wanted a good school for their children nearby, and with the help of the school Schloß Salem on Lake Constance she founded the private boarding school"Birklehof" in her house.

The setting of the school was beautiful, the buildings roomy and elegant. The architect von Teuffel, whose son was one of the pupils, had located the buildings on a slope, which overlooked the upper exit of a valley, called "Höllenthal" (hell valley). One took the small train from the city of Freiburg im Breisgau, the Höllenthalbahn, to climb slowly up a narrow valley into the high Black Forest. Where the valley suddenly widened, there were rolling hills, woods and meadows, and one entered past Birklehof the resort village of Hinterzarten (called in jest by the mother of one of the pupils, the princess Hatzfeld, "Popo dolce"). We looked down on the exiting trains and to the other side of the valley, beyond which the hills rose toward the Black Forest's highest elevation, the Feldberg. This was a well-known skiing area in winter. One entered the house from a courtyard and walked through onto a terrace, from which one had a magnificent view over the valley into the hills.

At the time of my arrival in fall of 1935, the buildings still showed traces of the former private residence. Even some school rooms were decorated with beautiful old furniture and portraits from the Wolff family.-30 years later, when I returned to show the building to my children, it had become quite run-down and looked shabby.

In the way the school was housed, as well as in the manner of teaching and so-called pupil-self-administration, the school constituted the opposite of the Grunewald Gymnasium, where I had spent the preceding 7 1/2 years. In contrast to the nearly 1,000 pupils there, Birklehof at the time of my entry had altogether some 70 pupils, which were distributed over 8 classes. It had just started to grow, and each year from than on there would be one more class and many more pupils. When I left it had 9 classes, which was the full number for a German high school.

My new class had been, and was to be for another 1 1/2 years, the senior class in school; this made it special. We were the pioneers, the trend setters, the oldest pupils just below the teachers, some of which were not much older than we. Whether for this reason, or by the chance which brought specific young people together, we formed a memorable group. Everything seemed to have come together to make us and many others feel, that here was a special group in an extraordinary school.-I will try to elaborate on this later, but it must be reported, that when we met 53 years later, the feeling persisted.

A boarding school was also a completely new experience for me. In contrast to home, there were always other young people around, so that even when you were in the bathroom, somebody would knock at the door; I remember expressing this observation early on to others. We had received lists which enumerated what we had to bring along: it mentioned pillows, blankets, sheets; every article of clothing had to have your name sown into it. We arrived with enormous cabin trunks, which were brought up to our rooms. I remember that the knee sox with the name at the upper end, which we wore with flannel shorts, were a convenient means of refreshing our memory of other pupils' names. One could always bend down and read another's name on the back of his or her calf. This was only so in the beginning; because of the small number of pupils in the whole school we became soon acquainted with everyone. Friendships between older and younger pupils were frequent, something which had been unheard of in Grunewald.

Not everything went smoothly. When I came into the entrance hall the first time, I noticed the sweeping staircase, which lead to the upper floor. This was were my bedroom lay, in the "lower tower room". The architect had located a large, eight-cornered tower in the middle of the building, from which one looked into the valley. As the tower rose from the front terrace, it became increasingly smaller, ending in a little baroque "onion", which formed the characteristic landmark on top of the building. The lowest eight-cornered room was the former dining room of the Wolff family, now an extra classroom. Above that lay a smaller room of the same shape, which served as the dormitory, to which I was assigned. Later I rose in rank, and slept for a while in the smaller 3rd floor "tower room". My first bedroom I shared with seven other boys, and we had 8 beds, which folded down, out of the wall. One of our frequently repeated jokes consisted of fixing the support at the end of the bed so, that it would collapse, when a late-comer arrived in in the dark. But before I could ascend to the upper floor, I encountered a difficulty in the lower hall, which I remember still clearly.

A small boy my age came down the stairs and asked me my first name, in what I perceived as a condescending tone. When I said "Peter", he advised me in no uncertain terms to change the name as soon as possible; there were already several Peters in the school, including he himself. Very shortly thereafter everybody began to call me "Pitt",- a combination of Peter and Witt. I liked that name, and I still enjoy when I get letters now addressing me as "Dear Pitt". However, at that time when I began with trembling anticipation a new period in my life, I was upset and began to dislike the boy immediately. After we said goodbye 1 1/2 years later, I made no effort to stay in touch with him. Last summer, 53 years after the first historic meeting, we met again at the house of friends. We got along well and liked each other. He had no recollection of our first meeting, and I began to wonder, whether the special circumstances had tainted my recollection, and had caused the unhappy memories of our first encounter?

First difficulties were soon forgotten; only a few minutes later on this special day I met an exceptionally warm and nice person, who was an important member of the Birklehof staff. Miss Bullrich, or "Buich" as everybody called her, had come originally from Russia, and she still spoke with a strong Russian accent. She had probably fled from the revolution, like many of her compatriots who lived at that time in Germany; the accent was quite familiar to me. She had become a domestic helper in the large household of the Baroness Wolff, and she had looked after her many children. When the Wolff residence became a school, she had just stayed on and became a housekeeper-nurse, who cared for sick and lonely little boys and girls. She looked after them when they became homesick or lost,and when they were unable to cope with the problems of being the first time away from home.

Looking back I can hardly believe my great difficulty in the new school, during which Buich came to my assistance. I was 16 years of age, but I had never had a chance to make a bed;-this sheds some light on the way we lived in Grunewald. It is hard to imagine now, but I stood in front of my new bed with the grey mattress in the lower tower room, in my hand the white linen I had unpacked from the cabin trunk, and I had not the slightest inkling on how to proceed. Buich approached and began to talk to me. She asked no questions, but quietly proceeded to help in the task of covering the bed with sheets and blanket. She had probably helped many times before, she may even have deliberately come in, because she anticipated the difficulty. I never forgot this incident, and I always stayed grateful.- Since than I have preferred to make my own bed, even after I got married, or when there were maids around. As the 20th century progresses, the chances of not knowing how to make a bed have certainly decreased.

Was it unusual at that time, that I was so naive? Had we been especially spoiled at home? In Grunewald in the mornings we would always leave the bedrooms to go downstairs for breakfast, and when we returned, the beds were made and the clothes put away. The clothing for the day was layed out for us, and we never spent a thought on where it came from. When I had to adjust to a more austere life, I experienced difficulties only for a few days. It was my moment of transition, when the kind Buich stepped in,- and she helped me with a step in the growing-up process.

The relationship between teachers and pupils was another surprising new experience, after I had come to Birklehof. In Grunewald we had had an adversary relationship with the teachers: it was a point of honor to cheat as much as possible. When we had to write papers, we had notes hidden in our sleeves, which we consulted secretly; we exchanged information in wispers, so that the teacher would not notice it. The first mathematics test in Birklehof brought a complete surprise: we sat around a large table in the lower tower room, the teacher came in and wrote the problem on the blackboard. After that he left, and told us to deposit the results in his room, as soon as we had finished. There was no control, and consequently no cheating. This appealed to me immediately.

Another change came with the transition from the discipline and obedience of the military-like Prussian public school to the liberal, largely pupil-administered private Birklehof school. Our institution had been founded as a branch of a larger, tried-out system, which had originally been set up after the First World War in Salem near Lake Constance. The originators were the democratic "Red Prince" Max of Baden and the educator Kurt Hahn.

Prince Max, who was the first chancellor of the German republic (after the emperor Wilhelm II. had fled to Holland 1918), wanted to try out a model system of education, in which his own and other peoples' children would be instructed academically, and at the same time they would learn to behave honestly and responsibly at an early age. This system, which has since become famous, spread over several schools; one of its products is Prince Philip, husband of Queen Elisabeth II. of England, and a nephew of Prince Max. The school was first housed in a former monastery, which belonged to the prince;it spread to several other buildings around Lake Constance, and finally was instrumental in the foundation of Birklehof school. When I came, Birklehof had become independent, and it took in jewish and partly jewish pupils from all over Germany. I was not aware of that at the time. The director was a former assistant of Kurt Hahn in Salem, and through his high standing as" old Nazi party" official he was able to give special protection of our school against state interference.

Our controversial director's name was Wilhelm Kuchenmüller, abbreviated by us to "Cake". As far as I know, he had never shown antisemitic feelings, and though we found some things he said riduculous, we believed in him as a defender of equality, individual rights and political freedom. Though I was unaware at the time of all the problems which Hitler's politics brought to schools, I must have sensed something about the spirit of Birklehof when I selected it. The self-administration of pupils, which was full with flaws and problems, will be briefly described. It was at that time an important part of our school's educational system, and somehow served us well. One rose through the ranks to increasing responsibility and honors. The speed of rise depended largely on each one's cooperation with the others.

The first step, as I recall it, was the permission to wear the school uniform. After lunch everybody went to his or her room and took a rest or a nap. At the end of that period we showered and changed into a grey flannel suit (or dress) for the afternoon and evening. New pupils just changed into a fresh shirt, while pupils who had been around for a while and had been found "worthy", put on their grey suits. A rebellious cousin of mine, who was also a pupil, had lost the priviledge of wearing the grey flannel, and thereby became some kind of outcast. He had had to leave home,- our grandparents' house,- after he had become unmanageable. The school did not change him very much; he burned the grey suit as soon as he had received it. I am not sure whether he was reformed by being stripped of the honor. It is unclear whether any system would have been able to cope with him;- 50 years later he is still a rebel and outcast. It points to one of the problems of this school, namely that it received many children which were too difficult to be raised at home.

The next step in the hierarchy of honors was the "training plan". This was a kind of self-monitoring device: one accounted for one's proper behavior by putting a plus or a minus behind specific items, like honesty, cleanliness etc. There was also a line for a secret virtue, which everybody could choose. The plan was brought to the mentor,- a special teacher of one's own selection,- once a month and discussed. It was a questionable educational tool, because it depended on subjective self-appraisals. As an example: a boy, whom I thought particularly good and reliable, came always with bad marks, because he was guided by a high sense of self-criticism, bordering on masochism.

We all had duties, some of greater importance than others. The highest achievement was to become a "helper", a supervisor specialized in one sector, for instance in gymnastics or lessons; the helper was member of a ruling "ring", which was coordinated by the "chief helper". All of the helpers were senior pupils, who had been there for some time, and they came mostly from our class.

The principal helper in my time was the brother-in-law of the director. He was a nice and serious fellow; but because of his family connections and some awkwardness, he suffered some ridicule. Hellmuth Krause, our chief helper, did a good job, but he should not have been appointed. During my brief stay, I never achieved the honor of helper.

When I arrived, the top jobs in the self-administration of the school were already filled. I soon reached the stage at which I would have qualified, and an office had to be invented for me. What I finally did seemed not particularly challenging to me, and it strongly appealed to my tendency to forgive and forget: I stood three times every day at the entrance of the dining hall and checked the cleanliness of hands and fingernails of each pupil. I had the right to send anybody back to the washroom, who did not meet my standards. I was inclined to overlook some dirt; the hardship for the person with dirty fingernails would consist in a delay of the meal,- and everybody was always extremely hungry. My responsibility never seemed to me a great challenge, and as far as I was concerned, the self-administration proved inessential.

The atmosphere of the whole school was most enjoyable: the grounds, the teachers, the pupils. I still remember with pleasure many nice events, and there remain several friends -,formerly teachers and pupils,- 53 years later. It sounds trite, but we felt like one large family, which suffered the ups and downs of life together. Rather than going into a chronological report of my time in Birklehof, I pick a few aspects of events which touched me personally, and which shed light on this unusual school.

The teachers were mostly young and enthusiastic. Most of them spent time as house parents and mentors, in addition to their teaching duties. Only a few weeks after arrival, I was asked to select a mentor. The mentor would look after the pupil's interests and monitor his academic and personal performance. The oldest class, to which I belonged, was split into three sections:1. Realschule, where mathematics and science were stressed;-2.humanistic Gymnasium, which was predominant and spent most time with Greek and Latin; for them the mentor was invariably Dr. Kuchenmüller;- and 3. the hybrid Realgymnasium, where most of the effort was exerted on modern languages and mathematics, but where some Latin was taught too. The latter was my section.

I had to take Latin in preparation for the study of medicine, but I was not keen on other humanistic learning. I was concerned with acquiring English and French, as modern languages,- and biology and mathematics interested me most. According to my age and seniority I was expected to select Dr. Kuchenmüller as my mentor; to everybody's surprise my preference was Dr. Robert Breusch, a gentle mathematician. All of his "mentor children" were younger than I, and on excursions I would be separated from my classmates. I insisted firmly on my choice, in spite of warnings; it worked out very well, but I do not know what made me so sure at that time. On the following walking tours across the high Black Forest I became friends with many younger boys; nothing like this would have been possible in Grunewald Gymnasium.

The pleasure in the consequences of this daring decision did not last long. In 1936 Robert Breusch left Germany and emigrated to Chile, which enabled him to marry the girl he loved. She came from a Freiburg jewish family and was not allowed to marry an "arian" in Germany. When I found this out, I was again reminded of the changed climate. By the time the Breuschs departed, we had become close friends,- he had even taken me to Freiburg to visit his old parents, who had lived all their lives there. The farewell from Robert Breusch constituted one of the great losses in my young life, and after the farewells I went to my room and wept.

One could not foresee that only 16 years later we would meet again, when I came as a Rockefeller fellow from a defeated Germany to Harvard University in Boston and the Breuschs taught in nearby Amherst. We now met as colleagues. I was surprised to find out, that our age difference was only 11 years; it had appeared enormous in my schooltime. We again became friends, and now at my age 70 and his 81 we are still in close touch. My younger daughter became Robert's godchild, and the children visited him recently on a concert trip. They went with him to dinner and experienced similar delight in his company as I had found so much earlier. The whole chain of events can be seen as the consequence of my rash decision in 1935.

I shared all lessons in Birklehof with only two classmates: Traudl Mies van der Rohe, the daughter of the modern architect Ludwig Mies, and Gabriele Grisar from South America, who died only a few years later in the Berlin air raids of the Second World War. For many lessons we joined either the humanistic or the Real Gymnasium classes, and received thereby a particularly thorough grounding in languages and mathematics.

Traudl lived after the war with her father in Chicago, where I saw her again as a curator at the Art Institute- just before her early death from cancer. Recently I read in a Mies van der Rohe biography, that she had gone to one of the most elite and exclusive schools in Europe: the

Birklehof. I do not like the label and ask whether this is true? Where we exclusive and elite during my attendance at the Birklehof? Naturally, a small, private school limits the number of pupils who can go there, and it attracts a specific group. We were certainly not a cross section of the German population. There were many children from divorced parents, who came from broken homes; and the school provided them with a good place to stay. Divorce was than still expensive and rare. There were children from parents who lived abroad, sons and daughters of ambassadors and foreign trade representatives, who wanted a German education for their children. And there was the question of tuition, which was insignificant in public schools. In Birklehof parents were asked to pay as much as they could, and there were supposedly many low paying and free pupils.

We had many pupils from prominent families, but they were mixed with pupils from the village of Hinterzarten and those with scholarships. What could be called elite was the thorough education and the frequently above average intelligence of pupils.

Our academic education was to be counterbalanced by a grounding in a handicraft. Every pupil was apprenticed to one of the village craftsmen, and several afternoons a week we walked to our assignments. The majority selected carpentry; but my contrary nature and special interest brought me to the schoemaker. Mr. Hug was a grumpy, but good-natured elderly man, who repaired everybody's schoes, but could also make new shoes to measure. We were three apprentices in his shop: one was a prince from a minute principality on the Rhine; the second was quite unintellectual and came from a castle in middle Germany from a family which had lost all privileges in the 1918 revolution; I was the third and last. They were sent by their families to the boarding school, because there was no institution of higher learning near their rural homes. We learned something about shoemaking and repair, but also appreciation of manual labor and craftsmanship. I felt that it was a good lesson for me, and I heard recently that Mr. Hug still remembers me pleasntly as an apprentice.

The teachers were a group of unusual professionals. Maybe the pay and living conditions were so exceptional for them, that they formed an elite group? I called recently my former mathematics teacher with the question of how teachers were picked. Were there particularly favorably employment conditions and were the salarys outstanding? His answer surprised me: at the time I went to school this highly trained and admired teacher had received a monthly salary of 50 marks (slightly over $10.-) plus free room and board. He had a small room next to the busy pupils' bathroom, and his meals were to be taken with the children. During vacation time his salary was slightly higher, because he had to buy his meals. He frequently had to use his savings to eat a good meal in the local inn.

This seemes to me the opposite of what I expected, and is shocking treatment of people, who are employed to give their best for our education, and who are supposedly an elite group of school educators in the country. However, my old friend and former teacher assured me, that these were conditions not different from elsewhere; there was such a surplus of teachers at that time, that everybody was glad to get any job at all. In his recollection the intelligence of the Birklehof pupils was most likely unusually high. The exclusivity consisted in having a group of bright youngsters in such pleasant surroundings, taught in an especially concentrated fashion, frequently in classes of only three.

We were certainly closer to and longer in contact with our teachers every day than pupils in a city highschool. The system of special mentors brought children and educators together throughout the year; in addition once or twice every year a walking tour took place. The mentor with his mentor-children would take off on a hike; we walked all together for several days, supplied mainly with sandwiches and drinks from our rucksacks. I had never experienced anything like that. On the first occasion I promptly developed large blisters on my feet during the first two days of the tour. My friends and the teacher rallied around the handicapped and helped them, without being solicitous, and we made sure that the whole trip was completed by everybody. It became a memorable experience: the view over the rolling hills of the Schwarzwald, the company of friends, the atmosphere of helpfulness. We had long conversations about the problems of life. I retain a photograph from that time, where I feed some grass to a goat we met along the way. The incident appeared remarkable, because the goat called Peter was fed by me, another Peter. Did I anticipate my interest in goatbreeding more than 20 years later?

Another part of the Birklehof curriculum, which appealed to me very much, was the possibility for each pupil to design and carry out small projects in the area of his special interest. My first project anticipated much of what I did professionally in later life: with some help from the biology teacher, but mainly on my own, I formulated a hypothesis, which attempts to explain the unusual plant and animal life in the patches of the so-called "high swamps" (Hochmoore) of the Black Forest. These were accumulations of unusual plants, which are rooted in a small knoll above the surrounding country. I believed that the plants, which grew there, were the products of unusual local physical conditions; these conditions could be measured.

It appeared to me, that probably temperature and humidity in the swamp was different from that of the surrounding countryside, and that this could explain much of the differences in plant and animal life. The little patches of wetlands were usually located at the peak of a hill, and a special kind of long-stemmed moss had developed on a water retaining ditch; new moss would always grow on top of the old, slowly lifting the surface of the patch. Devices which measured temperature and humindity were fastened by me at each swamp, and around it at various distances. Every morning, when all pupils were assembled in the courtyard for cross-country jogging, I would depart on my own; I ran to the various swamps and read and recorded temperature, humidity and other conditions.

My figures showed without a doubt, that the conditions in the swamp were quite different from those of the surroundings: temperatures were higher in cold weather, lower on warm days; there was also a difference in humidity of the air above the swamp and that of its surroundings. I do not recall how extensively I studied the literature at that time, and how much had already been known about this phenomenon. I only remember that I wrote up my findings and interpreted the figures I had measured; I experienced much pleasure and satisfaction from the project. There were also the lonely morning runs across the beautiful hills, which added to the enjoyment. When one reads the ~~later~~ chapters of this report on science and research, one will find that this little project anticipated a pattern, which repeated itself over and over in my professional career. My schoolfriends still remember,- and they tell my wife 53 years later,- that they saw me taking off purposefully every morning in all weather. Whether it influenced my choice of profession, I do not know. But it tells me how little one changes in basic interests throughout one's life.

For many of us music played a prominent role in the life at school;- others preferred play acting. We had outstanding music teachers. who came by train once or twice a week from the city of Freiburg, and who gave us private lessons. Several years earlier I had started the cello,- following a few years of early piano lessons. The pitch of the instrument, the size and the technical requirements for playing seemed all to fit my preferences. I may have been influenced by hearing a concert by Pablo Casals in the Berlin Symphony Hall, to which my grandfather took me in the early 1920s. The concert certainly made a deep impression, because I still recall several of its details.

