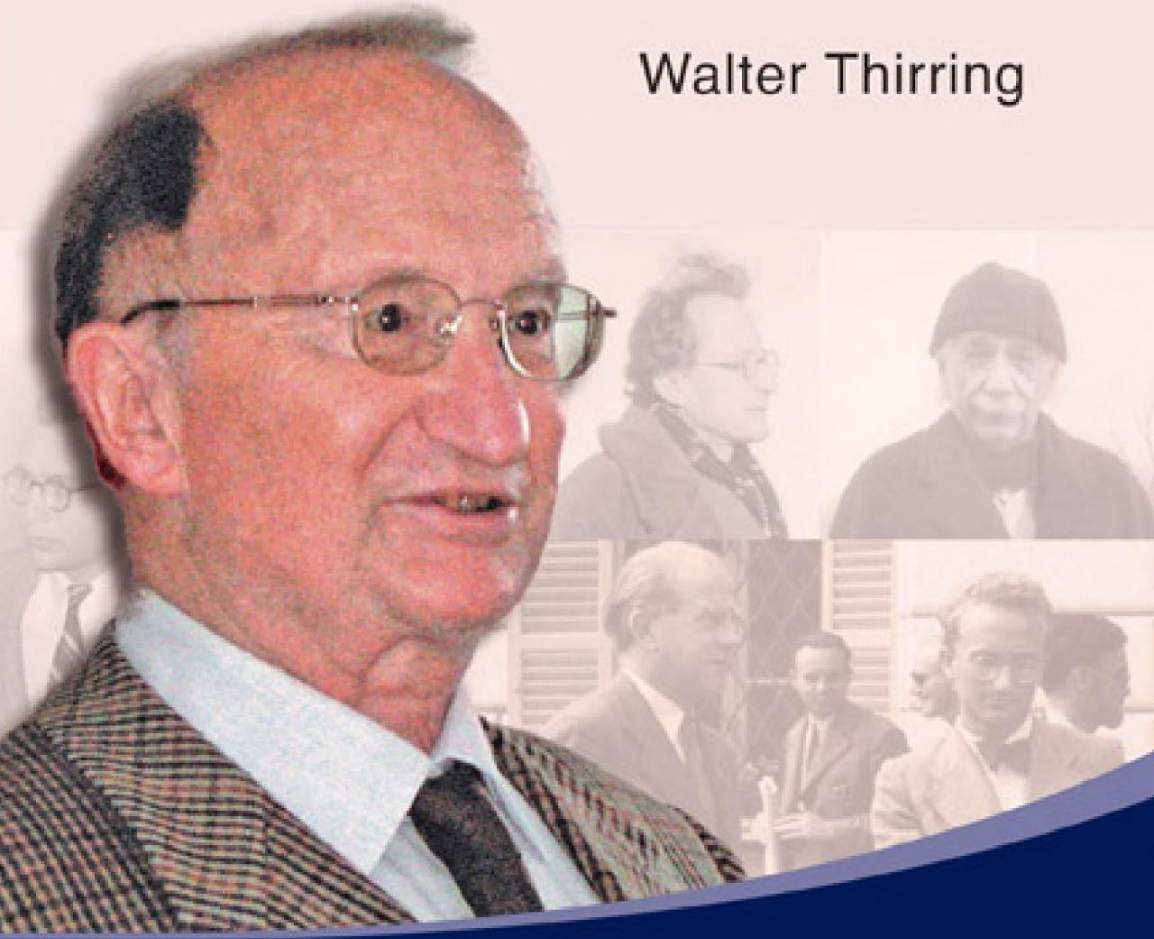
THE JOY OF DISCOVERY

Great Encounters Along the Way

Walter Thirring



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Contents

The days of your years are threescore years and ten;
and if by reason of strength they be fourscore years,
yet is their strength labor and sorrow;
for it is soon cut off,
and we fly away.

