

On 24 October 1910, Albrecht Kossel received a letter. Taking it into his hands, he glanced at the sender – the Karolinska Institute Stockholm. The Karolinska Institute! First he had to sit down. He sat and stared at the envelope for a moment, then resolutely reached for the letter opener, took the letter out, and unfolded it.

"Karolinska Institute, Stockholm, October 21, 1910." The letter from the rector was addressed to Privy Councilor Prof. A. Kossel. Very slowly, his eyes scanned the lines. The college of professors of the institute ... had decided: "... to award you this year's Nobel Prize for Medicine and Physiology, in recognition of your work on proteins, including the nucleic substances, which outstandingly promoted the knowledge of the chemistry of the cell." The prize, it further stated, was valued at 156,000 marks.

Such a huge sum of money, such an honor! He thought of his teacher Felix Hoppe-Seyler and the physiological chemistry he had fought for, and would continue to fight for, so long. He thought of his companions, of Behring, Fischer, Ehrlich, and Pavlov. The Nobel Prize was not yet known to the general public, but its significance was highly recognized in the scientific world.

Kossel was moved. He stood up and went to find Luise.

His wife looked at him in wonder. How happy she was for him! Now some of their quarrels, some of those arguments might fade away. Her husband's achievements would now receive the highest accolade.

"Of course, we'll go together! The letter expressly asks whether other family members will be travelling with us," said Kossel.

"Oh, Albrecht, that's wonderful!" exclaimed Luise.

They informed their closest employees, and the news spread through the institute like wildfire – everyone was elated. Their daughter Gertrud hugged her father with joy. Taking hold of him, she danced across the living room in his arms.

Warm-heartedly and full of emotion Johann Petri congratulated his revered professor, at whose side he had been working with so much loyalty, reliability, and skill for eighteen years. He too was overjoyed at this special moment.

That very afternoon, after Albrecht Kossel had obtained information about the travel conditions, he wrote to the prorector, the Privy Councilor of the church, Professor von Schubert, telling him he had been invited to come to Stockholm on 10 December for the awarding of the Nobel Prize.

"I therefore address to Your Magnificence the request to obtain from the Grand Ducal Ministry a leave of absence for the time from December 6 to 17. I intend to replace the cancelled lectures with extended hours."

Kossel's encounter with his son was also an emotional one for him. Walther had studied physics in Heidelberg since 1906. Highly talented, he was about to receive his doctorate at the early age of twenty-two. His doctoral supervisor, Professor Philipp Lenard, had been awarded the Nobel Prize for Physics in 1905, while he was still in Kiel. Walther knew only too well what this prize meant, and was thrilled for his father.

Innumerable congratulations reached Kossel in these days. The appreciation at home in Mecklenburg was of course especially enthusiastic. Already on 30 October, 1910 a lengthy article appeared in the Sunday supplement of the *Mecklenburgische Zeitung*. There it stated: "... so we as Mecklenburgers can also see with joy and pride that Albrecht Kossel belongs to us and we can claim the honor bestowed upon him as a tribute to our homeland." How heart-warming it was to read this. Paul Ehrlich also sent his congratulations: "With best wishes from my home to yours in long-time friendship, Your Paul." Kossel's thoughts went back to Strasbourg. They had studied there together for the first three semesters, and the enthusiasm of that time had carried them through life, culminating for both of them in the Nobel Prize. Paul Ehrlich had already received the Nobel Prize in 1908 for his important contributions to immunology.

"Well, my dear Paul, certainly packing your bags was not something at the top of your list. I have done that for you many a time," Kossel said to himself with quiet humor. How long ago that was. Later, their encounters in Berlin had always been very warm and stimulating.

A few days later, the yearbooks arrived that had been promised in the letter from Stockholm with the following words: "I will soon send you the volumes of the publication 'Les Prix Nobel' that have now been published here, where you will find the details of the award ceremony."

"Luise," Kossel said to his wife, "please read everything carefully and tell me what to expect." The parts of the text written in French were no trouble for her. The Kossel

household now went into a flurry of activity. There were still six weeks left for the preparations and it was not the first time that they attended an academic ceremony, but the trip to Stockholm was one of a very special kind.

In 1910, the Swedish committee responsible for the Nobel Prize in Medicine and Physiology had received proposals for a possible candidate from 159 professors in many countries. Without Kossel knowing it, he had been nominated for the eighth time in 1910. In the years before, biochemists from abroad, from Chicago, Kiev, and Prague had also nominated him. The chairman of the committee was Count Karl Axel Mörner, professor of chemistry and pharmacy. As rector of the Karolinska Institute in Stockholm, he also chaired the meeting of the 22 professors of this institute, who, according to the statutes of the Nobel Foundation, decided on the awarding of the prize on October 20, 1910. Their choice was Kossel.

The suitcases were packed, but there was still a lot to be done before their departure. At the university, doubts even arose as to whether the professor should be exposed to the hardship of a trip across the Baltic in the bitter December cold. But now all was settled – the journey could begin.

Kossel and his wife boarded the train and settled into their coupé. The ride northwards was long, and there was plenty of time to gaze out at the fields and forests, pleasing to the eye despite their wintry dreariness. Kossel took time to go over his lecture once again. It was important to set the right accents. His speech was to promote physiological chemistry into the future: its enormous effect was still to unfold. Kossel foresaw the great tasks laid out for coming generations. They would continue to unravel the mysteries

of life. How sad that one day he would no longer be around for the developments to come.

"Luise," he said, returning completely to the present, "You've read these award yearbooks thoroughly?"