Throughout the 1920s and 30s I had heard much chamber music; it was played regularly at my mother's parents' house. Memoirs from the 20s, which appear now in print, mention these memorable evenings. We children used to walk across the wooden bridge at the bottom of our garden in the evening about twice every week, go up the great lawn to the grandparents' house, and there join the company. They had just finished dinner, and had assembled in the music room. My grandfather usually played the first violin on his Stradivarius instrument; there were several viola players, like Mrs. Peters-Mosheim or my aunt Ursel Dubois-Reymond; and at the piano was frequently Arthur Schnabel, Bruno Eisner or Felicia Dietrich,- all dedicated musicians. Others, like the bass player Goedecke, joined on special occasions.

At the time I left Grunewald for Hinterzarten, the chamber music evenings had stopped; my grandfather had died, and many of the other players had already left Germany. I felt quite at home when I played chamber music on the Birklehof; I played the cello, and my schoolfriends played the other instruments,- mostly on Sunday afternoons. The school was most supportive, and soundproof rooms were at our disposal. From time to time we all participated in an orchestra concert for the whole school. Music was an integral part of Birklehof life, and it is a component in my friendly memories.

A non-academic part of Birklehof life was the planning and execution of pranks. This was part of a school tradition, and had been taken over from the parent institution, Schule Schloß Salem. The pranks were not always in particularly good taste, nor did everybody like them; but they were more than tolerated. Shortly after my arrival a small group of pupils under the leadership of the director drove in the afternoon down to Lake Constance; I was not in this group. They told later, that they had succeeded in wrapping the whole castle during the night in toilet paper and had stolen several treasured possessions. Everything was given back later. I do not remember details, but it went into school history as a successful prank.

Another such feat was later performed with my participation, and I remember details clearly. This concerned a fellow pupil, whom I knew well at that time, and whom I came to know even better later, when she married one of my cousins. She lives now in Western Canada with her husband, whom she met through me, and with 5 children. I will call her A. She always was, and is still, rather eccentric, and she claims that her peculiarities come to her through a long line of unusual women-ancestors. One of her direct forebears was Bettina von Arnim, who, as a child, became the friend of the old Goethe. The family still owned an oversized Goethe portrait-bust, which Bettina had received as a present, and which was so large, that they could dsiplay it only in an especially high living room.

Between Bettina and our schoolgirl A.,- her descendant,- were a number of unusual and remarkable women; and probably through a mixture of genetic traits and family tradition, our A. was a rather "free spirit". Her home had her gotten accustomed to large parties: her father had been a German minister of economics in the German republican government in the 20s, and was now retired, and her mother came from a large, aristocratic, Prussian family of landowners. When A. was asked what she wanted as a birthday present in Birklehof, she requested,- and received,- all the supplies and trimmings for a grandiose birthday party.

The gymnastics hall had been turned over to A. for the birthday party, and a small group of her friends, which included me, decorated the room with paper streemers. There were long tables with chairs set up for a festive dinner, and a grammophone with dance music had been procured. The main attraction of the party was to be a sumptuous dinner with bowls of salads, plates with cold cuts and paté, hot dogs, juice and other drinks. The problem was the guest list. Everybody conceded that it was A.'s right to invite whomever she wanted; and she could definitely not invite all the pupils and the teachers. However, to receive an invitation was particularly attractive, because the party promised great enjoyment. It was also a fact, that we were all at our age continuously hungry and were very tired of the school food. As it turned out, A.'s list of selected guests contained a fundamental mistake: it looked as if she had invited only the sons and daughters of the rich and famous, and had left out some particularly nice and spirited pupils,- some of her own age group;-they felt that they had been treated unjustly. This was generally discussed openly and in good humor. I can not recall any maliciousness. But the selection lead to the prank which will now be described.

On the day of the birthday in the afternoon, at the designated time, the invited guests, to which I belonged, came together in the gymnasium and got a first glimpse of the wonderful decorations and the food for the festivity. However, it became soon apparent, that the hostess was missing. We waited a long time, while we courageously refrained from touching food and drink; finally we disbanded in disappointmemnt. Only the next day did we learn all about the train of events which had lead to this state of affairs.

According to eyewitness reports, a taxi had driven up to the main entrance of the school, in the afternoon while we waited in the gymnastics hall. The driver had reported inside that A.'s aunt had arrived, and that she wanted to speak to her: "Would she please come out to the car!" As soon as A.'s head was inside the taxi, a bag was pulled over her, and she was dragged inside. Bound and unable to move, A. was driven with the fake aunt quickly away from the school. They went to Titisee, the next resort village on the way to the high Black Forest.

When the taxi passed the first of the large resort hotels, A. requested to be temporarily released, so that she could use the bathroom. While the abductors waited outside for her return, she escaped through the window. From the balcony she entered another hotel room, where a lady just got dressed for dinner. As she was pushed out of the room by the courageous occupant, A. landed back in the arms of her persecutors; these turned out to be several of the older pupils of our school, who had not been invited. She was brought back into the car, and the flight continued.

The baroness Wolff received later a telephone call from the abductors, she was informed about the whole scheme, and everything was explained to her. In the friendly spirit which reigned in the school, the whole festivity took place one day later, and all the original guests plus the abductors were now invited. Everybody had a very good time.

While I report on these peripheral aspects of school life in Birklehof, I find that I have only spotty memories of the academic work; a report on that would not make an interesting story. The teaching was intense and personal, and frequently only 3-4 pupils were together with only one teacher. If we really were above average intelligence,- as my old mathematics teacher states,- the high level of learning is explained. Because we were a private school, a special committee had to come in from the state school administration in Freiburg im Breisgau to supervise the final examination (Abitur). We all passed.

My greatest personal achievements lay in geography and history, in which I was not particularly interested, but which was taught in a way which I liked; we mainly memorized, rather than stressed understanding. My memory at that time was exceptionally good. To my surprise I became for a short period of time an expert in geography and history, while I did not excel in the laguages: English, Latin, French. My later experience in life changed all that. Mathematics and Biology were found strong, as always.

The year of our final examination in high school, the abitur, in spring of 1937, was the last year of peace. Hitler felt such an overwhelming need of young men for the military, that he ordered that the second highest class, the Unterprima, was also to be graduated and released from school at the same time; no thorough final examination was to be given to them.

This had two consequences for me, direct and indirect: Birklehof, which needed all its teachers to guide the Unterprima through its final days, experienced an acute teacher shortage for the lower classes. We freshly graduated boys and girls from the Oberprima were asked to volunteer to stay on and teach for a few weeks in the lower classes. When I happily consented, I experienced for the first time the excitement of being a teacher; this may have contributed to my later decision to pursue a teaching career. The few weeks are fondly remembered.

I was indirectly affected through my brother, who had always had had learning difficulties, and who now could complete high school successfully without the difficult final examination. After the war, when he began to study at the university, he changed subjects several times, always just before a comprehensive examination was due,- maybe because he had never had to pass one. After the fourth change, he decided to try for the catholic priesthood, and later became a Benedictine monk,- never having completed the sudy of any one subject matter.

In retrospect the glorious times at Birklehof ended with an event, which was worthy of the school life, and which has remained a pleasant memory. It also influenced my later life. All the upper class graduates were invited by the mother of a classmate to Schlüchtseehof. This is an elegant farmhouse in the high Black Forest. The son, Joachim von Ernest was, as I, a citizen of Germany and Switzerland. His name changed during our schooltime to baron Adelsheim. This came about, because a childless uncle by marriage needed an heir for his large estate and many centuries old castle and adopted him (see chapter "Visits to Magic Castles"). He and his younger brother Bernhard were among the first pupils of the newly founded Birklehof, when it was established as a branch of Schule Schloß Salem on Lake Constance. Their mother, a recent widow, wanted her sons near, after she had lost the oldest son in a recent accident.She was a small, lively, always well-dressed lady, whom we all knew from her frequent appearances at the school in her enormous black and yellow Horch convertible. 13 years later she became a very good friend of my wife's and myself; we lived after the war in Bern and she lived in her nearby "Chatelet" in Fribourg. She remained our close friend until her death in the 1960s, and she became the godmother of our first child, Elise.

Mrs. Helene von Ernest had invited all of us for a taxi ride from Birklehof to Schlüchtseehof. She had prepared one of her wonderful dinners, many more of which we came to know at a later date. Next to every plate sat a gaily-coloured elephant, which she had sown; we kept the animals as a memento for a long time. Everything looked festive, and she made us all feel comfortable and well entertained. 51 years later, at the time this is written, her son and daughter in law (both old Birklehofers) have just given a party to celebrate all our 70. birthdays at Adelsheim in the Odenwald. We found the same atmosphere of hospitality and warm friendliness; and we had a chance to exchange reminiscences from 1937.-

The return journey from Schlüchtseehof to Birklehof was more problematic: while we had sat at dinner a snowstorm had begun. On the way the two taxis drove into a large snow-drift, and they got stuck. I remember that I anounced, that it was now important not to keep cool, which made everybody laugh. All proceeded to climb out of the car windows onto the side of the road. The many young, strong people quickly succeeded in shoveling the cars free, and we continued the return trip without further mishap. Soon we found out that this was the glorious end to wonderful years, followed for most by military training and the beginning of the war. Many of us did not survive the following years,- and for me it marked the end of my youth.

Two School-Friends.

During my years in the Grunewald Gymnasium I had two good friends: blue-eyed, blond haired Gotthardt Baumbach and Peter Paneth with dark hair and dark eyes. The first is long dead, he died 1943 in Stalingrad; the second lives as a 71 year old widower with children and grandchildren in Basel in Switzerland. Their fates are characteristic for our generation, and this seems the place to reminisce about them and their lives, as they remain still clearly in my memory.

Gotthardt Siegmund Roland Hubertus Baumbach was the late child of a couple, who had had a daughter so many years earlier, that the daughter's daughter was older than the young brother,- her uncle. This appeared so remarkable, that the teachers and other boys frequently called him : "Gotthardt, the man with the niece!" Not one other boy at that time could boast to have a niece.

Gotthardt's parents always seemed to us very old. The father, who had been a professional officer, appeared in a wheelchair, and he was clearly near the end of his life. His mind had already begun to wander, and when we sat at the dinner table, he would suddenly lift his head and pronounce without introduction:"Have the little fish still air?" (Haben die Fischlein noch Luft?) This referred to the pump of a large aquarium with goldfish in the living room; the pump was known to stop from time to time. With my present knowledge I believe that the fish would have easily survived several hours without air bubbles.- I cannot remember that I heard the father ever say anything else. One had to address him as "Herr Oberstleutnant", which was the rank he had reached when he retired from the military at the end of the First World War- many years earlier. He died about the fifth year of our time in the Grunewald Gymnasium.

The mother was younger and much better preserved. She had obviously been the dominant person in the marriage. She had come from a wealthy and powerful family in the North, in Hamburg, and we were told that her father had been a well-known conservative delegate to the German Reichstag,- comparable to a US senator. While the mother seemed not very much interested in her grown-up daughter, she was very close to the much younger son, Gotthardt; I believe that he was her best friend and the focus of her life. As he grew up, they found many things to do together. For example she was an impressive horse-woman, who sat upright on her side saddle when she rode with us through Grunewald. Later I will describe the tragic end of her life, shortly after Gotthardt's death.

I remember best Gotthardt's inventive and enterprsising spirit. Some of it may be the result of the lonelyness of a practically only child of old parents; it became characteristic of the way he lived his whole life.

60 years later I remember clearly, and with a smile, some of the projects, which we undertook together, when either he stayed after school at our house for the rest of the day,- or I stayed at his. We both subscribed to a boys' journal called "Der gute Kamerad" (The Good Comrade), and many of our explorations originated from reading its pages.

In one project we tried to take photographs in such a way, that the observer became convinced that we had traveled far across the world. With the help of large amounts of salt we would produce a snow landscape, or with sand a desert with dunes; in it we would place tiny lead animals and people and bare branches or small plants. With our rather primitive camera,- the type which was given to children at that time,- we crawled low to the ground. Pictures were taken from close-up, and when they were developed they were supposed to appear like the real thing, which we supposedly had visited. As far as I remember we never got very convincing pictures: once an enormous foot appeared in the back, indicating the true size of the landscape; another time we had forgotten to eliminate a watering can, the image of which on the photograph completely destroyed the illusion: the watering can was far higher than the presumed palm trees.

Production of masks of our faces in plaster was more successful. According to the instructions, we prepared Gotthardt's face with thick layers of vaseline on eyebrows and the roots of his hair. A plaster-like wet, white mass was mixed. Gotthardt lay down on an easy-chair in the garden; I placed straws into his nostrils and mouth for better breathing. I remember that he complained that it got very hot under it, after I had slapped the mass on his face and he had lain there for an hour. Finally the plaster had become firm, and after more than an hour I started to carefully take off the mask. In spite of precautions the removal was painful, as some hair stayed stuck in the mask.

A week later, after the plaster mask had dried completely, we were able to obtain a positive, white face cast from the original negative. It was a really very good likeness of the original, and it still contained some blond hairs, which had been transferred twice, all the way from Gotthardt. The fate of the mask was closely connected with the fate of the Baumbach family, and I will tell about it in connection with their disaapearance in 1943.

To make a long story short, we two remained good friends through several ups and downs; even when I left Grunewald Gymnasium in 1935, we stayed in close touch by letter, and I visited the Baumbachs whenever I returned home for the holidays. After the end of highschool, Gotthardt followed family tradition and joined the German army in 1939. He soon became an officer. At that time the army was not a Nazi organization, and it presented a haven for many conservative, patriotic citizens. After all,- the plot against Hitler in 1943 was mostly supported by army officers.- When I came back from Charkow to Berlin in the fall of 1943,- shortly after I had received a letter from Gotthardt with a photograph, on which he appeared on horseback together with a nice-looking girl,- I learned the terrible news, that Gotthardt was among the many Germans who had ended their lives in Stalingrad.

My first reaction on receiving the news was a visit to Gotthardt's mother. I found he alone in the house in Berlin-Dahlem, where we had spent so many happy days in years past. She looked completely changed: the tall, upright, lively lady had suddenly become a bent little old woman, who complained continuously about the injustices of the world. While I sat with her and listened, she brought out the old plaster mask, which we two boys had made with so much pleasure about 10 years earlier.-It seemed to me like ages ago! She looked at it again and again, and she asked me to relate every detail of the circumstances connected with its production. I believe that the mask had become an important link to her deceased only son, and its existence appeared to give her some consolation.- After only very few more visits, a short time later, I learned that she had died. Life seemed to be for her no longer worth living.

The following fall and winter the air raids in Berlin increased in frequency and severity. Particularly in the West of the city, which lay on the route on which the planes entered the town's airspace, many bombs were dropped. Shortly after my mother's house had been destroyed, I learned that the Baumbach house had received a hit and was gone. There was no longer any public transportation, and I marched with a handcart over from Grunewald to see whether there was anything left to be saved. I met Gotthardt's sister there, whom I had not seen in many years. She told me that she had wanted to let me know that Gotthardt had left a will, in which he had requested that all his books would be given to me; the books had been collected carefully over the short 25 years of his life, and many we had bought together. The family had forgotten to let me know. None of the books had survived the bombing,- but the message constituted for me the last thoughtful communication from a good friend.

The life history of Peter Paneth and his friendship with me is very different from the one I have just reported. It was also strongly influenced by the events in Germany (and Europe) during the time in which we grew up; insofar I think that both stories should be told together.

Before I even knew Peter Paneth, his parents had been divorced, and I saw the father probably not more than once. The boy lived with his mother in a large and partially empty apartment in a side street of Kurfürstendamm, Leibnizstrasse, and I could get there from our house by streetcar in about 15 minutes. His father was a well-known psychoanalyst and lived somewhere else, and he played no great role in his son's life. What probably attracted me to Peter originally was his gentle goodness combined with a very high intelligence. For a long time I maintained that he was the cleverest person I had ever met.

Peter came many times to our house; he helped me to feed the animals (see chapter on "Animals I Knew and Loved"), and he was the only schoolfriend ever, whom I took across the lake for a sightseeing tour of my grandparents' house. The size and unusualness of their place embarrassed me with less good acquaintances.- His birthday parties are memorable: all his friends were invited to the apartment, where his mother offered warm hospitality, good food, and many games to play. He was always on the best of terms with my other friends, but this was mainly through his relations with me, less to direct acquaintance. His strong stutter, which frequently prevented him from finishing a sentence quickly, presented never a problem in our conversations. On the contrary, when I recently met somebody who had the same problem, I felt quickly at home when talking to him, after a life-time of conversing with Peter.

In the mid-thirties it became important to know whether a German was of Jewish origin or religion -or not-; I learned that Peter was, as I, of mixed ancestry. His mother, who foresaw future developments more clearly than many others at that time, decided early to send him to school in Switzerland. Around 1935 he left Grunewald Gymnasium, and from than on we stayed in close touch through letters. He was, and still is, a very good letter-writer. He has always been able to express his thoughts clearly, and his kind heart speaks through the letter-reports about his life. Later, writing became his profession. As we said goodbye, he asked me to look out for his mother. Little did we know at that moment, that this would become a heavy and important charge.

While Gotthardt died in the Second World War, Peter survived in Switzerland. After finishing high school, he went on to study economics in Sankt Gallen. After difficulties because of shortage of funds, he graduated and went into journalism, first with an aggressive leftist paper, and later joined one of the largest circulation Swiss daily papers as economics editor. Whenever I could get hold of one of his articles, I enjoyed greatly reading it and derived much knowledge therefrom.

During the war our contact became increasingly tenuous, because mail was no longer allowed from Germany to foreign countries. I had much to report about his mother, whose existence in Berlin as half-Jew, (as which she was now classified), became increasingly difficult. I visited her regularly in the old, large apartment, and she always received me cordially. I guessed that she was now much alone.

One day, probably after the beginning of the Second World War, I found the apartment door open and the rooms empty. The neighbors informed me that she had been picked up by a group of Hitler's black-dressed SS men. One guessed that she was now in one of the vaguely known concentration camps in the East. I also received through the neighbors a postcard from Mrs. Paneth's mother, a Mrs. Hirsch, to her daughter. The card came from Theresienstadt, a well-known detention camp for German Jews, and it contained greetings and the information, that she was well. I believe that most Germans knew at that time, that such places existed,- frequently because people had acquaintances there. But only much later did we learn about all the horrors, like the gas ovens for burning "undesirable persons". I immediately went to work on trying to get Mrs. Paneth out of there, and to help her to go abroad.

The Swiss ambassador in Berlin transacted during the war much business for other countries, because Switzerland was neutral, and many other countries, who were at war with Germany, had no longer an embassy in Berlin. One believed that the Swiss were spared a German invasion, because their country constituted a valuable place for the exchange of international spy information. As a Swiss citizen by birth, I knew a number of people there, and I contacted them, asking for help in locating Mrs. Paneth. They were unable to gain dierct access to her, but they brought me the information, that she was detained and would be allowed to get out and leave Germany for the country of her birth, Chile, if the necessary means for her trip were deposited.

I was notified that 1,000.- Reichsmark were required; and with some difficulty I succeeded in raising the funds and sent them to the German authorities. For a log time I heard nothing, and I was hopeful that I had succeeded. Only much later did I learn, that she never got out, and that she was most likely already dead at the time when the demand for money had been transmitted. This sheds light on the ruthless and cynical methods which our government at that time employed, among others to raise funds for the war.

As soon as I was reasonably certain that Mrs. Paneth was no longer alive, I became anxious to let my friend Peter, the son, know what had happened to his mother. There was no longer a possibility to send direct mail abroad from Germany, but there existed still a few people who travelled across the borders.