(Psalm 90)

Preface

The 20th century was both a horrible as well as wonderful time. After the insanity of the Nazi dictatorship, the voice of reason prevailed and presented Central Europe with the longest period of peace in its history. As soon as the human spirit has the opportunity to grow and develop, it will begin to notice the secrets of the world we live in. It will hone its perception so that it can break down matter in an interplay of exactly balanced parts and let the firmament become a horde of escaping galaxies. It uses all of this knowledge to improve itself and its abilities until they reach immeasurable heights. And this not only in the material sense where everything is constantly getting bigger and faster, but also with regard to intellectual questions. The human spirit developed ways to conduct calculations in fractions of a second which would ordinarily take decades, and can store the information found in entire libraries on chips the size of a trouser button. It is well on its way to deciphering the secrets of life itself, and before we know it the species *homo sapiens* will have undergone a metamorphosis.

As I have had the privilege not only to experience this turning point firsthand, but also to get to know personally the main protagonists of this development from Einstein to Hawking, I felt I had to tell this story of successful human endeavor.

Of course, my memoir contains only my own point of view, or rather snippets of thought that have gathered over time. I hope that

the reader will be able to find something of interest or amusement in this more or less random selection. Where possible, I have omitted things like romances, illnesses and honors. If not for science, however, a central driving force would be missing. I have put scientific explanations in separate boxes so that the text is not bogged down with them. This way, those who are interested can find out more about what I'm talking about, while those less ambitious readers can simply ignore these parts and continue reading.

I am not a professional writer and many people have helped me in writing this book. On all of their behalf I would like to express my deepest thanks to Dr. Lore Kummer, Dr. Helga Engin-Denitz, Dr. Gerlinde Faustmann and Dr. Josef Streicher for their patient proofreading as well as to Dr. Brigitte Buschbeck for the beautiful photograph of particle reactions. Dr. Wolfgang Reiter gave me valuable advice for the overall concept of the book.

Family Background/Childhood (1927–1938)

Fig. 1: The author today and as a child

While I was rummaging through a desk drawer, I came across an old cardboard box. I thought it would be filled with junk waiting to be tossed out, nevertheless, my curiosity was aroused, and I took a look inside. I found some faded yellowed photographs. One showed a small tyke all bundled up with a stick in his hand, possibly to chase away pigeons? It might be me, although it's hard to see the similarity. The photograph must have been taken in a park… but now the park looks completely different. How everything has changed — Vienna and the people in it, the whole world. The little boy had no way of knowing what this restless, troubled world would hold in store for him.

When I look back on that time, I don't only see myself chasing away the pigeons. Another memory comes to the fore. Here I am, walking with my mother like a good boy going to play in the Arne Carleson Park. Suddenly, a man dressed in rags appears before us. Without any warning he collapses to the ground and can't get up anymore. My mother rushes over and was able to gather from his babbling that he hadn't had anything to eat for two days and couldn't go on anymore. Now, because I was a bit frail, I always had to carry around a mid-morning snack, and I was always glad when I didn't have to eat it. My mother gave my bread to the man which revived him enough so that

he was able to sit down on a bench. I don't know what happened to him, but this encounter taught me that during the international economic depression in 1932, it was not a given that everyone had bread to eat. The depression and its aftermath, as well as the civil war in 1934, took place beyond my childish horizons. I heard the shooting in the streets and wasn't allowed outside for three days, but what it was all good for, why people were suddenly allowed to shoot at each other, that, of course, I couldn't understand (and I still don't understand it today). I first heard that all was not well in our world in 1937, when the great physicist Max von Laue came to see my father. While they were on a hike he told my father about the horrible direction politics had taken in Germany and what a dangerous man Hitler was.

Nevertheless, I remember feeling secure and sheltered when I think of my childhood. I wasn't fully aware of the aberrations on the political stage; my world was composed of my family, and it was a cozy, perfect world. I was only seeing a snapshot, though, and couldn't guess all of the sweat and hard work that had accompanied their long way up or the tears shed at the sudden collapse of the Hungarian line. In any case, let me begin by clarifying my roots:

The Thirrings

Fig. 2: The Thirring rocks near Dobogo-kö

For the common people, the history of Central Europe is one of the horrors of wars, conquests and banishments. The first documented Thirrings were likewise swept into the Danube monarchy as a consequence of the Thirty Years' War, which destroyed everything in its path. The war began heading north, and the master shoemaker Mathias found that life in Thuringia (Thüringen) was becoming too dangerous. He sought refuge in the south. However, he was not allowed to stay in Austria, as he had the wrong religion. So he moved on, and in 1623 he received the rights of citizenship in Sopron (which was known as Ödenburg at that time). Less than an hour's drive away from Vienna today, it was then a different world, a place of tolerance for the Protestants from the north; here, you didn't have to be Catholic. The only problem was caused by the family name, the Hungarian church scribes didn't quite know what to make of it and on the books you'll find Thüring, Thiring, Diring, Düring, Türinger, Thüringer, Düringer, Diringer, until the spelling Thirring prevailed.

The family prospered and the Thirrings soon began to work as tailors and weavers and all kinds of craftsmen. They even were able to achieve a certain level of wealth, and were sponsors of the 2,000 seat Protestant Church in Sopron. They eventually owned a patrician villa near the moat and the leading hardware business in Sopron, which allowed them to finance the intellectual pursuits of the later generations.

The Hungarians were able to profit from letting the Protestants stay, because they made rich contributions to the general level of learning and education. Many Protestant schools were founded which later developed into elite schools. For example, prominent scientists Johann von Neumann and Eugen Wigner were products of the Protestant secondary school in Budapest.

The Protestant lyceum in Sopron changed the character of the Thirring family. The family of craftsmen became a family of intellectuals. The prominence of the family was no longer limited to one place, but spread throughout the country, and through its scientific influence, ultimately throughout the world.

The first to rise above the provincial level was Gustav Thirring, a cousin of my grandfather. After graduating from the Protestant lyceum

in Sopron, he went to university in Budapest and climbed the academic ladder of PhD, lecturer and Professor Extraordianrius. He ultimately became the director of the Hungarian Central Bureau of Statistics. Thanks to his versatility, he also became the president of the Hungarian Alpine Association. To the west of Budapest lies the counterpart to the Vienna Woods, just a little farther away and about a thousand feet higher. Close to the highway in Dobogokö there's an inn, where above the entrance there's a gentleman with a stand-up collar and a straight mustache confidently looking down and greeting the guests, that's Gustav Thirring. Going further into the woods, two mighty rock formations suddenly appear and these are known as the Thirring Rocks. He was a renowned figure, so that when I give a lecture in Budapest, I'm not introduced as Walter Thirring, but as the great-nephew of Gustav.

Julius Thirring, my grandfather, was also a graduate of the Protestant lyceum in Sopron and went on to study mathematics in Vienna and Berlin, completing his studies under Charles Hermite at the Sorbonne. However, that was also the end of his academic career. He had fallen in love in Vienna with the daughter of the court photographer of Archduke Maximilian, the future Emperor of Mexico, and had to take a more lucrative position. He became the principal of a secondary school and led a quiet life. He wasn't a man of large stature, but he commanded an atmosphere of discipline and order. I always remember him with a stand-up collar and elaborately twirled mustache. He was also multi-talented — he translated Hungarian literature into German and could have become a great violinist had he not been so athletic. He was able to jump higher than his height (which, to be fair, was not that great) and was considered to be a pioneer in riding penny farthings. This was a relatively dangerous thing to do and he completely shattered his left index finger in a fall. That put an end to his career as a violinist and he had to be satisfied with a reputation as an excellent chess player. His perfection of the Hartlaub gambit can still be found in the international chess literature and a game he played against world champion Carl Schlechter in 1893 is considered a classic example on the Internet. He had four children. His second son died of diphtheria as a child, but the others turned to the

natural sciences. Hans became a physicist, Ernst and Grete became biologists.