When I studied in Graz in 1940, an opportunity presented itself to me: the next-door neighbor in the pension, in which I lived, was a medical student from Tripolis in Libya. During the semester holidays he visited his father, a Tripolis surgeon. We had become friends after I had had an opportunity to help him, when communication with his home was temporarily interrupted. I wrote a letter to Peter Paneth in Switzerland, in which I tried to report in obscure but hopefully understandable language, what had happened to his mother. I also inserted the postcard from his grandmother, Mrs. Hirsch, from Theresienstadt, which I had picked up earlier in Leibnizstrasse. The letter was entrusted to Omar Bissar, the Libyan, when he went home.

I did not hear again from Omar and lost touch with Peter, as the war progressed and life became increasingly difficult. When our house in Berlin-Grunewald was destroyed by bombs in 1943, I became more and more involved with my own survival (see chapter "The End of the Second World War"). I was convinced that Peter had been duly informed.

The great shock occurred in 1945, after we had gotten in touch again. I do no longer recall which one of us two succeeded first to contact the other; most likely Peter wrote to my old address at Sankt Georgenhof and I answered. We had found out that one could meet at a designated section of the Swiss-German border, even if none of the two parties was allowed to walk across. Near Stein am Rhein was a place, where the narrow, upper Rhein-river formed the border between Germany and Switzerland, and one could see and possibly shout across to each other. Under the troublesome conditions of transportation in postwar Germany it took me the greater part of a day to get there; after some searching I saw Peter the first time in many years, as he stood on the other side of the water. It was a very moving moment.

His first question across the stream was about the fate of his mother: How wa she? Where did she live? For a moment I did not know what to answer;- it slowly became clear to me that my letter of several years ago had never reached him. I shouted the story across about Mrs. Paneth's disappearance, and of my inquiries. After that everything else became easy: we both were happy to have found each other again, and we began to plan for the next opportunity to meet.

A few months later it became possible to travel from Switzerland to Germany and stay there for a few hors. Lindau on Lake Constance is a particularly lovely small town, and I travelled there for our next meeting. The occasion was remarkable enough to remain clearly in my memory:

Peter arrived by boat in a wide tweed coat which bulged in many places; this made him look like a walking pyramid. In his more thoughtful than practical way, he had filled pockets, lining, and sleeves with contraband, which he brought to his friend in empoverished post-war Germany. I remember that he produced a comb with the comment, that he had just read in the paper that the Russians had dismantled all German comb factories and transported them into Russia.- Only at the end of his Christmas-gift presentation did I protest, when he pulled several banknotes out from under the lining of his coat and presented them to me. I was well aware that, in spite of the differences in prosperity in our two countries, I was much better off with money than he. We had a short but wonderful visit together, and I felt that our friendship had well survived the war.

The next contact came through my new fiance Inge Feiler. She had come to her country of origin, Germany, from England, and had been hired as a member of the American occupation force. She had the papers required to freely cross the borders in Europe. She visited Peter in his bachelor quarters in Sankt Gallen, and was able to bring me a detailed description of his way of life. He had so far remained a bachelor, who had gotten accustomed to fend for himself; however, this was such a make-shift household, that he seemed ready and eager to get married and settle down to middle-age life.

There followed several attempts to find a wife: we were told that the first girl, to whom he proposed marriage, had been prevented by her strict parents to accept him: she was jewish, and they wanted to protect her against marrying a Christian. What irony in a case, where the mother of the "Christian" had been murdered because of her jewish ancestry!- The second girl turned out to be catholic, and that became a reason why the parents opposed this marriage.

In the meantime I had moved to Switzerland in spring of 1949, and Inge and I had gotten married. We had settled down in Bern, the capital of the country, where I was employed at the university. Ironically, when Peter Paneth applied for Swiss citizenship, after he had lived more than 10 years in the country and spoke the dialect, he needed me, the recent immigrant,(a Swiss citizen by birth), as a guarantor. For both of us,all went well, and he obtained a steady job on a Swiss newspaper.

I became involved again in the life of Peter Paneth, when the next step occurred for him. In 1956 we had decided to emigrate to the United States, where I had accepted a position with the Department of Pharmacology at the State University of New York in Syracuse. Six years before we had bought a small house in Bern, where my mother and daughter Elise lived with us; we had to sell the house before we left. It was most economical to pack as much as we could of our possessions into a box the size of a small room, a so-called lift-van; this was loaded and sealed in front of the house in Bern, lifted onto a truck, reloaded from truck to train, from there onto a boat, and again via train and truck brought to Syracuse, where it was to be opened in the presence of an American customs official at our new house. This meant that bulky furniture had to be left in Switzerland.

Peter Paneth visited us several times before we left, and we discussed each others' circumstances. By now he was more ready than ever to get married, but his latest girl-friend, whom he obviously loved dearly, had an illegitimate little boy; his Basel friends advised him against a marriage, because the child would be an impediment in the pursuit of his career in journalism. Conventions had never had great importance for me, particularly if they seemed senseless and cruel. As I was convinced, that Peter loved her very much, and that they would fit well together, I was in favor of a marriage. When we discussed that, we came to the point, where he argued against marriage, because he felt in his modest way, that he was unable to offer sufficient material comfort for a wife and child. I told him, that, if he wanted to marry at all, it should be as soon as possible, so that the baby could grow up with two parents.

As far as I remember we finally struck some kind of bargain: I promised that he would get all the furniture and household goods, which we had to leave behind, if he decided to get married soon. I am no longer clear, whether we ever expressed it that way, or whether it was only implied; but shortly thereafter much of our furniture and household goods, like the vacuum cleaner and bed-frames, were sent to Peter. When we arrived in the United States in fall of 1956, we received the announcement of the wedding of Peter and Sophie Paneth. It signalled the beginning of many happy years with several children of the two together.

During the followig more than 30 years, we stayed in touch and saw each other, whenever there was an opportunity. When we Witts all spent a summer in Switzerland in the mid 1960s, so that I could carry out a specific scientific study in Lausanne, the Paneths, parents and four children, came to visit us. We had a house above Lake Geneva, and we all took a long walk together across the hills above the lake and ate lunch in a country inn. - I saw themn in their house in Basel, when I passed through the city on a lecture trip. Peter came briefly to Knightdale, when a tour for Swiss journalists took him across the United States.

It was a particularly meaningful moment, when Peter and Sophie came to Ascona in spring 1986, as Inge and I celebrated with children and friends the 37th wedding anniversary in the place where we had been on our honeymoon. Peter had been at the wedding 37 years earlier.

Nobody could foresee at that time, that it was our last meeting with Sophie Paneth. Only a litle over one year later Sophie died from the consequences of a traffic accident; the children rallied around the father and helped him during a difficult transition period.

It seems significant that we became better acquainted with two of their children; this occurred relatively independent of the friendship with the parents. The oldest son, Bruno, who had been a baby when the parents got married, came for one summer to Knightdale to work for a short time as an apprentice in my laboratory. He was interested in biology and wanted to find out, what it was all about. He was a nice boy, quite intelligent and gifted, particularly did he do some beautiful photography. He had some difficulty in growing up, and seemed to enjoy it greatly, when he lay for hours in a hammock on our porch. From there he had a nice view into the woods and across the lake. He did good work in the laboratory, and I understand that by now he is on the way to becoming a teacher, and that he is married.

Another year a second son, Herbert, announced that he would arrive with his girlfriend and stay briefly at the farm. Shortly after he had stepped into our house,- I seem to remember it was his first night there,- he announced, that they wanted to get married as soon as possible. Could that be done in Raleigh? After they had taken a blood test, it took only 24 hours until we could appear as witnesses with them in the courthouse. They were immediately married by a judge, who commented on the strange event, that a Swiss couple got married in Raleigh. After that a second surprise followed: at the couple's request we marched fromn the courthouse across the street, to have a hundred copies of the marriage certificate made in a duplicating shop. During the next few days the copies were sent out to family members and friends: certainly an unusual way to get married! -and somehow in the Paneth tradition.

Last year, 1989, Inge and I spent a week in Pontresina in Eastern Switzerland, and Peter came from Basel to visit. We were both now in our seventies, and we had known each other for more than 60 years. When we two took a walk together,- at a slow pace on a wide, comfortable path,- we felt very much at ease, and talked comfortably, of people and events in the past and also about present family matters and politics. In the background there was so much which we knew of each other, and there was so much of the present on which we agreed, that we felt strongly that even long friendships can still grow as time goes by.

Universities.

With graduation from high school in 1937 in Hinterzarten my schooling was far from over. In the winter of 1939 I received the first of many leaves of absence from the military, to enter the first semester of preclinical, medical studies. I began to attend lectures in Berlin, where at that time many outstanding teachers in science could be found. I remember especially very stimulating courses in Chemistry and Botany, while other subjects were less exciting. Only when I and two friends got several months later a second study-leave, we decided to move as far away as possible from the lively and distracting atmosphere of Berlin.

In contrast to the United States, in Germany at that time one was encouraged to change universities from time to time, because the exposure to different approaches to subject matters through a variety of professors was regarded good for medical education; it should promote independent judgment, if a subject was presented from a variety of angles.

We selected Graz in Austria, South of the Alps, partially out of a spirit of adventure, but also from the wish to live in a quiet small town, where one could concentrate on learning. My memories of Graz are still fond; not only did I learn a lot there, but I also tutored an over 60 years old former school principal. He had been dismissed from public service for political reasons, because he was by tradition and concviction a peaceloving liberal. He had decided to spend the later years of his life as a practicing physician, but had difficulties in following the lectures in medical school. He was bright, but learned slower than the younger students; for me it was a valuable experience and helped solidify my own knowledge.

After four semesters, and after I passed the first, preclinical examinations (Physicum), I returned to Berlin for the last 8 semesters of medical school. In my memories of that time remain different events, which turn up in other chapters of these memoirs. In December 1944 I graduated successfully from medical school (see chapter "The End of the Second World War").

A written dissertation must be submitted in Germany, Austria and Switzerland, if one wants to obtain the degree of "Doctor of Medicine". However, the practice of medicine is permitted without such a degree; only the passing of the final examination in medical school is necessary. The majority of future physicians prefers to spend the extra year on a dissertation. After the war, I worked on my dissertation at the university of Tübingen, and this last year concluded my formal schooling, on which I had spent off and on the larger part of the years 1923 to 1946. After that I began my first full-time job as assistant in the department of pharmacology at the university of Tübingen.

I did not freely select the department for my first job; I took advantage of an opening at the university at just the right moment. After that start, I worked in pharmacology departments for many years, and I am still puzzled by the thought, of how much my career was guided by accidental vacancies. There were few deliberate choices in my professional life. The long period of schooling had prepared me for various possible careers, and circumstances guided me toward specific activities. This seems not the same for all professional people.

About a Tyrant and a Secret Mission.

When we were little boys in Grunewald in the 1920s, my brother and I went one day to the house of the Egyptian ambassador in Germany, which stood near the house where we grew up. The occasion was a visit by the than German president Generalfeldmarschall von Hindenburg at the ambassador's residence to pay his respects to the visiting king Farouk of Egypt. While we stood near the garden gate, a black limousine rolled up, and the president got out. No other people or guards were around, and we had the opportunity to walk up to the president and bid a "Good Morning". Than I touched his black morning coat. I remember that I told my younger brother that this was a historic occasion, because we touched the man who held the highest office in Germany and was a historic figure from the First World War.

This was the closest I ever came to a ruling dignitary. However, many years later, after the Second World War, I had an opportunity to learn about the last moments of one of the world's most powerful men; I studied papers and reports from people who had last been with Adolf Hitler.

This came about in the following way: the professor of pharmacology at the University of Tübingen, Felix Haffner, had been approached by an American officer about help in the investigation of a possible drug addiction and drug abuse by Hitler in his last days. The branch of American military intelligence, which made that request, obviously competed with other branches and organizations for insight into the last days of Hitler-Germany. They had somehow gotten hold of diaries and protocols from people who had been with Hitler during his last days. They wanted them evaluated by a person with some knowledge of pharmacology, especially of effects of psychotropic and addictive drugs. Professor Haffner was old and tired, and mich distressed by the lost war, and he could not face getting involved. I was his assistant and had just given a series of lectures on psychotropic drugs and on addiction. I agreed to work for the American military as an expert. The few weeks during which I studied documents and interviewed people were what can be called "the secret mission". Among other things I was advised at that time to talk to nobody else about what I found.

After the Second World War the American victors lived in well-guarded compounds, which were surrounded by barbed wire, and at the gates stood guards around the clock. It was policy to prevent fraternization. This meant that one saw them every day and they saw us, when they went shopping or on patrol, but we were supposed not to talk with each other and not to establish friendly relations. I have an idea that the leaders in a war are extremely afraid of the possibility, that the people on the other side are just as human and "normal" in daily life as those on the own side, and if that was widely discovered, the eagerness to fight (and to hate) would disappear; therefore it is essential for success to keep the sides apart. In my experience the separation of the friendly American soldiers from the hungry and disoriented German population never worked very well. Every old lady reminded the soldier of his mother at home, and every young soldier seemed similar to our own friends and sons.

During the mission all these precautions were suddenly waved for me, and I lived happily inside the Frankfurt compound. I had a large, comfortable room, ate rich meals in the military cafeteria, and I was generally treated as a friend.

An enormous pile of documents was deposited on my desk, and I was supposed to screen them for any mention of drugs and of how the drugs were used or caused symptoms. There were diaries of generals who had spent many days in the Führer's headquarters, and who had kept careful entries of their observations during conferences; there were protocols kept by physicians who worked in Hitler's surroundings and especially by Dr. Morel, who was the Führer's personal physician during his last year of life. In addition I had to conduct interviews with people who had seen Hitler in his last days; that was particularly fascinating, as their impressions were just a few months old and still very fresh. His suicide in the underground headquarters in Berlin, not far from where I had lived in Wannsee (see chapter "The End of the Second World War"), had been committed when the Russians appeared in Berlin.

I recall long hours spent with a lady called Hannah Reitsch, an airplane pilot and well-known dare-devil, who had flown generals and other high officials in and out of Berlin, while it was already surrounded by enemy soldiers. She specifically had brought visitors to Hitler, who lived underground in his bunker, and she took them back to West and South Germany. Probably she was the main conduit of information to and from Hitler during his last days. If I remember right, she had seen him the last time a week or two before his suicide, when she flew the general von Gleim to the Führer; she had landed with her plane and taken off a few hours later on one of the cities main thoroughfares. (see copy of letter:Hannah Reitsch to me;note large script!)

Lieber Dr. [illegible] –

Haben Sie [illegible]

Dank für Ihre Zeilen [illegible]

[illegible] Ich wollte gleich [illegible]

[illegible] Rückkehr

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

She was willing and eager to talk about all this to somebody like me, and I was ready to listen. We both thought that our memories and analysis might help to develop a picture of Hitler's last days, which might assist later in writing about his end, which terminated the rule of the tyrant. As I write this in 1990, I have in front of me a handwritten letter from Hannah Reitsch to me, which is now more than 40 years old, and which evokes through its form and content still lively feelings about that time. In the letter five-and-a-half pages are covered with huge German gothic script, single letters up to 2 inches (5 cm) high, and they create the feeling, that she was an exuberant, lively, somewhat grandiose person, who loved the adventurous life. The content of the letter is concerned with the disappointment about the quiet end of the project, a disappointment which I felt too. We never heard of any results; one day everything ended, and now I am not even sure that I ever tried to deliver a final report.

While it lasted, the project was quite grandiose. For example an American officer, Lieutenant Schwiesow, had been delegated to pick me up at regular intervals in Tübingen in Southern Germany and bring me in a several hours' drive to Frankfurt am Main, much further North,- and a few days later he drove me back home. The roads were at that time still in miserable shape from the war's last bombings, and from the retreat of the SS,- public transportation was non-existent; I felt most comfortable when I was driven in state through the countryside in an American automobile.

The lieutenant and I had long conversations about the war and about our respective pasts, and we became quite friendly; this was probably against regulations. On one of our trips I guided him via Sankt Georgenhof, my mother's farm, where more than 30 family members lived relatively isolated. When he met my stately and elegant old aunts, who appeared punctually and well-dressed for tea and supper, he probably had to revise some of the pictures, which he had expected from newsreports. He brought coffee and cigarettes as presents for everybody,- gifts which were rare in post-war Germany. For him German society had possibly become more of a congregation of diverse human beings, rather than a group of forbidding strangers.- After several such trips the mission was suddenly finished, and to Hannah Reitsch's and my dismay we never heard one word more,- no farewell, no acknowledgement that anything valuable had been done. Today only the letter is left to show that it was more than a dream.

Everything I heard I wrote down, combined that information with what I could extract from diaries and protocols, and I was able to develop a picture of Hitler's health and behavior in late 1944 and early 1945. This is probably deposited in American government files somewhere in Washington, deep down among other collections of information about Germany at the end of the war. Whether any use was

ever made of it, I do not know. I never read about it, nor was there any further relationship with one of the contact persons.

From what I recollect of those times, I still preserve a vision of Hitler in the last year of his life; and there can be no doubt, that an enormous amount of drugs was steadily applied to him by mouth or by injection. This increased every day in quantity and variety. According to the witnesses, his personal physician would frequently inject him in the arm through the sleeve, so that no time was wasted.

If one counts the total number of drugs he received in the course of a day, there were over one hundred toward the end of his life. Some days I counted more than 110, other days just about 100. It is reassuring to know that according to our knowledge many were quite ineffective. There were a lot of tissue extracts given, like a suspension from ground testes of bulls; they were supposed to give him strength. But also strong pain relievers like morphine were frequently applied; toward the end of his life he behaved like an addict.

During that time his state of health seems to have deteriorated. After the assassination attempt in the summer of 1944, when a bomb detonated close to him, he showed difficulties in walking and talking. His hands trembled, and he walked with a forward bent posture. It is difficult to imagine that he still was able to think clearly. He began to believe increasingly in "natural healing" methods, like the use of tissue extracts, herb teas and laxatives.

This coincided with the last semesters of my study of medicine in Berlin. The influence of the tyrant's beliefs on the whole country was so strong, that it was suddenly decreed, that medical students had to pass a special examination in "Natural Healing Methods" (Naturgemäße Heilmethoden). The professor who taught the subject matter at the University of Berlin was Dr. Morel, Hitler's personal physisician. For a fee we could obtain before the examination from his assistant information on the questions to be expected. We learned that the most frequent first question was:"What resides in the intestines?"- The proper answer was "Disease and Death". To my great surprise I was asked exactly that question, when I appeared for my examination. Only hesitantly I gave the prescribed answer, and I received promptly the top note "very good".

As reported earlier, nothing ever came of my "secret mission", and my duties ended quite informally. However, in telling this story I am reminded of an earlier occurrence, which gives an indication of the influence which the tyrant Hitler had on the faraway life of little people.

In my medical studies at the University of Berlin, during one summer vacation in 1941 or 1942, I and many other student-soldiers were ordered to interrupt our study-leave and report to a field hospital. We were supposed to help the staff of the hospitals and in the process gain valuable medical experience. My destination was a very large hospital in the Ukrainian city of Charkow. To get there from Graz, I had to go by train deep into Russia. The slow train ride took several days, and the huge fields with sunflowers, wheat etc., which we saw from the window, have made a lasting impression on me. Frequently we sat on the outside steps of the slow moving train and watched the sunflowers, as they turned their blossoms in the course of the day according to the movements of the sun. It was beautiful; we got an inkling of the enormous size of Russia, which Hitler tried in vain to overrun. As is well known now, the German troops,- similar to the French troops over 100 years earlier,- got lost in that vastness. What blindness to think that little Germany could conquer vast Russia!

At that time the encircling of Stalingrad had just started, and the wounded German soldiers in the city were under great difficulties brought out, and were transported to Charkow. Many never made it. In our hospital they received the first intensive care, which most of them needed badly. There was also an outbreak of typhoid fever;- the effective vaccination was discovered years later.- I experienced the hallucinating patients walking at night through the long halls of the hospital without knowing where they were; we tried to follow them, get hold of each one, and to bring them back to their beds. There at least they could not hurt themselves.