This is a rough sketch of the rise of the Thirring family over the long period of three centuries. The fall of the Thirrings in Sopron went much faster. If they had not been exiled to Austria, the line would have completely disappeared. The Hungarians' tolerance had slowly started to crumble. In 1948, the communists came to power and the Thirrings were once again in the wrong boat — this time in the wrong class. The hardware business was taken over by the state and its owners made lesser employees. During this time some changed their name to the more Hungarian Tass, to at least be rid of the wrong name. Many others fled all over the world. When I visited the Thirring villa the last time I was in Sopron, none of the younger people I spoke to had ever heard of the name Thirring. Just one old woman told me that the last Thirring had moved out years ago.

My Mother

Fig. 3: Antonia Thirring

My parents belonged to that rare species of the true Viennese who were born in Vienna. My mother's father was from Bohemia and was called Kriz (or in German: Krisch), her mother's name was Horak, which sounds Bohemian, although it still qualifies as Viennese. My other

grandmother was from Trieste, which makes you think she'd be Italian. That wasn't the case; her name was Malovich, which sounds more like it's Croatian. In any case, that is the raw material from which the metropolitan melting pot created the Viennese.

Old photographs show grandfather Krisch as a smart-looking bookkeeper. From this job he went on to have a career as a managing accountant for a furniture store, which was so lucrative that he could afford to raise eight children. The burden was mainly borne by my grandmother. I can't recall her having any help. On the other hand, for the standing of my grandparents on my father's side it was a given that they had a live-in maid. However, at least all three Krisch boys were able to go to college and found high level positions accordingly. In any case, eight children are quite a lot and at times the number of beds in the apartment was lower than the number of occupants. Their small front garden was an El Dorado for the children, and much later on his orchid plantations on Hawaii, my uncle was able to say that he had been raising orchids for half a century. My mother also studied, she was trained to be a cooking instructor. This came in handy during the great hunger after the First World War, and she became the director of a public kitchen. Many university employees also frequented the kitchen. My father liked it so much that he remained a loyal customer and thus my parents got married in 1921. After the collapse of the monarchy, civil servants were, of course, not paid well, but professors still received much more than those in less qualified positions. My mother left her job and devoted herself entirely to her family. For my brother and me she was a loving, not a domineering mother. My brother unfortunately did not return from the war. I myself left the country when I was 22, so that she was the only one there for my father. She was everything for him: housekeeper, writer, reader, traveling companion and a constant, loyal, tolerant wife who only rarely complained and put on a brave face to bad times. However, making dumplings all day long did not fulfill my mother intellectually. Every day she spent several hours reading German or English classical literature. My library has her to thank for its wonderful old classics editions. As the daughter of an educated household, she naturally learned how to play the piano. Her talent; however, far exceeded the ordinary

standard; her teacher was a student of Anton Bruckner and she had adopted his stance that Bach's Inventions should form the basic training of every pianist. I often heard her play these as a child and they formed my understanding of music. When I later studied the Inventions, I found that I already knew them by heart.

My Brother

Fig. 4: Harald Thirring

My brother, three years older than I, was the genius in the family. He proved to be highly gifted in school. His interests were broad, stretching across the sciences and the liberal arts. For my tastes they were even too broad. For example, he enjoyed playing with tin soldiers, which I found mindlessly dull, but any comment I made in this direction threw him immediately into a temper tantrum. Otherwise, we had a close relationship; I had no problem acknowledging his superiority. Naturally, this just drove me to emulate him, but as soon as I had begun to approach his intellectual level, he had to go into the army and was lost to me. What I have left from him is a thick folder of APO letters. I'm still amazed today by the maturity in his style; after all, he was still a teenager. As a sample of this I've written down verbatim his farewell letter written while he was in the static warfare at the Eastern Front.

Dear Parents! *February 4, 1944*

I don't think there has ever been a harder letter for me to write than this one, which should be a farewell letter to you, whom I love so much. Now that I'm writing it, I still think it's impossible, but a dark voice is warning me to think of every eventuality.

Don't be so sad, I'm now in a better world without machine guns and canons, without the GPU[a] *and the Gestapo, without war and hate. And remember that I might not have to go to Siberia or to some Soviet prison. And believe me that my life has been so wonderful until now, that at least it won't be clouded by the hard times after the war. It's true that all of my big plans will come to naught, but you still have Walter, and he has just as much talent and creative will combined. He'll make it, he is the future.*

Yes, I have one last request; my estate is so negligible that it would be ridiculous for me to start listing particulars; everything in its entirety should go to Walter. So goodbye everyone and think about me from time to time.

Best wishes for all of you,

Your Harald

A few days after he had written this letter he was hit by a bullet. He survived, and if Count Stauffenberg had been successful on July 20th, or if the Americans hadn't dithered for two years with building the atomic bomb, then his dark voice would have been wrong. However, this was unfortunately not to be and, with the exception of a short message in January 1945, all traces of Harald Thirring disappear. This was when the Russians had pushed through to the Oder river and the German army was throwing everything it had at them. My brother was shipped out there on overnight expresses. He had been trained as a military engineer, a sapper, but had to hold the command as an infantryman at the part of the western bank of the Oder river where the Russians would build a bridgehead. There was no way out for my brother. The Russians were in a position of overwhelming superiority; retreat was

[a] The GPU was the Soviet secret police, the predecessor of the KGB.

high treason, and surrender useless, because when the Russians were fighting for a bridgehead they would not want to take any prisoners.

Just one member of his unit was heard from again. He had managed to escape into the bushes. Since then there have only been rumors about Harald, that he was seen in various POW camps, but never any word from Harald himself.

My Father

Fig. 5: Hans Thirring

My father considered himself to be a philosopher, a learned man, and wanted to share his knowledge with my brother and me even when we were children. Every night before we went to sleep he would lie down with us in bed for an hour or so of erudition. This was when he would explain all sorts of things to us. He had made up a saying to memorize the periodic table of the elements, and up to today his "Hahe liebe Bocenofne..." still comes in handy sometimes. He had discovered that the chemical symbols H, He, Li for the elements rhyme so well and are easier to remember this way.

He wasn't so happy with me in school as my erratic set of interests weren't always in line with his views. In elementary school I was more fascinated by building gliders than studying or practicing the piano. When my report card proved this, my father threatened not to let me

go on to college, but said that I would have to be a cobbler. Since I was good with my hands, this occupation seemed to be more in keeping with my abilities, and I heartily agreed to his suggestion, which wasn't his intention at all.

Right after this, I became enthralled by music, wasting too much time on it in my father's opinion. He told me that most people in our family had been musical, but were all amateurs. I wasn't convinced by this argument at all; on the contrary, I thought it was high time that one of us began to be professional. My more gifted brother could carry on the physics tradition in the family. At this point my father gave up trying to influence me, but later it turned out differently anyway. My brother wrote to me from the battlefield that he would not be returning and it was up to me to carry on the scientific tradition.

My father bore the injustice inflicted upon him and so many others during the Nazi period with stoic aplomb. Never did he take out his anger on others or on the family. The affable manner he showed towards everyone came to him in good stead even with the regime. The Nazi party block warden often came to inspect our home, but my father was very quick at turning off the foreign radio station and sliding his papers in a desk drawer all the while engaging the informant in conversation and distracting him with his charm, so that he was never caught. He would have easily been able to sort out any political difficulties, as Hermann Göring was a boyhood friend of his, and Göring, of course, managed to arrange completely different kinds of things at this time as well.

But my father wanted to have nothing to do with this regime, including even an intervention from it. Our connection to the Göring family could be traced back to my grandfather's passion for penny farthings. While he was studying at the university in Berlin, he became friends with a medical student named Hermann Epstein. Epstein followed my grandfather back to Vienna and also became hooked on penny farthings. They decided to explore Austria on penny farthings. With the street conditions at that time, this sounds more like a nightmare, but they apparently particularly liked Mauterndorf and its castle. In any case, the future Baron Epstein whipped out his checkbook and bought the castle on the spot. He was able to as one of his