It added to the drama, that frequently there was no electricity, and we all moved around carrying candles. I can still see the sleep-walking patients and the pursuing aides and nurses, candles in their hands, not daring to move too fast, so that the candles would not blow out. Sometimes patients moved faster as we followed, and suddenly the candles were blown out, and everything was pitch dark.

One day I was told that the personal pianist of the führer had arrived as a patient in our hospital. He had immediately been shown into a room all by himself, in spite of the fact that single rooms were reserved for special people, and he had only the lowest military rank; everybody was advised to treat him with special care and consideration. It now seems strange that the not very musical führer should have a special pianist; but the tyrant's power was such, and he was so remote, that nobody dared to treat his envoy like an ordinary soldier.

The new patient was not so much singled out as an outstanding artist, but particularly as a man who was close to Hitler. Supposedly the führer saw him frequently alone, and the friend might be able through a word at the right moment to make or brake any career. I was surprised to discover, that the highest military commanders,- like for instance the commander in chief in the East, Fieldmarshall Paulus,- would politely inquire whether they might be admitted to the fellow's presence. There was a waiting room, usually filled with people who longed for an opportunity to be admitted to the patient, that they could pay their respects or just have a talk with him.

It was my job to be in close contact with the soldier "Daubitz",- as the name of the patient was. Frequently I had to do chores in his room, and he proved to be particularly friendly and talkative;- and we two became kind of friends. I still preserved some distrust, because I felt he must be a Hitler-lover and Nazi; and I suspected that there should be opinions of mine which I could not share with him. He had a masterful way of namesdropping: in the course of a conversation he would mention what Hitler had told him regarding a specific subject, when Hitler and Daubitz had discussed it. Once he wanted to write a picture postcard to the Führer, which we all had to sign; it was to report, how well he was cared for in our field hospital, and what good companions we all were. The Führer was supposed to be anxious to hear about his pianist's recovery, and that he was in our good hands. I remember that postcard clearly with its address: Führer Headquarters etc.

Many times he would sit down at the piano in one of the hospital rooms, and he asked me to turn the pages as he played. I would listen to his wonderful technique, which compared favorably with my cousins', who were professional musicians; afterwards we would discuss the music or the composer. I was accustomed to that kind of activity, and I felt relaxed and happy; I was convinced that here was a highly accomplished musician. It may appear strange that nobody had ever heard of him, but he certainly impressed us as a nice person and as a good professional. For me the quality of his play was more convincing than all other considerations of fame or power.

It seems nearly incomprehensible, as I look back now, that for several weeks nobody asked the question, whether there existed a "pianist of the Führer"? The papers never seemed to have mentioned his name, and he had not been known to any of us. But the remoteness of the dictator and his enormous power had a sufficiently strong radiation, that even high military leaders felt that it was best to stay on his good side,- he might be able to help them one day.- All this came to a sudden end!

Quite unexpected, I found one morning the room in which our special patient had resided several weeks empty. When I enquired, I was told that he had been unveiled as an impostor. He wass nothing but an ordinary soldier, who had probably not even been near Hitler; now he had been transferred to military prison. His former admirers were quick to band together and accuse him of fraud, and they demanded punishment. Actually there was not much for which he could be punished.

I heard later that the trial never took place, and that Daubitz was quietly transferred to another, remote military unit. The main content of possible accusations was the credulity of his admirers and their misguided ambitions. There was no great interest in making his misdeeds public. Everybody was anxious to hide from the public his own gullibility.

I became sad about the outrage, which I observed in my comrades. He was still a wonderful piano player, and he had given much pleasure to all of us during his stay. His misdeed seemed more the result of our distorted distribution of power, rather than of his hunger for recognition. Many had enjoyed his music and the conversations, which lighted up a sad petiod in our lives. He had provided all of us with some light moments.- I determined, if I would ever meet him again, that I would greet him as friendly as possibl;e.- But that was not to be.

We all knew the story of the "Hauptmann von Koepenick", an impostor in imperial Germany. It had been made into a successful play by the German writer Zuckmeyer. The story is very similar to this one, and people laugh loud when they see it on stage. It feels somehow different, when one has the first-hand experience of a living "Hauptmann von Koepenick".

SCIENCE AND RESEARCH.

All my life long I have tried to find out why things look or behave the way they do. I remember clearly that I was always inclined to think something through or experiment, to find out how a result comes about. This started very early in life, and when I was 7 years old this was already well established. Only much later in life did I discover, that this curiosity was limited to living matter, to bodies which moved, grew and propagated. Inanimate matter like crystals, chemical compounds, planets, light, sound etc.were only of interest to me as far as they affected life. My preoccupation has been so strong, that I had little doubt about the direction of my future professional activities: I aimed toward biological research. As a grown-up I discovered that sometimes colleagues had chosen research as a profession, because it promised fame and money; I pitied them for it. For me the attraction of research consists of discovering something, which nobody else has thought of before, so that one can formulate a law of nature; that seems to me the ultimate reward.

The title of this chapter consists of two words: I believe that the activity of planned experimentation (research) is only part of the process of finding out why and how matter is alive; The development of hypotheses and theories which provide explanations, and which can be tested by experimentation (science), is just as important.

My interest in science is demonstrated in the history of my preoccupation with Darwin's theory of evolution. The similarity in shape and behavior of certain groups of animals and plants, and the variations on each theme, seems to me the most interesting phenomenon in nature. One day my mother hired a tutor from the nearby Kaiser Wilhelm Institut for Biology for me: Dr. Klaus Pätau came twice a week to discuss biology and to design experiments with me. He was one of the first who discussed evolution and natural selection, and I was enthralled. Suddenly there appeared an explanation why many animals had warm blood and suckled their offspring, while others laid eggs, had variable blood temperature and left their offspring alone. The same group of animals contained inherited similarities and differences in shapes and behaviors. If all living beings are related to each other,- belong to one large family,- where some are closer related than others, the similarities and differences become plausible.

This idea of an evolution of species by natural selection seemed so exciting and, once it was formulated, so obvious, that I thought it must have occurred to somebody long before Darwin. As a boy I began to read old natural history books in order to find out, what people before Darwin had thought about the reasons for the existence of species. I kept a large notebook with quotes from early scientists, which might relate to this,- quotes from Aristotle and Vesalius in antiquity, from Paracelsus, Gessner and others in the middle ages, to Cuvier, Lamarck, Buffon and Linne in the 17. and 18. centuries. I dreamed of a book as my "life's work", which would trace the idea of evolution as it developed throughout the centuries, and the notebook would be the basis for the book. I threw that notebook only recently away, particularly as I had found that I was not the first to pursue that plan. I had discovered that many thinkers before Darwin had been close to the truth, without actually expressing (and thinking) it clearly. One of my favorite books at that time was Friedrich Albert Lange:"Die Geschichte des Materialismus", which traces such specific ideas throughout history. The book has still a place of honor in my library today. Probably the history of the idea of evolution had been too well explored to permit me to make a substantial personal contribution. The curiosity about it and the enthusiasm for this kind of science stayed with me for life.

As I remember it, I decided around age 7 to become a research biologist. I looked for the best way in which I could gain the broadest knowledge. At the same time I wanted to be able to apply my knowledge in times of crisis, for example during a war, and be able to do something which had practical applications. The study of medicine seemed a good beginning. I read the publications of my greatgrandfather Carl Westphal, the psychiatrist-neurologist.He taught, did research and treated patients; I found that such a career could be most sarisfactory. Particularly in times of crisis one could deal directly with suffering people, while in quieter times one could enjoy the laboratory work and the students. All this would rest on a good knowledge of biology. I believed that I would probably enjoy teaching and that I had a gift for it,- but it took many years to find that out for certain. Now I know that teaching is a good way of clarifying one's thoughts by explaining them to others; and over the years many unexpected questions from students have opened my eyes to new avenues of exploration.

I can clearly recall that, as a boy, the shape of trees puzzled me. It seemed strange that when you look at a tree, you can recognize the species by its shape; a linden tree, an oak, a maple look different from each other in outline, whether they are bare or have leaves. It seemed that each branch must receive some information, which makes it stop growing at a specific distance from the trunk. This could have to do with the supply of nourishment,- and so I established rows of beakers in which each branch received a specific amount of supplies. Each concentration was given to three branches, so that variation could be accounted for. Only after I finished my studies,- as late as 1950,- I became aware of the work of Sir Ronald Fisher, who developed mathematical formulae for statistical evaluation. This made it finally possible to distinguish between significant differences between groups and individual variation. It seems unbelievable now, that only years after I had finished my studies, statistics became a method which could be applied to biological research. There, again, was an idea which had been obvious for a long time, but somebody was needed to formulate and define it. Such discoveries give much pleasure to persons like myself, and they make life worth living.

My grandfather on my father's side, Otto Nikolaus Witt, had been a professor of chemistry. He had died in 1915, 3 years before I was born, but I was the only grandchild who was interested in laboratory work; I was given as a boy his old, elegant looking balances and other apparatus from his laboratory. I used it for many experiments until it was destroyed by bombs in the Second World War. I read grandfather Witt's writings and those of greatgrandfather Westphal, the psychiatrist-neurologist; these were given to me as presents by friendly aunts. All this encouraged my plans for a profession and gave me direction.

I am still surprised, that none of my cousins on either side showed similar interests. If a genetic basis for such thinking exists, how come that it did not show up in any of my cousins? Did they lack stimulus or opportunity? Or has inheritance nothing to do with this, and interests turn up randomly? We may never know. For me the intensity of my interest in science has always been a puzzle; there was nothing similar in my brother.

I clearly recall an early amateur investigation, carried out in Berlin in the early 1930s. A schoolfriend of mine, who was always a great opportunist, and who, like his father, did what was most advantageous at the moment ,told me of his father's government supported research. The father, a medical doctor, had gained Himmler's interest through a hypothesis, which he tried to support with experimental evidence,- and I did not quite trust this. He was well supported in his work by money from the SS and had gained quick fame. His idea was, that there was a connection between the frequency of heart failure in modern, civilized man, and the heart-muscle strengthening effects of digitalis glycosides. He hypothesized that originally man regularly consumed small amounts of digitalis extracts in his drinking water and food. This came from extracts which originated in the woods, which had an undergrowth of digitalis plants. As woods and their undergrowth began to disappear in overcrowded Germany, and as people began to get more and more separated from their "natural" surroundings, a shortage of digitalis in the food made itself felt as heart disease. To make up for this shortage in modern, civilized man, one had to feed minute amounts of digitalis to everybody.

The idea appealed to Himmler, because he always believed in the mysterious role of "nature" in peoples' lives. There was also a practical side to this; one could feed minute doses of digitalis to everybody, and that could compensate for the lack. Even plants were supposed to have gotten weaker through lack of natural digitalis. Such a hypothesis could be tested.- But first my friend's father and other people profited greatly from advocating- and selling- foods to which small amounts of digitalis had been added. Himmler was once more convinced that some kind of "return to nature" could heal many evils.

It occurred to me, that it should be possible to prove or disprove this hypothesis; only, I had no idea at that time, how difficult it would be to show convincingly that something was wrong. So I went to work, feeding rows of plants with digitalis infusions, for which I grew the leaves in the garden; and rows of control plants received everything the same except digitalis. I weighed plants on my grandfather's balances and measured under the microscope thickness of roots, stems etc. I got as far as convincing myself, that if there was an effect, it was not sufficiently simple and visible, that it would show up in my investigations. I learned mainly how many experiments were necessary, and how carefully designed they have to be, if one wanted to show that a hypothesis was either likely or unlikely to be true.

Like many of the events which happened at that particular time, my friend's father's undertakings had an unhappy ending. When the Third Reich came to an end, and the involvement of people like Himmler in atrocities had become apparent, people who had been close to him and whose career he had supported, became heavily compromised. My friend's father, who had probably meant well, but had gotten carried away by the chance to find something important, had seen a result which he wanted to see; all his work was now attacked and belittled. He finally committed suicide successfully, in spite of rescue attempts by his sons.- I believe, that he felt responsibility for giving in to weakness and vanity, and had not produced malicious falsifications. He might have survived in less provocative times.- Discoveries in science, which can bring so much joy and recognition, can also easily seduce the experimenter in seeing something which is not there.

Probably the most important discovery in my career was the observation, that web-building spiders reacted to psychotropic drugs with the construction of changed web patterns. This occurred several years later, and it lead to more than 100 published papers in German, English and French, to 3 books, and it occupied the larger part of my adult professional life. When I started to work with web-building spiders, it was as if something had come into my life for which I had waited all the time before. I pursued this research in spite of much advice from well-meaning people; some found it too narrow others believed it was inessential. Looking back today, I feel that the perseverance in a field which fascinated me was probably the best I could have done. After all, if one gets excited and involved, one works harder and better than with any other stimulus.

In the following I quote in part from "The Story of the Drug Web" from the beginning of my book "A Spider's Web;Problems in Regulatory Biology", which I wrote together with Dr. Charles F. Reed and Dr. David B. Peakall, and which was published by Springer Verlag in Berlin in 1968.

In the year 1948 Dr. Hans M. Peters, professor of zoology in Tübingen, asked advice from the pharmacology department at the university. He had tried to take movie pictures of spiders during web construction; this usually takes place around 4 o'clock in the morning, a bad hour for the movie crew to work. It was hoped that with the help of stimulant drugs, web-building time could be shifted forward. At that time I investigated drugs which attacked primarily central nervous system functions. The use of dextro-amphetamine, strychnine, and morphine was recommended by me as afirst approach to changing the behavior of an animal, whose reaction to drugs had so far never been tested. Dr. Peters soon reported that the experiments had resulted in badly distorted webs, built at the usual time. A movie was taken of a spider building a web under the influence of amphetamine and resulting in a most irregular pattern.

At this point the experiments lost interest for the zoologists, but gained interest for psychopharmacology. A way of web photography and some ways for measuring web geometry had already been developed by Peters. I found soon that there was no difficulty in giving spiders drugs by mouth if the right additive like sugar water was used. After all, spiders have a preoral digestion and drink their nourishment. As methods to test effects of drugs on behavior were poorly developed and were rarely quantitative at that time, it became of interest to work out a new method by using the web as a measurable record of behavior. Changes consequent to drug application could be identified as drug effects. It also became soon apparent that a measurable web of some kind was built even by severely disturbed animals.

The first drugs tried were caffeine, amphetamine, scopolamine, strychnine, most of which showed soon statistically significant changes in distinct web proportions. A standard method of web photography and measurement was established and used to compare drug and control webs statistically. Over the years these methods could be improved steadily.

Though it seemed that the drug test as a method discriminated reasonably well between different drugs, as a research tool it remained unsatisfactory. It could only do screening, which means distinguish between different groups of drugs, but offered no explanation of the mechanism of drug action. One gave an unknown drug to a largely unknown animal, and the results were always surprising, but not always enlightening. But even large scale screening was made difficult by the enormous number of measurements and calculations which had to be performed. For example one web of an adult female Araneus diadematus Cl., the cross spider with which we worked most of the time, may easily contain 35 radii and 40 spiral turns. That means that the catching part of the web (excluding the framing and anchoring structure) can contain 1,400 intersections, where thread is fastened to thread,- all potential measuring points. For statistical comparison one should measure 20 webs before and 20 webs after drug application; that means measurement of 56,000 points in two coordinates.From that one can generate characteristic figures for each web such as size measures, regularity and shape measures,and measures for web density, several of each. Such a procedure demands extensive manipulation of all figures. To save time and effort, the points which were measured were reduced to a number which contained a maximum of information with a minimum of duplication, and for each drug those measures were selected, which seemed most distorted. The disadvantage of such economy is, that measures for different drugs are hardly comparable.

Still there was one application: It could be used as a biological test for foreign, active substances in the body fluids of mental patients. It was more and more discussed at that time, that acute hallicunatory stages of mental diseases looked so much like drug effects, that they might be attributed to a foreign substance in the patient's body. Substances like LSD 25 with its effectiveness in unbelievably small amounts, 40 micrograms per person, or mescaline, adrenochrome and others, which produce hallucinatory excitatory states in normal people, were candidates for products of an abnormal metabolism in mental patients. If a substance were found in a patient, which was absent in a healthy person, one was halfway to finding a method for treatment of mental patients. As at that time all treatment for this group of patients was trial and error, mainly trying to alleviate a symptom, the possibility of using chemical, causal treatment methods seemed very exciting.

Experiments by me and others were carried out at that time to find out whether in the body fluids (serum, cerebrospinal fluid, urine) of acutely hallucinatory patients such "abnormal" substances could be discovered with the spider test. I worked closely with Dr. Manfred Bleuler from the Zürich Psychiatric Hospital. Once we thought that we had definitely found something in a female patient, but on closer inquiry it turned out that the patient had received a drug, which would produce the same result. There were many contradictory results, and sensational reports came from Canada, the U.S. and Switzerland about findings, which could not be confirmed by other investigators.The breakthrough of finding something was so tempting, that I believe results were sometimes too optimistically judged. Further experiments were abandoned, not least for the reason that the scale of experiments to get significcant results were beyond the capabilities of most scientific laboratories. And naturally many negative results,(i.e. nothing was found,) were never published. One really should have tested many different fractions of body fluids at different concentrations,- certainly an enormours task.

As of 1990, leads have been reported, but never anything definite. Considering the great progress in analytical biochemstry one wonders, whether a discovery, if at all, will now be made with direct biochemical analysis, and complicated biological test methods like the spider-test are no longer necessary.

In the following years, a number of experiments were undertaken to further clarify changes in drug webs. For example it was not clear, whether there was a difference between experiments with young and old spiders. Also different species might react in different ways. Many spiders had lost a leg, and the question arose, whether 7 or 6 legs instead of 8 might influence web geometry. Many experiments were undertaken to clarify such questions, and they gave valuable information of the functioning of a spider's central nervous system, its flexibility and its back-up mechanisms. I found all these questions of special biological significance, and thoroughly enjoyed discovering some of the ways, in which nature had equipped these little animals. This type of investigation into the function of the spider's central nervous system became increasingly the subject of my experiments.

Looking at web geometry, it is easy to forget that the availability of silk,- the supply available at building time,- will influence the pattern. After all the daily expenditure of silk for a web for the small animal is enormous. A starved spider may produce less silk, or the same amount as a well fed one, at the expense of body constituents; and a thicker or thinner thread can be spread out in a larger or smaller, a denser or a wider meshed web; and economy of silk can be regulated in that way.

A great number of regulations can take place in the situation of food deprivation,- a tendency to save silk being counteracted by the necessity to trap food in an optimal web.I interrupted the writing of an article for an environmental health journal to try the effects of starvation on the spider's web. To my surprise two weeks without food produced a severe weight loss in my animals, but no change of pattern in the daily web. Body proteins had probably been sacrificed for silk production, because the maintenance of daily large webs overrode all other economies.

On further starvation, the next step in adaptation was a wider meshed web, built with less silk, but still efficiently trapping animals over a large area. In this way only the smallest insects were sacrificed, while the trap remained full size. Further starvation made the web shrink, but for a long time some kind of wide-meshed, small web was constructed every day. There was always the threat: no web-no food; and the spider retained some drive for construction until shortly before its death.

New start of feeding caused the animals to gain weight, before the web proportions returned to the old size.- This kind of analysis has never stopped to get me excited, and I feel somewhat like a detective who discovers the culprit.

The reader may wonder, how we knew the amount of silk, which the spider's silk glands contained. A student had the good idea to apply a method, which the optical industry had long used to obtain silk for telescopes: a rotating rod touched to the spinnerets rolls silk out of the spider, usually until the glands are empty. The total of the rolled-out silk could be measured exactly by chemical analysis.