ancestors was a chamberlain of Queen Luise. Ever since then, their family's wealth had continued to grow. Mauterndorf was not his only castle. But even this purchase didn't help because he suffered from depression. According to family legend, he was unhappily in love with my grandfather's sister. He decided to have a change of scenery and embarked on a trip around the world. In South West Africa he became friendly with the German Governor and his wife. This was Hermann Göring's father, although he was yet to be born. The Governor's wife was just pregnant with Hermann's oldest sister when the Görings were warned of a local insurrection. The African streets were getting too dangerous for them and they fled. They made it to Walvis Bay, where Hermann's sister was born. After they had managed to return to Germany, Epstein wanted to return their hospitality and invited them to stay at his castle in Mauterndorf. The castle was big enough to invite the Thirring family as well, and this was how the contact between the Görings and the Thirrings began. My father became friends with the Göring's younger daughter Paula. This friendship stood the test of time and even during the war Paula didn't shy away from seeing him, although he was persona non grata.

My father's optimism was unshakable. When the Americans reached Kitzbühel, where he was living at the time, towards the end of the war, he offered his services as an interpreter between the American military and the local authorities for free, since there was no pay. My father knew from the Voice of America that Austria was going to be treated as a liberated and not as a conquered country, but it seemed that the Americans didn't really know exactly the difference between where Austria was and where Germany was. This meant that they stole from the billeted houses just like other troops in enemy territory, and my father's job wasn't easy. Even when the American colonel screamed at him, calling him a war criminal because he repeated the request of the hunters to keep their guns, he didn't waver in his responsibility.

For my father, the USA represented the ideal liberal and democratic country. He liked to tell the story about how, as a young man, he traveled with the Vienna University choir to give a concert tour in the USA. This was before World War I. At that time there was no such thing as a US visa; you didn't even need a passport. You just needed to

hand over an immunization certificate when entering the country, but my father had his buried deep in his suitcase. He put his hand in his pocket and found the menu from the last dinner on board. This was accepted as well, and he was able to enter without any problems. Later this would no longer be so easy for my father for the following reason. During the Nazi period the Vienna math department was "cleansed" of people like Helly, Tauber, Gödel and Menger and a certain Huber called the shots. He was a man of unknown scientific merit, but his politics were clear.

After the war, the professors fired by the Nazis were re-hired, and in 1946 my father became the Dean of the University of Vienna. It was incumbent upon him to eradicate what the Nazi period had spawned, and Huber was thrown out. However, Huber was quickly able to find a job with the CIA and denounced my father as a communist. Nothing could have been further from the truth; my father knew all about the crimes of Stalinism. During the war Fritz Houtermans came to see us. He came directly from the Soviet Union and was able to tell us all about the human rights situation in the workers' paradise. However, the Americans trusted Mr. Huber, and my father would have problems getting a US visa for a long time afterward. He remained tainted with the suspicion of having been a secret communist, and continued to be suspect in some circles. How else can it be explained that he never became a full member of the Austrian Academy of Sciences? It would seem that those people who were named between 1938 and 1945 and who could no longer be removed afterwards were able to prevent this in the secret ballots. In any case, he was too sure of himself to ever waste time talking about such things.

The picture I have of him from his later years is of him sitting at his desk, writing and writing and writing. He had to share his thoughts with everyone. Everyone was a welcome ear; he read from his manuscripts at lectures, in front of the family, to our shoemaker in Kitzbühel and I don't even know to who else. This was where his didactic talents came to shine. His lectures on physics were always a paradigm of intelligibility, and his audiences were inspired. His fight against the atomic bomb and his warnings of the energy crisis did not at first meet with

results. He was written off as naïve, but he knew that his time would come.

My father had an entrepreneurial spirit. He was constantly inventing and improving things. He applied for countless patents: for "Seleenzellen", small electronic devices which were profitable because they provided the music for silent movies; for a rail tire, an electric shaver, an all-metal ski binding, a gas turbine — all of which were money pits — until he finally came up with something that caught the attention of the media, the Thirring coat "Flattermantel". The Thirring coat would blow up like a parachute from the airflow created while skiing. It wasn't intended to pull you up, but just to slow you down. It's attached down at the ankles, and it increases the air resistance of your body by up to 300%. Then the drop can't be steep enough. If a body were to reach the top speed of 125 mph (200 kph) in a vertical fall, with the Thirring coat this would be reduced by a factor of 3, so a little over 40 mph (65 kph), which is not terrifyingly fast. I used it to go straight down the northern slope of the Steinbergkogel in Kitzbühel, a pure pleasure. The coat did not turn out to be a big seller, though. At first it managed to become a fixture in movies and magazines, but then came the war and textiles were rationed so that it could no longer be produced. When the economy recovered after the war, skiing became popular among the masses. The slopes were soon so crowded that no one was able to do a straight downhill run anymore. Hence this invention also did not reach the popularity he'd hoped for.