For all these investigations one has to measure silk quantity, in the web as well as in the animal. If one wants to measure silk quantity,- especially in the web,- one has to deal with different kinds of silk, which the various glands produce. This makes the use of biochemical and biophysical methods necessary. At this point Dr. David Peakall joined the spider web explorations, and he became also a good friend. With his background of protein chemistry he started to investigate silk production at the glandular level. In a number of elegant experiments he established the likelyhood and location of a regulatory mechanism for silk production. Acetylcholine and cholinesterase on the gland surface regulated the speed of silk synthesis; this was a possible neural mechanism. In addition it was found that speed of silk production was dependent on the filling stage of the gland. Shortly after web-building in the morning when the silk supply had been used up, rapid silk production in the gland would set in, slowing down during the day, as the glands filled up again, nearly stopping in the evening.

Another problem, which Dr. Peakall explored in our laboratory, was the nature or composition of the different kinds of silk. Reports in the literature on the composition of silk of one spider were done without taking into consideration the composition of different threads, several of which contribute for instance to one web. There is the sticky thread of the catching spiral, the structural thread of radii and frame, and the specialized substance of fastening plates. Most reported measurements of silk composition had been made in whole webs.

Among others, the results of his work permit to study the interaction of one behavioral variable (web-building) with a biochemical mechanism (silk synthesis), and maybe establish the spider as a useful model for basic studies of a relationship between physical mechanisms and nervous whole body functions.

As mentioned earlier, one of the limiting factors in drug as well as other web research was the abundance of data, which had to be processed. A great number of webs have to be measured to get statistical results of reasonable reliability, which than have to be set off against changes caused by drugs. Each drug had to be investigated at different dose levels and at different times. I will never forget the moment, when in a lecture on the newly introduced computers Dr. Charles Reed. who sat in front of me, turned around and suggested that the use of computers could solve the problem of handling the large quantity of data. We decided to try that, and recruited the help of a young man from IBM, Bob Jones, to write the first program.

Dr. Reed's background was in psychology with an especially strong interest in the mathematical-statistical approach to biological problems. He became immediately fascinated with spider webs; and we three, Reed, Jones and Witt, developed the first computer-program for web analysis. This program has later been simplified and modified so that it could be sent out to others, who used it for web analysis. The program permitted also to reduce the data which were measured and fed into the computer to a much smaller number, so that we still obtained the web characteristics, without measuring thousands of points per web. There is no way now to separate the work of us all from each other, because we have mainly operated together without clearly separating who did what. The first English language book on spider webs, "A Spider's Web, Problems in Regulatory Biology", was authored by Witt, Reed and Peakall.

There followed a great number of studies of the web pattern, using the computer to relate web to age of the builder, its genetics, to drug effects and other factors. In this way much information on the functioning of the spider's central nervous system was collected, and how the movement pattern was coded.

Though the method of harvesting ready built webs in the morning, photographing the pattern, and measuring from the negatives was most convenient, it became apparent that one could gain additional information on the regulation of web building by experimenting with spiders in action. We found again, that the early morning hours make this difficult. Also the thread comes nearly invisible out of the spinnerets, and the spider moves and turns very rapidly, so that observation can be frustrating. Attempts were made to take moving pictures of spiders during web construction. Hopefully such pictures show the thread as it emerges during construction and as it is positioned onto the surface. First movie pictures were obtained with the help of Terry Barnum in 1966, and after that more of this together with analysis of movies with slowed-down projection got underway.

Two events made the movie plans crystallize: by 1968 the grain of films had become so much finer, that even the thinnest spiral threads could be made visible, when filmed against a dark background, while being lighted from the sides. Now the burdensome use of spray paint or powder was no longer necessary.

A photographer arrived in my laboratory, sent by the National Geographic Magazine; he wanted to take professional pictures of web-building spiders. His name was Lawrence Salzmann, and after he had taken very good pictures, he let me know that he was interested in taking on his own movies of spiders during web construction. He saw the special challenge, the possibilities, and he had the technical know-how to carry it out. I became enthusiastic about the plan and thought about ways of raising the necessary money.

I wrote to several foundations, which had supported me in the past. I explained the possibilities for teaching animal behavior to schoolchildren and zoology students with the help of such a film, and for carrying out research. When all answers were clearly negative, I decided to undertake the financing myself, while Mr. Salzmann offered to donate his time until we had earned some money. To anticipate,- in less than a year after we had completed our film, we had recovered all production cost for the film through film rentals and sales. But first came two years of hard work, during which we accumulated piece by piece film about various sections of web building.

One difficulty was the seasonal nature of web-building: the most regular builders are middle aged females, which mature during the summer months, after their birth in the preceding fall or spring. They build daily large webs to catch much prey for the obvious reason, that they need protein building stones for growth and development of eggs. All through the filming we struggled with the difficult timing, namely the early morning hours as construction time. After all, this difficulty had once led to the discovery of drug webs. Sometimes it looked as if spiders carefully avoided being filmed: after an all-night vigil, we went for a half hour breakfast, only to come back to newly constructed webs. Finally we developed methods to catch the elusive process.

We learned to select spiders of the right age at the optimal season, animals which had shown that they built a web every 24 hours. We suspended empty frames with spiders in rows in the laboratory, and we had lights, camera, background on wheels, so they could be moved before and behind a spider after it had started to build. We also obtained some beautiful pictures of web-building outdoors at the Knightdale pond during sun-rise,- pictures which later became the introduction to the movie.

Timing stayed an overwhelming problem to the end, but though Mr. Salzmann and I had different attitudes toward the seriousness of staying up at night, we were both persistent. In the end there was sufficient material for a film, and we had to resolve the question of format. The process of laying down the spiral takes 80% of web-building time, and it is rather repetitive or outright boring, because the same sequence of movements is followed by the spider many hundred times. We selected an approach which would illustrate several basic ideas separately. An easy to remember title was choosen:"Life on a Thread. An Introduction into the Study of Behavior, Using the Example of the Web-Building Spider." I prepared an 8 page brochure, decorated with a drawing of a child watching a spider, which descended on a thread, designed by my daughter Mary. The brochure explained the 8 sections of the film, and there was an extensive reference list, which could assist a viewer or teacher in further studying the problems discussed in each section. I wanted to make it easy to use the film in the teaching of behavior courses.

The first section is called: "Behavior is set at a time and in a place"; one sees the lake in Knightdale, the rising sun, and a spider putting the finishing touches on a new web in the shrubbery. Only little is known on the positioning of webs. Observations have lead me to believe that after dispersal by wind of several hundred spiderlings (which come from one couple of parents), the animals stay in the place where they land and build webs there. After that the relative abundance of prey would favor an animal in one location over another, and survival would depend on the accidental original location rather than on deliberate site selection.

A special sound track of bird song in the morning was prepared, which was supposed to accompany the sunrise; this got promptly lost. In the end we used another short section of bird song over and over; an imperfection of the film which reminds one of the problems of working with such limited means. After considering a sound track with music or drum beats for the movements, I decided in favor of long, silent periods, where the eye could watch without interference. From time to time a short remark would point out what was important at that moment. I spoke unprepared into a microphone and unto a tape while I watched the film run off; that immediacy proved to be a good procedure for gaining interest. The viewer has frequently the feeling of discovering a detail by himself.

The second section of the film shows the spider building its web in the laboratory. In the commentary the point is made, that laboratory observation offers certain advantages over the outdoors, because it permits manipulation of the environment in a systematic fashion. It enables one to isolate several environmental factors; the influence of the factors on behavior can than be measured. Abnormal web-building tells more about the process than simple observation. A comparison of spiders with elephants illustrates why spiders are good experimental animals to study basic rules of behavior. Extensive measurements have established, that webs indoors are not different from those built outdoors.

In the third section of the film we make use of the possibility that one can speed up and slow down filming. At changed speeds one can observe phenomena which disappear at normal speed. Three speeds are used: a very slow run shows detailed leg movements, thread placements, body turns. Such details are not seen at normal speed. At the other extreme, the fast running film, in which the spiders flashes accross the screen, pulls each phase together into one pattern of movements, which can be compared with patterns in other phases. One distinguishes the frame and radius building phase, from the spiral laying phase etc. Sections 4 and 5 of the film elaborate these findings, and we talk about first, second and third order movements. Each movement and combination of movements is repeated over and over again until a certain endpoint is reached.

In section 6 of the film the results of some interesting experiments are shown: the just-layed silk is cut either in front of or behind the spider. The film shows the reaction of the animal to such a disturbance; one can draw conclusions on the way the behavior is coded and bolstered against disturbances.

When a completed section of the web is suddenly missing, it could either be replaced, or it can be left, and building goes on. This depends mainly on the severity of the disturbance. When one considers that in nature many interferences during web-building by birds, the wind etc., are possible, one admires the way the spider deals with them, and one revises the idea abou a rigid behavior pattern, which seems to underly construction. Usually some kind of web is always built, even under the most adverse circumstances. This is not surprising if one considers how important a useful trap for food is for the survival of the trapper. Some kind of functional structure has to exist to permit catching of food.

In the 7th section we show the function of the web as a trap for flying prey. The delicacy of web-building behavior and the regulations of its execution lead to the finished product as a highly specialized and important trap for flying insects: it catches all the food for the builder. The animal can neither see very well nor can it fly, and so it extends its touch over a wide area through the web. The fly, which orients itself by sight, gets caught in the invisible structure, and it is manipulated by the spider through touch. Great amounts of chemical (silk) and movement (construction) energy are expended to distribute many meters of fine, elastic silk, and in order to survive the spider has to recover all of this and eat prey. We observe how conditions for survival are optimized in a specialized way.

In the last section the recording and measuring of web-building is explained, findings are analyzed, and a brief look is taken at web-building under drug influence. We show pictures of distorted webs, which were built by animals after psychotropic drug application.

To return to the story of laboratory work, investigations have been undertaken to further explain the pattern of the web, its construction and use. The results explain not only spider behavior, but also shed light on basic problems of behavior in general. We have investigated relationships of certain areas of the spider's central nervous system (brain) to components of building behavior. For several years we produced in the laboratory minute lesions (0.02 mm diameter) with a laser beam in the central nervous mass; this was done with the help of a physicist-friend, Dr. Frank Tittel from General Electric Co. in Schenektady. One can compare webs, which were made before and after a discreet lesion with the laser is produced. The differences in the two sets of webs are related to the area of destruction in the nervous system. In this way specific functions can be located in the "brain".

Another approach to the study of spider behavior was used by French coworker Dr.Louis LeGuelte. He became interested in the role which experience played in the animal. The spider Zilla sits usually in its retreat. When it is enticed by a fly into the web, the frame with the web can be turned on its head, so that the retreat moves from above to below the catching area. The animal becomes first disoriented about its return, but on repetition increases the speed with which it finds the (new) way back. Such change is dependent on the number of preceding trials and the spacing apart of trials in time. In this way one investigates the establishment of a memory trace quantitatively, and one can measure how long it takes for the trace to disappear.

There was always the wish in me to convey my surprise and delight about spiders, spider webs and other natural wonders to interested people. This is similar to what I have described about my grandfather and greatgrandfather Witt, who wrote and published not only their scientific observations, but even their travel diaries. A film is only one of the ways in which one can explain one's ideas and describe findings. I have published more than 150 papers in mostly scientific journals about my research. Very few of these are still read or quoted. And my work is now described sometimes without mention of my name, a sign that it has entered the general body of knowledge. It also happens that I read a paper by a young scientist, which repeats as his discovery exactly what I have reported 20 years earlier.- I have written and edited three books in connection with the spider work, the first in German, the two later ones in English; this was done with the help of very cooperative coworkers.

A particular joy has always been for me the presentation of lectures, mainly to students. They are frequently followed by question and answer periods, during which I profited greatly from learning new points of view. For a while I received invitations to lecture all over the United States and other countries, and traveling became so frequent that I had to restrict it to not more than 4 times per month, so that research would not suffer.

I believe firmly, that even the best thoughts in science are useless, if they are not clearly and simply communicated. During the whole career one searches for the right way to gets one's ideas across. My experience with different ways of communication seems worthwhile to be discussed separately.

The most troublesome and least clear way of telling one's story seems to me the scientific paper in a professional journal. Before a manuscript is printed, it is first reviewed and judged by experts, who feel free to change and amend. It takes sometimes two to three years between writing a paper and seeing it in print. After that it is read by very few. This was different when I started:

In the Germany of the forties, the all-powerful professor and department head had to give his consent, before a paper could be sent to a journal. On the written recommendation of the professor, the paper was usually quickly accepted and printed. Though this system made the young scientist dependent on his elders, it was good, because one was in close contact with the reviewer-backer, one knew his idiosyncrasies, and suggested changes could be made quickly. Sometimes there could be annoying delays, for instance if the professor was on a long trip.

In the United States,- and by now most everywhere in the world of science,- each journal has a group of reviewers, who send their reports on manuscripts to the editor. The latter feels responsible to maintain the "level of quality" for the journal,- or what he judges to be quality. I have found this system not only cumbersome, but quite arbitrary, and it closes the scientific literature to many unusual and innovative thoughts. It is also responsible for an evenness of style, which is, to put it mildly, quite boring.

One suspects sometimes that editors and reviewers have volunteered for that activity, because they are frustrated in their own research, and so have ample free time. I received more than my fair share of corrections and rejections, and some straighht-forward refusals. An unusual subject matter like spiders, drug effects in invertebrates (drugs are reserved for humans!??), and the analysis of web patterns made my writing too daring. Soon I found out, that rejection by one journal does not mean rejection by the next,- an observation which raises doubts about the objectivity of the process. There is a danger that the most unusual and sometimes daring thought or method can mean the greatest progress. A system which resists the unusual seems unsuitable for science.

An incident comes to mind, which illustrates some of the arbitrariness in the editing of papers: the wide-read journal Science approached me about writing a lead article on spider webs. I wrote with Dr. Reed a review paper on webs and how they are measured. The manuscript was sent to Dr. Abelson, who had requested it and was the respected editor in chief. Twice the manuscript was returned to me with very many suggestions for changes. When I finally received the proofs, a slip of paper fell out, which had gotten there by accident. On the slip Dr. Abelson had told the sub-editor that the paper was to be printed quickly and independent of suggested changes. He obviously felt that the "improvements" were not essential.

In spite of all difficulties, every paper I wrote and sent in got finally published,- frequently with a delay of several years. New journals appeared from time to time, which tried to provide space for unusual writings, which had not fitted into the old ones. Such journals sometimes solicited spider papers for their opening issue.

I have mentioned, that the present system insists on a standard language. In my earlier days papers had sometimes appeared in a very personal style, and these could be a delight to read. They no longer appear and interrupt the boring uniformity of editor-approved language. Sometimes it was particularly enjoyable, when I received a letter from an editor, who requested a special contribution. Under those circumstances one could choose topic, style, approach, and format. Some of these papers are those which are still read.

Here are several examples: in 1961: "Tranquilizers: experimental proof for their specific effects", the written version of my Nathan Lewis Hatfield Lecture in Philadelphia; in 1963:"Environment in relation to the behavior of spiders," by invitation of the newly started Archives of Environmental Health; in 1965:"Do we live in the best of all worlds? Spider webs suggest an answer", written on invitation from Perspectives in Biology and Medicine, which likes contemplation; in 1971:"Drugs alter web-building of spiders", on invitation from Behavioral Science; and in 1976:"Spider Webs, Design and Engineering" written with student Wesley Burgess on invitaion from Interdisciplinary Science Reviews.- And there is the complete freedom, which comes with writing a book. I wrote three books, cursed it every time because of the amount of detailed work necessary, but thoroughly enjoyed the freedom of choosing subject matter, style and format.

There is a completely different means of communication in science, which I believe to be of high importance, and the existence of which is not openly acknowledged among scientists. These are articles by highly trained science writers about scientists and their work. It always seemed to me that I have encountered an unusual large number of such articles in my work, several hundred articles in the 35 years of my research activity. In two albums I have kept the best ones, about 10% of all. In this type of report one is dependent on the writer, who may do anything he wishes, from superficial half-truths to excellent written and thoroughly researched stories. It frequently puts findings into words, for which oneself has searched in vain. Science writers have frequently impressed me very much, because they combined a polished language, with an understanding of someone else's work, and a good background knowledge. I usually learned through their questions and frequently enjoyed such interviews.

In looking back I see a pattern of distrust in many scientists against science writers, which I find completely unjustified. It looks as if some scientists regard themselves as members of a secret society, which speaks its own language and keeps its truths to itself. One hears remarks like: "that is too difficult to understand (or to explain)". I maintain that everything which is clearly thought out can be explained. I would rather face the danger of occasional oversimplification, than lack of understanding in others about what I do. Help should be sought out by scientists from writers. Some scientists even think that mention of their work on television is demeaning. This belief will hopefully soon be outdated.

Another important consideration for successful research is the wise use of the latest technology. If good planning is combined with the right tools, knowledge can be extended. I have also found that the use of new technology often generates publicity. I remember an incident when I flew to Chicago to report to the Federation of American Societies for Experimental Biology results of web pattern analysis, in which the new computers were used. The morning after my arrival there was a notice in the Chicago papers, that somebody had arrived in town, who had used computers on spiders. It was remarkable that I had been singled out from the more than 10 000 participants who had arrived for the meetings. The recognition came certainly not for scientific merit!

Reports on laser beams shot at a spider's brain caused similar excitement. While the computer had helped to manipulate the large number of data quickly and efficiently, the laser permitted to produce very small, circumscribed lesions in the spider's central nervous system. A combination of the two latest instruments helped in an effort to locate specific functions, which were involved in web building, in specific areas of the nerve net. When this was reported in the press, the results had become less important than the means, with which they had been obtained.

Two television appearances remain clearly in my memory, both the result of the spider research. The first was on a show named "To Tell The Truth". A panel of experts had to select among three persons, who were or pretended to be the real Peter Witt, the man who had given drugs to spiders. By a telephone call from New York I was asked whether I would appear on the show. My younger daughter Mary, who was at that time in a TV appreciation phase, advised me to go. In New York I went through two days of preparation, during which I told my research story to a script writer, to lawyers, and to two gentlemen, who were selected to pretend, that they were Peter Witt. While I was advised to tell the truth in answer to a panel's questions, the other two had to lie and pretend, that they were I.

The two fake Peter Witts were respectively a Swedish resident from Manhattan, who worked for a publishing house, and had a strong foreign accent; and an administrative officer from Columbia University, who was bald. I remembered that I had been asked on the telephone, whether I had something characteristic in my looks; and I had answered that I had very little hair left. The Germanic accent had probably been easy to recognize over the telephone.

After several rehearsals, we three were conducted onto the stage, while a special melody was played. There we faced the panel of celebrities, who sat behind a raised desk. We sat down on the opposite side, facing light siganls, which were hidden from the cameras. The host of the show began by saying "I am Peter Witt, I give drugs to spiders...", and he described some of my experiments. The panel asked searching questions of all three of us, with the intent of finding the real Peter Witt. When all panel members had guessed wrong, we three"Peter Witts" were permitted to divide the $ 500.- price money among us. It appeared that the celebrities were quite angry about the loss of money, and they did not participate in the cocktail party afterwards. I still smile when I see Kitty Carlyle or one of the others and remember their hurt and foolish behavior.- Later I had a chance to observe the taping of a few more shows, one with a billards master, one with a lady who did acrobatics on a flying aeroplane.

Many months later I could have watched the show, at a time when I attended a party in Morganton, Western North Carolina. Suddenly word came that I would appear any moment now on the screen; all party-goers turned away from me and rushed out to the nearest TV to see me on the screen, while I "in the flesh" was left alone. The screen appearance was more attractive than the real person!

To give an insight into how busy one can get in a scientific career like mine, I recall that I had to lecture in Oregon on the West coast the next morning. As I walked out of the studio onto Fifth avenue, it was the rush hour, and cars moved slowly bumper to bumper along. It seemed hopeless to obtain transportation to the airport. As I stood at the curb, one of those small miracles happened, which makes one believe in kindly spirits. A car stopped in front of me, and the driver asked for my destination. He took me directly to the airport without another word and declined to accept payment. He will always be fondly remembered.