Fig. 6: The Thirring coat

The Thirring–Lense effect has guaranteed my father a permanent place in physics. The problem was introduced by Ernst Mach, a critical spirit. He didn't want to believe anyone, not Boltzmann about his atoms, not Einstein about his theory of relativity and not God about His existence. (There is, however, still some controversy about whether Mach truly rejected the theory of relativity.) Despite all this, his ideas were highly fertile. He posed the question of who actually determines what rotates. At first it's only possible to perceive relative motion and if two things are moving uniformly relative to each other, then either can say it's resting and the other one is moving. With rotation it's different. When you rotate, you can feel the centrifugal force. Mach wanted to know where this comes from; if I were alone in the world, then the statement that I rotate would be meaningless, so why should I feel something? Mach made a false assumption here, because he did not acknowledge the existence of space as a real entity, but still such questions can be useful. Mach came to the conclusion that the fixed position of stars are determinate for us and when we rotate we do so in relation to them. My father's idea was that the fixed stars aren't gods, so what they can do we should be able to do, too. They are simply very heavy, but very far away. Perhaps smaller masses have the same influence because they're closer. As a referee in this battle of wills, my father chose Einstein, whose theory of relativity had to be able to settle the question. He solved Einstein's equations for the following situation: a wooden cylinder is rotating; the fixed stars are at rest far away. The question is, when do I feel centrifugal force inside — when I rotate relative to the cylinder or relative to the fixed stars? Who carries the space time? Einstein's answer was a compromise, but one in which the stars have so much more influence than the real wooden cylinders that these can be packed up and put away. So my father said that there had to be something massive that rotates, so let's start with Jupiter. Jupiter also has plenty of moons that can tell you what's rotating. But then my father got a little nervous about the complexity of the problem and the length of the calculations, and looked for reinforcement. This he found at the Math Institute in a very talented assistant by the name of Joseph Lense. They rolled up their sleeves and calculated the influence of Jupiter's rotation on its moons. The result was devastating. It was so tiny that it would never be

visible. This setback demoralized my father so much that he not only abandoned this problem, but basic research altogether. Then something happened that my father had never expected. The Einstein field equations became a cornerstone of physics and the Thirring-Lense (frame dragging) effect one of its most sensitive tests. Then came Sputnik, Nasa and unimaginable amounts of money for research. The experimental verification of the frame dragging effect became the most complex basic research experiment of Nasa's "Gravity Probe B". It took more than 40 years (under the same management), cost untold millions of dollars, and an army of physicists owe their doctorates to their work on it. Today we know that this effect exists. Space and time are dragged by the heavenly bodies just like a philosophizing physicist imagined during the dying days of the Danube monarchy. What it could be good for is just as unpredictable today as it was then unimaginable that there could ever be evidence found that proves it exists.

My Wife

Fig. 7: Peter, Helga and Klaus Thirring from left to right

My wife is a typical mix of the Habsburg empire. When I met Helga, she was a Greek national whose native language was German, originally from Poland. Indeed in reality it's even a little bit more complicated. Her grandfather was a Greek carpet trader, who wasn't