Another television appearance occurred on a program called "Good Morning, America". Again I was asked on the telephone whether I would come for a few days to New York. The plan was to show on the morning news some fresh spider webs, and some built under drug influence. The efficient laboratory technician in Raleigh built immediately two large carrying cases, in which several frames with webs and spiders could be transported to New York. I also carried a small glass jar with the Mexican social spider Mallos gregalis in its web, a species which I studied at that time. My friend Dr. Charles Reed met me in New York to help, and we did some preparatory work in the evening before the show.

After a night at a nearby hotel, we marched around 5 o'clock in the morning with spider frames in both hands to the NBC studios. There we experienced the full array of preparations for a television show: a special barber shop for make-up, which I declined to enter; a lawyer's office where papers had to be signed, which delineated the rights and duties of each participant. Over night a huge spider web out of ropes had been created as a background by a little old lady. We sat on chairs in front of that, while we could observe several other stages, which wer in other corners of the big hall. The anchor man, Tom Brokaw, interviewed some diplomats who had just returned from an exotic country. After that he talked with a famous film and book critic, whose name I knew because his daughter went with my younger daughter to college.

Suddenly I found myself opposite the interviewer. The questions he asked sounded spontaneous, though they were selected by Mr. Brokaw from a list, which had been carefully prepared for him by his staff. It was impressive, how the interviewer switched from foreign affairs, to art, to spiders, giving each topic his full and undivided attention, and never carrying one topic over into the next section. For the 5-10 minutes of the interview he treated me like an old friend, with whom he had had the most interesting conversations in the past, though he saw me the first time. I was certain that one hour later he did not remember me at all. It was an astonishing performance, carried out with great skill. I never saw the show on the screen. But my Raleigh coworkers, who had seen all of it assured me, that it came across well.- The film critic, who had his bookish corner in another part of the studio, came over after the show, shook my hand and confessed, that he had always been partial to spiders, but liked them even better after the show.

While this chapter started out with my early interest in science and research, it developed into a detailed report on my findings in web-building spiders. This was not my only subject matter of investigation, but it kept me busy most of the time. I could also report on drugs which changed the properties of heart muscle and the permeability of the cell walls, which held my interest for many years.I started experiments with heart muscle in Bern 1949, continued them in the laboratories of Harvard Medical School 1952/3, and pursued them in the Upstate Medical Center of the State University of New York in Syracuse for many years. I picked the spiders for a longer explanation, because they fascinated me for the longest time, and because they can be easiet explained. I found again and again that there is no other animal which leaves such a detailed and accessible record of its activities. I was lucky to discover this early in my career, and later I had to make many decisions about priorities of research topics.

Some consideration should be given to the places where the professional activity in my life took place. I started out in Germany, where I was born, and where I grew up. My first job was during the study of medicine in Graz in Austria; my first full-time professional activity as assistant in the pharmacology department of the Univertsity of Tübingen came directly after the war and was a continuation of my dissertation. I describe elsewhere how I reached Sankt Georgenhof and my family in fall 1945 after fleeing from Russian occupation in Berlin. Though I had much to do, like bringing grain to the mill and fetching flower with horse and wagon, I soon left the farm and moved to the university city of Tübingen. There was at that time in Tübingen a very lively academic life, because it was one of the few undamaged universities in post-war Germany. Particularly in philosophy some of the greatest teachers were present, like Guardini and Weisschedel, in clasics Walter F. Otto, in Indology von Glasenapp. We had most stimulating seminars and discussions, and I was much influenced to direct attention toward psychology and psychiatry in my medical activity. This led to an investigation of drugs which change behavior- also called psychotropic drugs-, and the exploration of the spider test.

When I was 30 years old, a number of circumstances pushed me towards Switzerland, where I had been offered a position in the pharmacology department of the university of Bern. It was a German speaking university, at which I stayed with interruptions from 1949 to 1956. During my stay there, I was advised to apply for a Rockefeller Fellowship to Harvard Medical School. I taught in Boston and continued my research for one year in 1952/3. It turned out that there was little time for research, but much time for learning, and I met many great scientists, became familiar with another language (English), and felt comforatble with living in another country.

There was a chance to observe the wide differences between academic life in Switzerland and America in the 1950s. For a career in academic life the difference in size of the two countries was decisive. In Switzerland were at that time three German speaking and two French speaking universities, each with a pharmacology department with a full professor in charge. If I wanted to do teaching and research, I would eventually have to aim for such a professorship.

Professor of Pharmacology at a Swiss unversity was the only good way I saw of earning enough to support a family and doing the research and teaching, which I regarded appropriate for my abilities. There was always the possibility of going into industrial research. The large Swiss pharmaceutical enterprises had lots of space for pharmacologists, but I thought that I would not enjoy that, only wanted to do it if nothing else developed. The academic jobs were so scarce in Switzerland, that many rising pharmacologists waited all their life for an opening. When the opening finally came, another might be selected, and change of plans after years of waiting would be called for. Though I had acquired in Bern in 1955 the title of "Privat Dozent",- another step toward a professorship,- this was no guarantee. Much later, when I competed for a specific job in Switzerland, the university selected a young man who was not a privat dozent over me. I was glad that I had not waited.

In contrast, in the United States of America were hundreds of universities, many with medical schools, who had a pharmacology department. Sometimes such a department had not one but several full professors working side by side, each specialized in one aspect of pharmacology. In the 1950s there was also a shortage of qualified applicants for all the open jobs, so that universities were searching out young teachers, rather than the other way around. The job market was more flexible than in Europe, and universities were more generous.

During my one year of the Rockefeller Fellowship, 1952/3 in Boston and on trips around the country, I had received lots of insight into American acedemic life. With the help of my Harvard department head, Dr. Otto Krayer, I was able to arrange a lecture trip all across the continent. From Boston I travelled via Chicago, Salt Lake City, Los Angeles, and back via Cincinnati (after stopping along the way at the Grand Canyon) and St. Louis to Boston. On this trip I saw and experienced so much, that new prospects of a professional future began to appear before my eyes. The Rockefeller year profoundly influenced my later choices. I became better informed and open to a larger world, for which I am forever grateful.

There are many memories from the trip across the United States in 1953; and now, 35 years later, a few will be written down. The overwhelming impression was that of enormous distances in North America, as compared to Europe. The introduction of jet flights a few years later made the distances less difficult to negotiate, but they also brought an end to the impressive amounts of time taken for travel. When I took the train from Chicago via Salt Lake City to Oakland in California, I had a bed for several days and nights. I had taken ample reading material for the long hours. However, I hardly got to peruse it. People on the train made efforts to get acquainted with each other. Small cocktail parties were given in the bigger cabins. When word got around that a young Swiss scientist crossed the continent for the first time, I received invitations from all sides. In between going to parties, people dropped into my compartment to explain special sights to the starnger. We saw wild horses galloping along the train as we crossed the Sierra Nevada, and there were abandoned camps from gold diggers along the rivers in the Rocky Mountains. It was the first of many times, that I received the generous hospitality and felt the pride and outgoing friendliness of "Americans". I nfound it than, and I find it now, a national trait, which makes life for foreigners so much easier than in other strange countries.

I Oakland I took a ferry to San Francisco, and a taxi to the pension, which had been reserved for me by a cousin by marriage, who also showed me around. The drive up and down the steep streets, and the horizontal crossing of other streets, was surprising and delightful. The enormous trees in California, Redwood, Eucalyptus and others, impressed me deeply, particularly on the Berkeley campus. When a student many years later asked me for advice about taking a job in Berkeley, I told him that if all else was unsuitable, the big trees would delight him, and he would always have something beautiful to look at. His first letter from there contained the sentence"you were quite right about the trees".

There was a most memorable daylight trainride along the coast from San Francisco to Los Angeles.

A few encounters and events from the later part of the trip remain in my memory and appear worth reporting:

In San Francisco I was shown around by a young architect, Felix Rosenthal. My cousin Lilli Bohnke, a pianist, had just married Felix' brother in Zürich; the brother was named Bernard Rosenthal, called Barney. Barney and Lilli had written to Felix in San Francisco, and asked him to help me. Felix spent much time and effort to make my stay interesting, and I will always be grateful to him. He had been involved in the than much discussed McCarthy investigation of "Unamerican Activities" together with a group of architects, including the former Berliner Erich Mendelsohn. This architect was no relation to my mother's family, but he had been a friend. He had designed several beautiful flat-roofed, white houses Am Rupenhorn, outside Berlin. He and his beautiful and elegant wife hed lived there and had been important in Berlin society around 1930, and they had left Germany when Hitler came. In America he had found much recognition and new chances to design, but he had also gotten into difficulty through his stand against McCarthy's efforts to restrict civil liberties.

Felix told me about that experience. We went together to dinner in exotic places, and we saw the redwood trees in Muir Woods and other "natural wonders". To anticipate,- when I came several years later back to San Francisco, I tried to get in touch with Felix Rosenthal, but was distinctly refused. This was probably the consequence of an event which caused all of us a great deal of distress, the divorce of Lilli and Barney; but I thought that it had nothing to do with Felix and myself. But the Rosenthal family, in which father and sons had the same profession as dealers in antique books and music, is closely knit. They traded preferentially with each other, as if they were branches of the same business, and they were very family consciuos. If one obtained a divorce, all family members felt with him and detached themselves from the divorced's family.I have seen neither Felix nor his brother Barney in more than 30 years, but I retain fond memories and am grateful to both.

I presented my invited lecture at the Medical School, and I was so well paid, that I could enjoy freely the week in San Francisco.

The daylight trip on the train from San Francisco to Los Angeles had been highly recommended, and as I had lecture engagements in both cities, I got a train ticket for the daylight train from San Francisco to Los Angeles. The views of the sea, the bays and rocks on that trip were spectacular, and I am glad to learn that after many years of interruption one can take that ride again.

Here follows the report of a small adventure which provided insight into one human mind: An old lady, who sat accross from me in the train, struck up a conversation. As we sat together for many hours, we had a chance to learn a good deal about each other's life and family. She appeared to own a warehouse full with antique furniture, from which she rented out suitable backdrops for movie sets. She indicated that this was a lucrative business, and that she was quite wealthy. When she offered to send through me a present to my wife Inge, who had stayed back in Boston because of a lack of travel funds, I expected a valuable object. After some talk about American candy bars and their delicious taste, she extracted from her bag a bar of Milky Way. This was available at that time for a few cents in any automat. She broke the bar in two and gave me with a grand gesture one half as a present for my wife, to bring back to her with the lady's greetings.-Another indication of her stinginess was her effort to make the railway personnel to telegraph ahead for a free wheelchair with a man to push it on the platform in Los Angeles. When I was surprised, because she seemed very well able to walk, she explained that it was not worth her while to walk down a platform, if she could have free transportation on wheels.- I have found such stinginess a rare trait in America.

It was a new experience for me, when I told the taxi driver in Los Angeles to bring me to the center of the city, and he replied that there was no one such center. This revelation together with a visit to China Town mad me aware, that the US Westcoast was actually closer to Asia than to Europe. During the stay in Boston I had always still felt close to the continent on which I had grown up: Europe. On the Westcoast one felt the existence of another kind of world: Asia.

I went back from Los Angeles to the East with the Santa Fee railroad, via Indianapolis and Cincinnati, and with a one-day stop at the Grand Canyon. In the two cities I was to give talks. Unforgattable is the natural beauty of the Western desert, the huge cacti, and the changing colours of the rocks at sunset. There was a samll disappointment in Indianapolis, where my host was the pharmaceutical company of Eli Lilly. They had a large research department, which employed several hundred people, and I was conducted around many laboratories. The director, Dr. K.K. Chen, an outstanding pharmacologist, who shortly thereafter became president of the American Society for Pharmacology and Experimental Therapeutics, showed great interest in my work. A full schedule for the visit with sightseeing, meetings and dinners had been prepared.

For the stay in Indianapolis a suite had been reserved for me at the Athletic Club,- an elegant establishment. My schedule hardly permitted to take advantage of the three rooms, which I was supposed to inhabit. One evening, when I returned from my visits, a disappointment awaited me: My suitcase had been opened and a beautiful and rare Chinese brocade had been stolen. It had been bought in San Francisco with all my leftover money as a special present for my wife Inge in Boston, and I had looked forward of seeing her wear it one day. The pompous man at the hotel reception proved of no help, when I complained,- rather looked me up and down as if to indicate, that I had done away with it myself. He stated that any theft was unthinkable in his club. I did not want to pursue the matter further, so that my gracious hosts at Eli Lilly would not be embarrassed. But it left me with a bad memory,- and I never again bought a Chinese brocade.

It was altogether a glorious trip, and it gave me a taste of the width and beauty of the American continent; I met many interesting people, and learned a lot about latest progress in pharmacology. When my wife and I three years later back in Switzerland considered emigration to the United States, I felt- thanks to this trip- well prepared to assess the offers from 6 American universities. The few short weeks of travel left more memories than many longer periods in later life.

Research and science have accompanied me through later years as an important component of life. More descriptions will turn up in other chapters of these memories. There was much more to it than just spider-web building research, and it played an important role in many travels in North and South America and Europe. This special chapter shall only provide a preliminary taste of the excitement and joy which it brought to my life.

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Visits to Magic Castles.

Castles have a special fascination for many people. Frequently they attract you by their age, the size or beauty. When one is invited to stay there for a visit, one can really be enveloped in their charm. I have had the luck to know a number of people,- have been their relative or friend,- who inhabit a castle. This makes it possible to talk about some magnificent buildings, which have an interesting history, but are still inhabited and loved. I find this distinctly different from being led through a castle on a guided tour,- an event which I do not especially relish. I still remember the commander of my military unit under whom we marched through France in the Second World War. He only wanted to stay in castles overnight, and his soldiers attributed to him a form of madness called "castlemania".

In an earlier chapter entitled "Tante Ele and her Family" our stay during one summer in this aunt's water castle on an island in the Austrian Attersee is described. The building was large and beautiful, and while we were there, many interesting people came and went every day. It is fondly remembered, but will here not be described again.

Another enormous and elegant castle, which I visited, stood in Militsch in Silesia, and I report on a visit there which I made together with my friend Otto Magnus Rehbinder in the summer of 1937. Again this description will not be repeated here.

Rather this will begin with Le Lieuteret,a 17. century castle in central France, where my wife Inge and I stayed for only about two weeks in the summer of 1950; it possessed special magic through its remoteness in place and customs of its very nice and quite old owners/inhabitants. I have before me, as I write this, a postcard with a photograph of the castle, and the inscription reads "Le Lieuteret (XVIIe siècle) Commune de Darnetz (Corrèze). On the picture appears the large two-story building with a square tower at each end; on one side a perpendicular wing is attached and ends in another square tower; the corresponding wing was never finished, and only the tower stands. The building surrounds three sides of a large courtyard with a circular driveway and there stand many large flower pots.

We got there thanks to special circumstances. Our brother-in-law, Smith Palmer Bovie, the husnad of Inge (my wife's) sister, had received a stipend to stay one year at the American Academy in Rome; he was to study the places where Roman poets and writers, whose works he translated, had lived.

The Bovies used their year in Rome, 1949/50, to travel all over Europe and visit family and friends. We received a letter from them with which they invited us to join them at a place in France, where the family of the French wife of an American colleague lived. The French family consisted of three old people, who liked to have company, and would welcome friends of their niece's to stay for a week or two. They lived in such reduced circumstances that they also hoped for a little contribution from the visitors to their household expenses.

As far as I can remember the name of the family was de Vaublanc. A famous ancestor, who had built the castle where they resided and who had been knighted by the French king in the 17. century, had been a poet of renown; I have so far been unable to find his name in one of my handy reference books. This may indicate that he has now been forgotten.

The three people who now owned and inhabited the castle and the surrounding land were in 1950 all more than 60 years old, unmarried, and without descendants. The oldest sister was called Tante Marie, and her brother Oncle Vincent, and both of them were deaf and dumb and partially crippled; only the youngest sister, Tante Marthe, could function normally, and she took care of the family's affairs. Our time with them was spent in such harmony, that we never felt the lack of direct communication. Understanding was also helped by the presence of the American niece, who loved the older relatives and interpreted for them.

One day Tante Marthe invited me into her office, where she did her work at a stand-up desk and kept the books of all accounts. Over the desk hung a photograph of the present pretender to the French royal throne, a Prince of Bourbon; he sat on a bench with a wife and a large number of children of different size. She pointed to the photograph and said to me in French: " The republic is the public ruin",- thereby discarding conveniently some 160 years of political development which had passed after Louis XVI. had been beheaded.

Inge and I were shown to our rooms, which appeared to be the largest and most luxurious of the guest rooms. There was a large bedroom with an enormous curtained bed. Through a narrow door one entered a large square bathroom, which occupied one complete floor of one of the square corner towers. This bathroom has remained in my memory more clearly than the bedroom, because it was very beautiful, and seemed to have hardly any facilities for washing or bathing.

The walls and the ceiling of the bath room were wood panelled and were all around us painted with radiant mythological scenes. The paintings seemed to refer to the four wind gods and related myths. Their perspective made the room appear even larger than it was, as one seemed to see into far away landscapes, mostly rolling hills covered with woods and inhabited by naked gods.

On one side of the room stood a small table, on which we noticed a round, painted china bowl, which was the wash basin. There were no faucets or plumbing to be seen. As we learned soon, the water, luke warm, was brought by a maid once a day in a small pitcher. She carried it a long way from two floors below from a remote corner of the castle. Later we had occasion to visit the kitchen, where the water was heated. In an arched recess, built of stone blocks, one could see a roaring fire, which according to repoorts was kept burning day and night, stoked by a maid. We were told that the retarded girl came from the village and had functioned as fire-stoker nearly all her life. A kettle over the fire, which swung out on an iron arm, contained the total water supply for the large household. When the hot water was carried in a pitcher from the kitchen to our bathroom, any excessive heat had dissipated, and we received with regular reliability about 1/2 gallon of lukewarm water once a day. Tante Marthe told us that several times in the past there had been plans to equip the whole castle with modern plumbing; but the plans had to be dropped, because roof and farm repairs and similar unexpected expenses ate up all cash on hand.

Inge and I devised a plan through which we would get the best use from our daily water supply; systematically we washed one section of the body each day plus had just enough water left to brush the teeth each time. After a while we felt so dirty, that we longed desperately for a hot bath. When we left Le Lieuteret, we rented for all the money we had left a bedroom with full bath in a nearby hotel.

The hotel in Riom turned out to be not much more progressive than the castle. There was a large bathroom with all the necessary plumbing; however, when we turned the faucets and expected water to gush forth, nothing happened. The innkeeper informed us that hot water would be available only between 2 and 6 a.m.. We stayed up for the glorious moment when streams of hot water poured into the tub, and we could soak tired but happy several wonderful times. This inn, by the way, served some of the best and most elaborate meals in the world, and people came for dinner from far away.

Our sister-in-law, Jane Bovie, fared less well than we at the end of her stay at Le Lieuteret. She was an especially neat and pedantic, scholarly and unmarried young lady, who taught housekeeping in a US midwestern college. We called her jokingly "professor of dusting". She had brought for her European trip a carefully planned and packed small suitcase, in which she carried mainly a small supply of nylon underwear and stockings, which were to be dipped at regular intervals in a prearranged schedule into hot water every night, so that she could feel and appear clean every new day. This proved to be impossible in the castle, and she was asked please not to deface the stately building with her underwear, which had hung out of the window of one tower; she suffered something like a nervous breakdown and took several weeks to recover.

Another strange and supposedly very French aspect of life in the old castle was the ceremony of eating, at least twice a day. In the mornings we observed Oncle Vincent sit at the bare table in the kitchen and devour a hearty breakfast. But at noon and in the evening we all assembled in the stately dining room, where Tante Marthe would unlock with a large iron key one of the dark, old cupboards and ladle into a bowl, held by a maid, the daily ration of sugar, coffee and other "valuables". A little later we sat down around the round table according to a carefully worked out seating arrangement. In the center of the table stood a large, wooden turntable: a "lazy susan". The maid placed various plates and bowls with meat, vegetables, salad and gravy in a carefully planned sequence onto the turntable. Now a complicated movement back and forth began, which was to serve everybody according to precedence.