from Greece, but from Istanbul. He fell in love with Helga's grandmother on a business trip in Bielitz (Bielsko), which at that time was still part of Austria. A different country and a different religion; but these were not obstacles to get married, this was true also for her parents. He was Orthodox, she was Protestant and was also actually not Austrian. One side of her family came from Wurttemberg, the other were Huguenots from France who had emigrated East. However, with the collapse of the monarchy, tolerance between the different nationalities also disintegrated. Helga was made to experience this first hand. Once she went for a walk with her little brother and was speaking German to him on the street. A Polish man overheard her and came over and slapped her on the face. Naturally, this kind of thing came to an end after Hitler occupied Poland. The situation was not completely cleared up for Helga though, because she was Greek, and Germany was fighting Greece in the war. So again they made her feel that she had the wrong background. Bielitz isn't far away from Auschwitz, and she had to witness how the SS forced rows of Jews into the concentration camp. Then the Red Army rolled into the West, and three days before the Russians invaded, two aunts fled with Helga and her little brother. Her mother had died after her brother was born from childbed fever and her father remained in Bielitz because he wanted to try and save something from his business. However, he was unable to do so, and later he died under unexplained circumstances. After a long flight — it took them days to reach what today would take a few hours by car — they, along with thousands of other refugees, reached Vienna in February 1945. Their sole belongings were what they were able to carry with them in two suitcases. Despite these horrible events, my wife looks back with fondness and almost a sense of nostalgia to the first 15 years of her life.

The reason for this is that whenever possible she spent her time at her uncle's estate in Friedrichowitz. This is near Wadowice, another village that no one would ever have heard of if it weren't the hometown of John Paul II. When I attended a meeting of the Papal Academy of Sciences at the Vatican, we were introduced at an audience with the Pope. She explained to him (in Polish) where she had spent her youth and he simply beamed and didn't want to let go of her hand. The estate

must have been a bucolic idyll. When she went with her father they were picked up by a horse drawn carriage at the train station and then they were taken a half mile along a tree-lined street to the homestead. The estate house was on up a hill. There Helga was treated like a princess. Her father did the bookkeeping for her uncle for free, which might not have been such a difficult job, because the properties were largely self-sufficient. They didn't have to sell much because they didn't buy much. The workers were Polish and received board and lodging on the estate. There was very little money. The hierarchy that governed the estate is hard to imagine today. When the farmhands came to Helga's aunt to receive their orders, they had to kiss the hem of her dress. There was quite a scene when Helga sat down and ate sauerkraut soup and beans with the workers in the kitchen. She was told that she had gotten lice there and she had to undergo an uncomfortable delousing procedure to break her of this habit. During the war, Helga's uncle was a strong champion of his Polish workers and was able to save them from deportation. However, this didn't make any difference for him in the long run. When the Russians came, the estate was seized and he was dispossessed. Although we were back in Poland a few times much later, Helga never wanted to see Friedrichowitz again, because that would only destroy her memories.

As she found that the land of plenty was not exactly waiting for her in Vienna, the first thing to do was to make some money as a tutor and to struggle through high school. Without the sacrifices and support of her aunts, Helga and her brother would never have made it. When once I went to see her, I saw that she was living in a very humble room in a back courtyard. She had the Viennese tradition of the Tröpferlbad — a public bath — to thank for the fact that her appearance did not suffer. She could afford to go once a week. Despite everything, she went on to university and majored in English language and literature. We met at the Protestant student union. At first, I wasn't aware of her difficult circumstances. She never complained. Much later, when we bought a house in the country with almost an acre of garden, I could see how much good the wide open space did her.

In our marriage I could save her from material want, but I couldn't offer her a quiet, easy life. She likes to remind me that she had to move

15 times. But she was more than capable of meeting this challenge, and we can look back at our 55 years together with gratification and fulfillment. There were critical moments, such as when I collapsed from cerebral hemorrhage at the Budapest Opera. Helga did not become hysterical over my lifeless body, but remained determined and calm, and although she doesn't speak a word of Hungarian, she found a doctor who made the correct diagnosis. He also knew where there was a hospital with computer tomography where an emergency operation was performed less than an hour later. The next day a medical plane flew me back to Vienna, and after a few months I made a full recovery.

As both of our sons have leadership positions in Austrian industry and economy, the Thirring line will continue in Austria through our four granddaughters. The dreams Mathias Türinger had when he fled to Austria have proven to have been fulfilled.

Fig. 8: Tamara, Sofia, Tanja and Laura from left to right