Tante Marie, the oldest, had to help herself from each dish first. After she had taken for example from the fish, the table would be turned so that the second person could help herself to fish, while Tante Marie took her vegetables. This double system was followed carefully, until everybody had been served with every dish in that course. We all began to eat, until in the next round the ritual would start all over again. Lunch or dinner would take quite a while.

Younger relatives told us a story which shed some light on the emotions which accompanied the eating ceremony. On long cold winter nights, when the old people suffered from cold draughts in the vast rooms, they would start to tease each other by means of the lazy susan. Somebody would turn it prematurely, so that the person to be served could not take her share; this might culminate finally in a whirl, where the food raced around at high speed, and everybody was completely frustrated. The eaters stayed hungry.

In addition to the meals, there were other ceremonies, which kept the inhabitants busy. We were shown a library with book shelves from floor to ceiling, where each of the three had an assigned chair. Here they would sit and read during long winter nights, and as far as I could make out the reading material consisted exclusively of literature from the 18. century and earlier. One wonders what went on in their minds, and what a picture of the modern world they had.

There was a chapel in the castle, which had been consecrated by an archbishop-cousin of the family. Here mass was celebrated, and the family members and such guests as wished attended.- We also sat some evenings on the steps of the long stone terrace in front of the building. There were holes between the large, square stone plates which formed the terrace, and toads would come out and sing to each other. They sang rather clear notes in harmony with each other, and it was as enjoyable as any concert. I loved those long and peaceful evenings in front of the magic castle.

Each of the old people had their assigned functions. I told already about Tante Marthe in her office. Tante Marie, who was severly handicapped, was among others in charge of closing all the shutters on the outside of the downstairs windows. One could only imagine how it looked when the tiny person swung the tall, heavy shutters on a windy fall day.

Life did not always go on in purely routine fashion. We happened to be present when the annual outing occurred, and were kindly invited to come along with the family. This took place according to a long and carefully worked-out plan. The sisters and the brother wished to visit with us the caves of Lascaux, where only a few years earlier, in 1940, many beautiful paleolithic cave paintings had been discovered; we also visited various sites along the way. I read later that only a few years afterwards the caves had to be closed to the public, because the influx of outside air and the human breath began to endanger preservation of the old paintings. In 1950 there was still free access for tourists.

The trip occurred in a roomy, older, American automobile, which was to be driven by Oncle Vincent. The car was immaculately polished and ran smoothly and noiselessly, and it was specially equipped to accomodate the family. It turned out that Oncle Vincent had a passion for machinery, and particularly for cars, and his main function was the maintenance of all machines in and around the castle. He spent a great deal of time taking all machines apart, cleaning and lubricating the parts, and putting them together again. For example he had the latest model roto tiller for the garden, and there may have been other mechanical equipment. In one of the wings was a well-equipped mechanical shop, in which he spent much of his time.

The car was equipped with many mirrors, so that the driver, Oncle Vincent, could see the traffic on all sides without being able to hear it. There were also little labels distributed all over the interior, which explained to his sisters and guests how to open the doors, windows, in what direction to move switches and handles. He must have had some bad experiences with the old ladies, who had only rarely sat in a car, and behaved like children in a toy shop. As far as I could establish, excursions by car were rare occurrences indeed.

On the great day of the trip, the car was brought around to the main entrance of the castle. Maids brought baskets with supplies for several picnics, blankets and cushions, and there were even several folding chairs, which should make it possible for Tante Marie, who was unable to hold her head up to look straight, to contemplate leasurely the facades of churches. The family and Inge and I sat down in the spacious interior, while Oncle Vincent warmed the motor. A second car with our in-laws and relatives stood behind.

I feel in my recollection still how we zoomed at rapid speed along narrow country roads, speeded around sharp corners, and narrowly escaped all kinds of accidents. One has to give the uncle credit for never causing as much as a scratch on the shiny car.

Several times we stopped suddenly. Sometimes it was one of the places, where the family had stopped in past years in order to acquire certain "necessities". In one village we took in a basket full of tiny, stone-like brown balls, and it was explained to us that here was a special kind of aged goat cheese, which was only produced in this place. One bought the supply for a year. The cheese was probably a special treat in the course of many of the long dinners.- In another place a bottle of lavender oil was acquired, which, when properly diluted with lots of alcohol and water, could be made into toilet water for the ladies. However, the concentrate smelled abominable. Tante Marie, who had probably little sense of smell and did not grasp the need for preparation, rubbed herself all over with the concentrate. We had to abandon the car temporarily for some fresh air.- There was a beautiful Romanesque church and a medieval town, which had survived unchanged throughout centuries.

The caves, which we finally reached in the early afternoon, were impressive and beautiful. Mainly large animals had been painted on ceilings and walls, some in black outline, others in color, and the techniques varied. We were told that styles had changed throughout the centuries, and that later generations had felt free to paint over earlier pictures, making a large composite of all. A herd of swimming elks, and bisons, which galloped in perfect foreshortening against the viewer, remain in my memory.

Our guide reported, that experts were puzzled by the question of how it had been done. One hypothesis assumed, that worshippers sang and drank while they danced through the caves. In the course of such dances they would get more and more ecstatic and jump into the air, until, in an enormous leap, they applied with a paintbrush a several foot long curved line to the ceiling. This would explain the fluent shapes of the backs of the large ochsen we saw.- I was reminded of this tentative explanation, when I saw a few years later a cave-man joke illustrated in the New Yorker magazine. There was a bearded, stout little cave man standing solidly on the ground; on his shoulders sat a more slender cave man, and on his shoulders a cave boy. The boy reached the ceiling easily and swung a brush with paint. The man at the bottom could be noticed to say:"People will wonder in a few thousand years how we did it!"- 40 years later the cave with its impressive paintings is still fresh in my mind.

There were other, less exciting moments during our stay in Le Lieuteret; we took long walks through the chestnut forests, we helped in the garden, and those who could sang together, the others listened or looked. All of this left a memory of gentle adventurousness and relaxed amusements. The castle itself, the inhabitants ~~of~~ which are no longer alive, has become a far away enchanted memory. We made no attempts to go back there in subsequent years, nor do we know how it looks now. There is a good chance,- and one hopes,- that the building itself has remained unchanged, and that a younger generation uses it now, preserving it with love and care.

B.Castello di Gargonza.

In the early 1980s we wanted to travel to Italy, stay a while in the area of Florence, and explore some of the old cities like San Gimignano, Siena and Arezzo. Friends of ours,- a young couple of musicians,- wanted to go too. So we looked for a place where we all could stay together for a few weeks for a reasonable price, do our own cooking and housekeeping, and which was located favorably for excursions; we would possibly rent a car to get around.

Through the good offices of friends in Raleigh, who had stayed in a place which they highly recommended, we requested and received a colorful folder from the "Castello di Gargonza". On the front of the brochure was an aerial color photograph of a walled village on top of a wooded hill, and a road circled from the village down into the valley. I quote from the folder:

Oliver Marc:"Psychology of the House", London 1977:

"Situated in the heart of the Tuscan hills...lies a thirteenth century fortified village reminiscent of the toy forts that children enjoy building...it is stretched around the tower or the well, enclosing houses inside a thick wall which no enemy can break through...In the shadow of the lofty tower piercing the blue sky, the great octagonal well in the principal square descends into the bowels of the earth. The city wall presses the houses against each other on top of the hill, while a heavy gate lets the road slip out and tumble down the slope in a circle, to turn off toward Siena, Arezzo or Florence, Gargonza is a house as well as a village..."

As one reads on, there is mentioned the command of "a stupendous view of the Val de Chiana, and, on clear days, the frontier of romantic Umbria", the 21 restored houses of different size with modern conveniences like bathrooms and kitchens, a bakery to be used by the guests, a restaurant, the "cultural center" or music room.- There appear floorplans of each apartment and house.- We picked a suitable place, and quickly made reservations for one apartment with two bedrooms, living room and kitchen-dining room; and we reserved a small car, a Fiat, to be handed over at the staion in Florence. A few weeks later the time had come to travel from Raleigh via plane and train to Florence.

The trip had been carefully timed, so that we would reach Florence around noon. That would give us ample opportunity to pick up the reserved rental car and drive to the castle- we thought! Nothing proved as easy as it sounded: the Hertz car rental was not, as advertised, in the railroad station, but in a nearby narrow side street, which we had to find first, and than to approach by foot with our luggage in hand. It was advantageous, that we were in the habit of traveling with a minimum of luggage,- and after 20 minutes' walk and several inquiries we arrived at the small office. We reached it just after the start of the siesta, which, as we learned, lasted here and everywhere in Italy several hours. No business could be transacted during that time. Only after several such experiences did we learn to make our plans accordingly and schedule transactions before or after the lunch hour.

In my memory remains the struggle with the dense after-lunch traffic in the center of town. We soon reached the "super-strada" Florence-Rome. As I drove along the highway at a speed which seemed to me rather high, other cars zoomed past us honking loudly. They seemed annoyed at our "leisurely" 60-70 miles an hour, which we found rather daring. We left the big road at the signs to Monte San Savino. This lovely small town on top of a hill proved to be the closest settlement to the Castello, and we learned later to use it as a place for shopping, or to have a cup of coffee and do some sightseeing. Even there everything was closed during the lunch-hours.

There were small roads and sharp turns from here, until we reached the narrow path which wound around the hill, leading to the impressive stone entrance to the fortress. Over the wide, gray arch one saw a plate which indicated that Dante had visited here. One was supposed to park below the walls in a shady area, and only at arrival and departure should one enter the great courtyard by car. We unloaded the luggage and found, after some search, somebody who gave us a key and indicated the lower floor of the little house which was to be ours.

The house, of which we had the lower floor, was obviously very old and built of heavy stones; inside it was furnished with simple modern furniture, elegant chairs and tables, and there was a good contemporary kitchen and two well-equipped bathrooms. On the table in the living room stood a large bouquet of flowers in all colors, and through the small, deep windows one looked onto a narrow street with other houses. Ours and the other entrances were arranged so that every inhabitant felt as if he was the only one in his house.

While we lived there, we were again and again overwhelmed by the magnificent view, which appeared as one left the house and walked across to one of the low walls. One never got tired of looking over miles of hilly country,- in the foreground the wooded area which belonged to the mountain on which the castle stood, in the distance the Val de Chiana. The view could be clear or hazy, sometimes with fog in the lower parts; and one discerned single houses in the characteristic yellow color of Tuscany as well as villages and towns in the distance. There ~~was~~ was always silence, as no large roads passed nearby. Hardly a morning would go by, when we did not stand in contemplation for a while at the wall and look out.

Soon we found out that one of the connections between the fortress and the world was maintained through a remarkable telephone system. We succeed to get calls through, even under the difficult Italian conditions. This was possible through the assistance of the owner, Count Roberto Guiccardini. While he spent extended weekends at his residence in Florence, he lived most of the week in the Castello and liked to take care of its switchboard. This was obviously one of his hobbies. If one wanted to put a call through, one would give him the telephone number and name of the other party in the early morning. He promptly went to work on the establishment of the connection, which could take all day. Every hour or so he would call our house and report progress and advise patience.

I remember one day, when we tried to reach a family which lived nearby in the country outside the small town of San Gimignano; they were friends of our older daughter Elise. She had lived and worked in their house several times during past years, and she had advised us that we would enjoy visiting there, and that they would welcome us. The battle with the telephone began directly after breakfast, when we informed Roberto of our wishes. From then on our telephone would ring at short intervals, and we were informed that the call was proceeding successfully, and that we should not give up hope. By mid-afternoon we got through, and Inge received in Italian a cordial invitation from the Toescos and a description of the way to get there.- There was no doubt about the enormous pleasure which the count derived from having established successfully our connection.

Next day we went to visit the "University without Walls", the institution run by the Toesca family, to whom we had talked on the telephone. Here our daughter had stayed, taught and made friends in previous years. The big, square old farmhouse, where they all lived and worked, lay on a hill outside San Gimignano. We were cordially received, and various family members showed us around the establishment. All the people who lived there were interested in different arts and crafts: the father ran a printing-book binding shop, where he produced books of high quality, mainly of contemporary writers and poets. Sons, daughters and in-laws and their friends sang, acted, painted, played musical instruments; and they all taught their crafts. It was an atmosphere of great artistic productivity and human warmth which pervaded the beautiful setting in the rambling old house. We were fascinated by it and began to understand, that our daughter had ben so attracted.

In the afternoon we began to be exhausted and planned for departure. However we were told that a meal had been prepared and was now ready to be served. Plates, glasses and bowls were spread out on a long wooden table, which stood outside on a meadow on the hilltop under a large, old tree. We noticed huge bowls with salad, apples, maccaroni and cheese and bottles with red wine. Everybody sat down and we ate accompanied by conversation. I remember at least 10 lively people of all ages and Tuscan wine and food which seemed particularly fresh and fragrant. This together with the view and the smell of the wind coming across the meadows made for a most enjoyable, lively, picturesque and memorable meal. There is a general feeling of pleasure and the memory of the country meal still with me, when I think back to that day. Much later than anticipated did we return to the little house in the fortress.

It soon became apparent that the owner of the house, Roberto Guiccardini, descendant of the great writer of the history of Florence, and contemporary of Macchiavelli, was a particular lover of music. A large cave, which had originally served as storage place, had been converted into a lovely concert hall. Performances were presented by passing groups or resident musicians about once a week. Inge and our friends the Lohrs, professional piano players, were soon asked to perform for the guests at the castle and for people from the surrounding area, especially from Monte San Savino. One late afternoon we all assembled in the music room, and in a mixture of Italian and English the count welcomed the guests and introduced the musicians. It was a wonderful performance, and the romantic setting contributed to the enjoyment. Something happened afterwards, which I find memorable and indicative of the high esteem in which the arts are held in Italy.

Soon after the end of the concert, the two Lohrs and two Witts walked down the steep hill to the inn at the bottom. In this pleasant eating establishment the cooking was performed by the count's former cook, and she ran the inn with his backing. We sat outside on a terrace, from where one overlooked a deep ravine and inhaled the fragrant country air at sunset. After the delicious meal had been consumed, I paid the bill, and I wanted to add a tip for the waiter. However, I was asked please not to do this. They were aware that the musicians of this evening's concert sat at the table, and they wanted to forgoe the tip as their contribution, and to show their appreciation of the arts. What a nice gesture!

I remember at least one more concert by an American college choir, which passed on its way through the area. I saw a program posted for many future musical events and even for a music festival. I leave it to the reader to imagine the musical atmosphere of the castle, while I describe another attraction, which we enjoyed during our stay at Gargonza. One could easily walk from the stone arch at the entrance in various directions into the surrounding woods and wilderness. Paths went level along the back of hills toward surrounding valleys, and one enjoyed great views into other lanscapes with their yellow villas and compact villages. In my memory stay most clearly the colors and fragrances of the many wildflowers. This was probably a specially good time of year, where early summer flowers were open, and wild roses, thyme and many herbs and shrubs in the woods and meadows were in full blossom. We took several such walks from Gargonza to enjoy the sights and odors of the Tuscan hills.

The comfort of the guests was augmented by the employees, who took care of the old buildings. From our living room we looked down into a small flower and vegetable garden, where an elderly couple cut large bouquets of flowers for the various apartments. They took great care to make sure that every guest had fresh flowers in his living room every day.- This reminded me of my childhood home and our old head gardener, who inspected my mother's house every day in order to make sure that we had always fresh flowers.- I remember also an old gentleman who observed us while we admired a colorful climbing rose on one of the stone walls in the courtyard. He stepped forward and cut a shoot off, crushed the stem with a hammer, and presented it to us as a present: we were supposed to take it home and plant it in our garden in America.

After about two weeks in this magic castle, we drove in the rented car back to Florence. With great care we negotiated the Fiat through another sea of honking cars toward the railroad station; and soon the memories of the place became like a dream. We never tried to repeat the visit. We stayed in touch, and the count recommended a hotel run by one of his aunts, when years later we came again to

Florence. As far as we know the Castello with the elegant little houses still stands and delights new guests every year, and the count plays still with its switchboard.

Castello di Gargonza

C.Adelsheim.

Usually castles are old buildings, which were constructed many centuries ago, and when one enters one has the feeling of stepping back in time: nothing has recently been changed. In this respect Adelsheim is different: the house is particularly old, but in the 18th century and again in our time- when Inge and I paid many visits there, between 1950 and 1989,- it has indeed changed. Most of the facade and rooms have carefully been preserved, but it has become very much more friendly and livable in the last 40 years. It is now a pleasure to spend a few days inside in the company of the present owners. They are very much responsible for the changes, and as good friends we had the opportunity to observe the love affair between the present Baron and Baroness Adelsheim von Ernest and the castle of Adelsheim. It seems most interesting to follow the story of their early lives separate from the history of the building,- and survey the happenings when the two came together.

In my opinion the castle, in which we have stayed on many visits and which I regard as truly magic, and the inhabitants-owners, whom I have known since my schooldays for 55 years, illustrate best the influence which a deep sense of tradition and good taste together with occupancy of a lively family, can have on a grand "box of stones".

I abbreviate the history of the castle from an essay, which the present Freiherr Adelsheim von Ernest, my school friend Joachim, sent me recently. According to reports a settlement by a family of nearly the same name, called Adelozheim, is documented from the 8th century; the name probably means home of a man called Adelot. In the 13th century the foundations of the present building were laid out as a water-fortress. In the year 1734 most of the buildings vanished in a great fire; the old walls remained in full height. The owners contracted with the than well-known architect Rischer for a new baroque building, to be erected on the old foundations of the fortress.

Two circumstances helped to determine the present form,- as I think,- advantageously: The old foundations were to be used, and there was not sufficient money for a lot of decorations on the building. The architect was known for his plans of the ornate castle of Mannheim and the baroque churches of Wieblingen and Heidelberg. Here he had to design a rather simple, roomy building, where different parts, like the old tower and houses, were united under a single large roof. This simplicity and the straight lines of the building, which unite different components and put only one large roof over different parts,- where even the old courtyard is transformed by the long new roof into an entrance hall,- appear in our late twentieth century as particularly beautiful.

All windows received now the same treatment and were evenly sized on each floor; but remnants of gothic frames still turn up when repairs are made. As one approaches now the castle over a bridge across the moat one is impressed by the subtle variety in shape in an overall unity of the facade.

The inside with the various rooms also reflects strongly the history of the building. As one enters the central hall, which is the remnant of the original courtyard between different buildings, one faces a choice of turning into various parts of the interior. To the left short stairs lead to dining room= and kitchen=part. To the right separate entrances admits one either to a number of first floor elegant living rooms, or to the grand staircase which leads to the upper floors. Here is also the bottom stop of the modern elevator. The stairs are wide, but rather steep. They have been hollowed out in the center by centuries of use, and ascent is precarious, particularly for older people. One welcomes the small elevator, where one can rise easily to the second and third floors in a lively painted small cabin. The combination of a great, old staircase with the smooth, modern elevator characterizes the spirit of the present castle.

The beauty of the separate first floor small, baroque ballroom with adjoining living rooms deserves separate mention. The old ornaments on walls and ceiling and the marble walls have been carefully restored after old original plans by the present owners, and I remember several dinners and music seesions, where the setting was enjoyed in pleasant company.

There are 26 bed= and livingrooms distributed over 3 floors- a comparatively small number for so big a building. But halls and stairs take much interior space. At the present all rooms are beautifully furnished, and bedrooms are next to modern bathrooms and toilets, and central heating keeps every chamber comfortably livable. This was not always so, and one sees the changes particularly clearly, if I compare our first visit to Adelsheim in 1950 to later ones in the 1980s.

After 1950 Inge and I received an invitation to visit Adelsheim the first time. So short after the war it was most convenient to get there by car, and we took the offer of our friend Andres Haemmerli from Zürich, who just finished his dissertation in the Bern Pharmakologie Initut, to drive up together. The first day of the trip brought us to Sankt Georgenhof, where we took the opportunity to visit with my mother and grandmother and numerous relatives (see chapter on "End of the Second World War"). On the next day we drove further North on icy roads, until we reached the little town of Adelsheim, with the castle located in its center.

Joachim, the heir and new owner, had just moved in, and he received us in his aunt's and adopted mother's small living room. A big fire in the open fire place made this the only comfortably warm room in the building. The walls up to the high ceiling were lined with books. However, there were not sufficient free and furnished bedrooms to put us up for the night; we slept at the local inn across the street. There exists still a photograph of our first breakfast together in Adelsheim,- a breakfast which was similar, but not quite as comfortable as many later meals around the large, round table in the square dining room opposite the kitchen.

Before the present Adelsheim is described, I want to tell the story about my long acquaintance with the present owners-inhabitants. It started at a time which I describe in another chapter of these sketches, in 1935, when I transferred from the Grunewald Gymnasium in Berlin to the Birklehof, a private boarding school in the high Black Forest. I joined the Unterprima, the second-but-last year of high school; one of the pupils already there was a tall and unusually mature boy. He was elegant looking, always very properly dressed, and he moved continuouly in a somewhat stiff way. He was particularly interested in literature and the Greek and Roman classics, while I spent most of my time with the study of biology and the natural sciences. His name was Joachim von Ernest. At this time, 55 years later, he still looks surprisingly similar to his original appearance at school.

While he and I differed significantly in many respects like family background, upbringing and ideals, we had a few properties in common, which set us apart from classmates. For example he and I both possessed dual citizenship, namely Swiss and German. His father came from a patrician Bern family, and his mother from Thüringen, where her family had produced the "Plaue" china. We were both more interested in mental exercises than in sports, where in hockey we frequently played both the relatively quiet part of the defense. We came both from large families with as many gifted as unusual uncles and aunts, cousins etc.

Joachim's mother lived nearby in a recently built house with a farm on a lake in the mountains, reminiscent of our Sankt Georegenhof. From time to time she would appear in Birklehof, driving into the courtyard in an enormously large and very sporty black and yellow Horch convertible car, to visit her two sons in Birklehof.

The mother, Helene von Ernest, appeared to me at that time as a very old lady; 15 years later she seemed to be simlilar in age to my wife Inge and me, and we became good friends. We enjoyed her liveliness, her many interests, and her artistic tastes for many years, and she became the godmother of our oldest daughter Elise.

One day in school we were surprised by the announcement, that Joachim had changed his last name: henceforth he was to be called Freiherr Adelsheim von Ernest. He explained to us, that his father's sister had married an Adelsheim, who was the last of a long line of German knights. They were childless and looked for a boy, whom they could adopt, and who would live in the family castle and continue family traditions. Joachim, as a close relative by marriage, and as one of three Ernest sons, was selected for the adoption, and consequently his name changed. It struck me that he developed very soon a strong sense of responsibility and affection toward his new family and their traditions, and he seemed to feel that changing the name was much more than a mere formality. They could not have selectedf a better heir; and at that date the foundation was laid for all his later life.

Due to our differences in interests,- his in history and poetry, mine in science and romantic literature,- we had different friends. Though we liked and respected each other, we did not become friends until much later. After we had finished school in spring 1937, Joachim's mother gave a dinner party for the whole graduating class, which I remember well. It took place on the day when a big spring snow storm dropped large amounts of snow onto Black Forest roads and the Ernests' remote mountain estate, Schlüchtseehof. We struggled up there in several cars and found a beautifully prepared dinner, served in comfortable surroundings with special friendliness. At that time I did not foresee that this would be only the first of a number of parties, to which Joachim and his family invited me. Every one became a memorable occasion of a congenial and elegant gathering in elegant surroundings. On the return trip we promptly got stuck in the drifting snow, and we had to leave the cars through their windows. Years later, in Chicago, I reminisced with another classmate, who had also been a guest at that party, Traudl Mies van der Rohe. She was now curator at the Chicago Art Institute, and I worked as a Rockefeller Fellow in Harvard Medical School in Boston. She too remembered clearly the good time we had had in spring of 1937 on the Schlüchtseehof.

When we left school, we made no special arrangements to meet again, but our paths crossed accidentally several times. I saw Joachim in Berlin during the war, and shortly after we had moved to Bern, in 1949, we ran into each other in the streets of the old city. This was the town where his father's family had held leading positions for several centuries, and where he felt at home. Actually the Ernests belonged to the patricians, who had ruled the town in one of the purest oligarchies,- until the time of the French revolution.

Joachim's mother had bought and remodeled a small probably 18th century, attractive two-story house outside Fribourg, only half an hour's drive from Bern; Joachim lived there with his mother and studied philosophy at Fribourg university. He soon became an always welcome visitor to our tiny apartment, and I recall several occasions when we dined at Fribourg-Givisiez in the Chatelet or he with us in Bethlehem.

Joachim was always fond of telling stories, which he reported with great intensity and eagerness, and which were most interesting. There were funny occasions, when this story telling came in conflict with social obligations. I remember one time early in our marriage, when Inge had prepared dinner for us three. Unused to cooking, she had made a rather small amount of food. When the plate with meat and vegetables was presented to Joachim, the guest, first, he was just deep in an interesting report and did not watch what he did. Without looking at the food, he took all that was in the bowl onto his plate, and continued talking and began eating. Inge signalled to me, that this was all she had prepared. The mistake was secretly corrected, and I believe that Joachim will only know that he had eaten alone three dinners, when he reads this story.

At another occasion he showed his generosity and his love for seafood, which is in Switzerland rather rare. This is particularly true for oysters. On the evening in question we expected him again for dinner. As a new Swiss housewife Inge wanted to treat us all to the national dish of a cheese Fondue. This has to prepared just in the right way, directly before it is served. She had received instructions and the proper supplies from the cheese shop next door, and disregarding my warning, she "about" followed Mrs. Rolli's recipe, which she had just received. It happenened, what frequently happens to inexperienced Fondue-makers: when the mixture got hot, it disintegrated.

Nobody who has not gone through that experience, can imagine what a disgusting dish results from wrongly prepared Fondue: a solid, rubbery, inedible ball floats in an evil-smelling, clear broth, and there is nothing to do but to throw it all away.

There was still sufficient time to start all over again, as the guest had not yet arrived. Inge remained hopeful and ran over to Mrs. Rolli, the owner of the cheese shop, to get new supplies and more advice. Alas, the same catastrophe happened a second time: the Fondue disintegrated again. At that precise moment the doorbell rang, and Joachim entered. He carried a basket with various packages and, before we could say anything, he began to explain. He apologized and told us, that he had through a stroke of luck just acquired a large quantity of his favorite oysters, cheese and bread in town. Could we possibly postpone the intended food for a later occasion and eat now the oysters together. He had discovered them as they had just arrived by plane from the coast of France, and they were deliciously fresh. It turned out to be a memorably good meal; and Joachim did not learn at that time, that he would hardly have gotten anything to eat, if he had not brought the oysters. We happily ate the good food accompanied by his apologies.

During the time at which we visited back and forth between Fribourg and Bern, Joachim met at our house a young physician, who had just passed his final examination in the medical school and had joined the pharmacology department, where I was employed, to work for about a year on his doctoral thesis, as was customary. His name was Andres Haemmerli, and he came from a family of Zürich physicians. His mother had just inherited the oldest continually inhabited city residence in Zürich, and he was particularly interested in historic residential buildings like Adselsheim. The description of the Zürich house, which Inge and I visited repeatedly, will be given elsewhere. At this time Andres Haemmerli offered to drive Inge and me in his mother's car through Southern Germany shortly after the end of the war to Schloß Adelsheim, which Joachim had just inherited. His adopted father had died, and Joachim's stories about the house had been accompanied by a cordial invitation. So began the first of many trips to this remarkable castle in the spring of 1951.

At the first visit (the trip with friend Andres Haemmerli has been described earlier) we found an impressive, but dark and cold place. We had to spend the night in the Adelsheim Inn, because there were not enough guest bedrooms for us three in the castle. In the evening we sat around a fireplace with a roaring, warm fire in the last baroness' small living room.

We enjoyed on the second day the first of many tours through the whole building, guided by the proud new owner, who already saw in his imagination all kinds of improvements. There were the surrounding gardens, river and waterfall,- remnants of an earlier period of romantic landscaping. The moat in front of the castle became later an enclosed garden, where sometimes tea was served. We got a first glimpse of the large forests and farms, which under Joachim's management have by now become models of good housekeeping and long-time planning.

We still have a photograph of our breakfast together: we sit at a large round table in a square room opposite the kitchen,- which has by now become the everyday dining table: Andres Haemmerli, Joachim, Inge and I.

In the following years two events took place, which contributed to the changes in Adelsheim: Joachim had the inside and outside of the castle systematically remodeled in a most careful way,- and he got married. The latter event came partially about in our presence in Bern-Bethlehem, and it deserves an extra description.

When we had been together in school in Birklehof in 1935-1937, I started a special friendship with a few pupils, who were slightly younger than I, and who were one and two classes below mine. One of our joint interests consisted in planning and carrying out joint excursions, in which we visited villages and farms in the high Black Forest, and observed craftsmen at work. For a while we were known as "the bread-bakers", because word hat gotten around that we had one time heroically risen extremely early in the morning in order to attend in a remote farmhouse the moment when the dough was pushed into the oven for baking the bread.

This I had frequently observed in Sankt Georgenhof on the Schwäbische Alp, and now I was curious to find out whether it was done in the same way in the Black Forest. We probably also had romatic notions of a Rousseau-like return to the simple life. We also played together chamber music, at which I was in demnand as one of the few cello players. One of our piano players was a girld called Helga von Zitzewitz, and we were all very fond of her.

Helga's mother was a cousin of the owner of the school, the Baroness Edith von Wolff, and some of the family lived near my grandparents' in Grunewald. My mother had known them when she grew up. When mother Zitzewitz came to visit the school and her cousin, she sat for several weeks at dinner next to me, and I still remember fondly our conversations.- The seating for meals in the school was changed every few weeks, and it was an important ceremony.- After we had finished school in 1937, Helga studied for a while the piano in Berlin, and she took me to visit her parents, who had just moved from the country in Pommern to Kufürstendamm,- I believe as a kind of retirement.

Helga von Zitzewitz and I stayed in touch throughout the war and during her first marriage to a Count Joachim Bernstorff. With him she had three children. He had died under terrible circumstances at the end of the war, and her parents had also died in Pommern, as the Russians marched in. Now she lived with her children and a great number of relatives, who had fled from East Germany, in Northern Germany in the Bernstorff castle at Gartow.- It did not come as a great surprise, when she wrote a letter shortly after I had gotten married and begun to work at the university of Bern in 1949; she asked whether she could come and visit,- maybe stay with Inge and me for a while.

Inge and I sent immediately an invitation to stay with us in our two-room apartment in Bern-Bethlehem, which was called by a friend the most intensely inhabited apartment in Switzerland. Switzerland had remained relatively prosperous during the war, while Germany had become isolated and suffered from food and other shortages. A stay in Bern should mean rest and comfort for her.

The morning after Helga' arrival in Bethlehem a memorable event took place: she ironed German paper-money in our kitchen. She had tried to smuggle German paper currency across the Swiss border, because she wanted to help us with the household expenses during her stay. However, she had been found out, and the money had been taken away. Not all money was taken, because a friend had advised her to hide some banknotes in the back end of a tube of tooth paste, after the paste had been removed. The front would still contain the white mass, but at the back one could, after opening the tube, extract the rolled-up money. Nobody had discovered this part of the stash, and the slightly slimy notes could now be extracted, washed and ironed. About 40 years later I still see in my mind's eye the ironing board with Helga moving the iron back and forth over the paper. I do not recall whether we actually made use of it.

It soon became apparent, that there was another ultimate motive behind the visit. Helga had just been to the annual meeting of old pupils of our school, the Birklehof, and she had become friends with Joachim. She remembered him from earlier schooldays, but now she had begun to like him and wanted to know him better. Our apartment in Bethlehem was only half an hour's drive from Fribourg-Givisiez, where Joachim lived with his mother, and where he studied at the university.

To make the situation more complicated, another former member of the "bread-bakers" had just arrived in Bern to stay with us, my old friend Sigi (Hans-Sigismund von Buch). He had always liked Helga very much, but he had spent years in the military and his growing-up had been slow, and he had only now become ready to contemplate seriously marriage. He was now professionally well established in the business of publishing books. His visit to Bern and to us at this time was made with the intention of asking Helga, the widow Bernstorff, to marry him.

On a specific day the situation developed in the end dramatically: Helga, Joachim and Sigi started together for a mountain climbing tour in the Berner Oberland. As we learned later from reports, the three had finally arrived at the bottom of a chair lift, which was to bring them to the top of the Niesen mountain. The chairs were arranged in pairs, and only two could go up together. Joachim seemed to have decided, that a 20 minute ride for two on a chair was the ideal opportunity to discuss the question of marriage.

Joachim mounted the seat next to Helga and achieved to discuss the question of marriage in theory and in principle just before arrival, which led to a later betrothal. It became a decisive day in the fate of Adelsheim, and we felt as if we participated.

The wedding took place in Bern, because Adelsheim was not yet ready to house such grand festivities. Joachim's cousin, Armand von Ernst, a Bern banker, offered his castle Muri, just outside Bern. Inge and I joined many family members and friends in the lovely Muri church at the end of the park, and afterwards we all met for food and drink and a reception. Photographs, which we still have, show a great number of people in the beautiful setting, among them Joachim's mother Helene von Ernest, and Helga's mother in law from the first marriage, the countes Bernstorff. All families seemed to be in harmony and happy about the new joint family.

This gave Helga an opportunity to show, that she was the center of an ever expanding group of people: her daughter from the first marriage and twin sons, her sister, brother and countless uncles and aunts from all sides came. Joachim began at that time to care for his stepchildren and their education, and they told me recently,- now being nearly 50 years of age,- that he was the best father anybody could wish for. The stepfather became a most important influence in their lives. The three older children soon began to feel protective toward two younger siblings, a daughter and son, children from Helga and Joachim.

The good relationship in the Adelsheim-Zitzewitz-Ernest-Bernstorff families is described here, because it became important for the development of the old castle of Adelsheim, where all these people lived from time to time. It was reflected in changes in the building, which began to look more inviting. Every time Inge and I traveled to Europe, we visited Adelsheim and observed progress. Once, for example, we especially took a roundabout route via Adelsheim, to see the new shutters, which lent colour and texture to the high front of the building, without taking away from its austere shape. But there were not only the looks; it became increasingly more comfortable to stay there.

I remember an extended weekend with former schoolfriends and their children in Adelsheim in the early 1960s, where we came from the United States with our two daughters. They still remember the warm hospitality with little surprises on their nighttables, music and other entertainment. The magic of the setting combined with the liveliness of the inhabitants for a wonderful time.

There were now a great number of modern bathrooms, in which the only oldfashioned components were the large bathtubs, where one could sit up to the neck in hot water and look out into old trees. An electric elevator had been installed, so that one got easily from one high floor to the next without precarious climbs. Large bedrooms were comfortably furnished, ready to receive guests.

Maybe Joachim's 60. birthday in 1978 should be described as an occasion, where the old castle in its new "dress" provided the suitable frame for an elegant and characteristic festivity. Several weeks before we had received in Knightdale, North Carolina, a call from Louis Ferdinand Adelsheim, Joachim and Helga's son, to let us know that the "children" prepared a celebration of the father's birthday, and wanted us as old friends to participate. The visit was planned as a surprise. After booking a one-week round trip from Raleigh to Germany and back, Inge and I arrived in Frankfurt the day before the birthday. Louis Ferdinand picked us up in an Adelsheim car, and drove directly to his parents. As we crossed the bridge to the entrance of the castle, we met Joachim with his big black dog, as he returned home from the morning walk. He seemed in good health, after he had recovered from a severe attack of liver cirrhosis, and we greeted him with delight.

The room which was assigned to us was a big, square chamber on the third floor of the castle, furnished with lovely old furniture, nice family paintings, and adjoining a well-appointed bathroom. We looked down on the old moat, which had become a garden with flowers, where chairs and tables were set out for afternoon tea. Beyond the moat was another stretch of garden, bordered by large trees, and through these one saw the roofs of the town. Next to us lived Joachim's sister Bici with her husband, whom I had known for a long time, and had visited previously among other places on their farm in Uruguay. A few years earlier they had returned to Europe and had built for themselves a house in Ascona near the Lago Maggiore in Southern Switzerland and a small summer residence in the Black Forest. We had a cheerful reunion.

There lay two printed sheets next to our beds on the night-table: they contained a list of the expected guests and a schedule of the festivities for the next three days, mentioning meals excursions, performances. We had received such welcome printed information before at other family festivities, and they have always impressed me as particularly thoughtful and informative. One made the visitors as comfortable as possible. We could look at the list to find old friends, whom we hoped to meet, and even where everybody came from.

The informal dinner on the evening before the birthday proper will always remain in my memory. I sat between two ladies of about my age, one an old acquaintance, the other new. We had the most lively conversation:

The lady on my left was an Austrian princess, who turned out to be quite interested in my breeding of Mediterranean mountain sheep (Mouflons), and I told her about the ups and downs of propagating these lovely animals, which are kept in many forests because they never nibble the bark of trees. The princess' family owned a good deal of forested land with deer in Austria.- On my right sat a cousin of Helga, the oldest daughter of the owner of our former school; she had married a descendant of the German chancellor Bismarck. Her mother had been much admired by us schoolboys, and many of us were convinced that she was the most lovely and wise lady in the world The mother was long dead, and her daughter Ebba was now about the age, at which I had seen the mother the last time, directly after the Second World War. It was quite striking, when she talked, laughed, and moved in much the same way as her mother had done 30 years earlier, and I felt transported back to times long past.

The festivities proper started the next day, which was the date of the birthday of Joachim. Of everything that went on in the next 3 days, I can only describe a few highlights; in my recollection it has become a hazy string of always new pleasures. The main dinner was served in the recently restored baroque hall, where we all sat around several tables. I sat between Helga's and Joachim's sisters, and I gave a prepared after-dinner talk about scientific investigations of behavior, as influenced by heredity and upbringing. Other speeches reminisced on Joachim's and the Adelsheims' past. This was complimented the next day by an excursion to a nearby church, where many monuments over graves of past Adelsheims could be seen. Joachim told us some of the family's history.

Later there was a special surprise. We all flocked downstairs into the arched vaults of the cellar, where family members had worked day and night to create secretly a small home-theatre. This was particularly fitting, because Joachim had always loved to act and to direct plays; and now sketches from his life were performed by family and friends as a dedication. What better celebration than to perform for the 60. birthday a play on his own stage!

I do not intend to describe in detail all activities of those days. I saw that the old castle had become an elegant frame for a large group of family and friends of the owners. I had the distinct feeling, that the building itself liked the new life in its walls. The castle had not only survived, but it had again a purpose, and I had the priviledge of being the witness of a happy marriage between the past and the present,- between a building and its inhabitants!

While this is written, the story of Adelsheim continues to unfold. Just two years ago, when we visited again, we were proudly shown a medieval building in town, only one block from the castle, where eight additional guestrooms and a few bathrooms had been prepared. Friends, children and grandchildren come and go more than ever, and fill the halls with life.

I looked at the three magic castles by means of a description of our visits there, and I see that they all have something in common: they appealed not only because they were lovely to look at old buildings, but they all had been kept alive through the affection, which they had inspired in their owners. Towering ruins,- or vast palaces like Versailles or Fontainebleau, where we visited recently,- did not move us in the same way,- and the same is true for many modern houses, in which we stayed. Other houses have other merits, but for me they can not compete with the charm of these magic places, where architecture and history blend with hospitality and life-styles of present inhabitants.

Schloss Adelsheim.