"Of course, Albrecht." She told him what she had learned: "We will be staying at the Grand Hotel. The actual award ceremony will take place on the afternoon of December 10th, which is, by the way, the anniversary of Alfred Nobel's death. This will be followed by the Nobel Banquet. Thank goodness we had a new tailcoat made for you! Two days later you will give your lecture at the Karolinska Institute.

It was convenient that their hometown of Rostock was halfway along their journey and that they could make a stop at their parents' home, where they were warmly welcomed. Of course, both father and mother were thrilled that their son should be receiving this great honor.

Almost 900 kilometers lay ahead of them when the rail ferry from Warnemünde to Gedser began crossing the sea the next morning. That evening, they reached Copenhagen, from where another ferry brought the Kossels to Malmö. Then, the train rattled all night long until they reached Stockholm the following day at nine in the morning. There was a light snowfall. To their surprise they were even picked up by car and delivered to the beautiful hotel. It was certainly good to rest after the long journey.

That afternoon, the Kossels arrived at the rather plain hall of the Swedish Academy of Music, which had been so festively decorated and illuminated for the award ceremony that it literally shone. At the front of the stage were four obelisks, with the inscription Physics, Chemistry, Medicine,

and Literature, respectively, symbolic of the four Nobel Prizes. An obelisk with the bust of Alfred Nobel protruded from the back of the stage. Above it floated a laurel wreath, which was decorated with a blue and white ribbon.

Armchairs were arranged in a semicircle, along with five special ones for the royal family. Kossel took a seat in the front row together with Johan van der Waals, Otto Wallach, and Count Karl von Pückler, who was to accept the literary prize for Paul Heyse. Also on the stage were His Excellency Emanuel Nobel and other members of the Nobel family, other representatives of the Nobel Foundation, and the presidents of the four Nobel Committees.

Suddenly everyone arose as King Gustav V, Crown Prince Gustav Adolf, Princess Margareta, and the Princes Wilhelm and Eugene appeared.

Fanfares rang out, the orchestra began to play, and the Stockholm Student Choir sang: "Listen, Svea, mother to us all!" A moving moment, the ceremony had begun. The President of the Nobel Foundation, Count Fredrik Wachtmeister spoke, followed by more singing. After a laudation, the prize for physics was presented to Johan van der Waals, followed by the prize for chemistry to Otto Wallach.

Then Count Mörner took the floor as chairman of the Nobel Committee for Physiology or Medicine. Mörner held the laudation in Swedish at first, and then continued in German, expounding upon the important insights that had been achieved into the nature of proteins and upon the merits and distinction of Albrecht Kossel.

However, he only mentioned nucleic acids towards the end of his lecture: "Professor Kossel has devoted a great part of his activity to these questions. But it would not be possible to give a detailed account without taking up too much time." ... "I will restrict myself to remarking that these nucleic acids, by their presence in the cells and their relation to the protein bodies found there, certainly possess a profound biological significance ... "

The king, an imposing figure, presented the 22-carat-gold medal and the certificate. Long applause followed. Albrecht Kossel bowed gratefully, as protocol required, three times: before the king, the Nobel Prize representatives, and before the audience.

The literature prize followed.

Music resounded again, everyone rose, the beautiful and hallowed royal anthem was sung. Thoughtfully, Kossel once more took in the hall with the festively dressed women and the representatives of politics, science, and culture. With this honor, he had been accepted into the highest hall of fame.

After the ceremony, at seven in the evening, the stately banquet began in the mirror hall of the Grand Hotel. In contrast to the rather sober architecture of the Music Hall, this hall had a lot to offer. A multitude of mirrors on the walls reflected the goings-on, large exquisite chandeliers hung from the ceiling. The ceiling itself made a harmonious impression due to its splendid curves and the exquisite paintings gave the room an exceptional quality. Albrecht Kossel and his wife, along with all the other invited guests, took a seat at one of the long tables.

In his speech, which he delivered in German, Professor Oscar Montelius, President of the Swedish Academy of

Sciences, emphasized: "December 10 is a festive day in Stockholm. Thanks to the princely gift of Alfred Nobel we, who have long been called 'the poor Swedes,' have been granted the privilege, each year on December 10, of distributing as prizes almost a million francs among those who have been of the greatest service to humanity, as Nobel's will states ... he had the magnificent idea of using his colossal fortune in such a way that it would both honor his country and promote the solution of the problems that concern all mankind. An international Nobel Foundation located in Stockholm is ... better and more glorious for Sweden than any Nobel Foundation intended solely for our country could ever have been.

Addressing Kossel, Montelius said: "The rector of the Karolinska Institute told us in the public session about how greatly you have promoted the progress of medical science through your fine work. Kossel represents a field of research that works in the spirit of Nobel." Enthusiastic applause followed upon this long speech.

Kossel, who was usually rather reserved, also wanted to make a toast. He said that he appreciated the award more for the discipline he represented than for himself: "Physiological chemistry urgently needs encouragement, because it is a science that has up to now barely acquired an independent position. Sweden has always been the preferred country for this young science." Kossel raised his glass to toast his colleagues among the Swedish scholars.

Now, the official part of the banquet came to an end. The festive group remained together for a long time. Luise especially enjoyed the songs performed by the student choir, and with her excellent knowledge of languages, she

was a lively and encouraging addition to the conversations of the evening.

How delightfully stimulating these hours had been! The day after the award ceremony, the Kossels received a message from the castle. The Swedish queen was inviting them to tea. Queen Victoria was the daughter of the former Grand Duke Friedrich I of Baden. She obviously enjoyed being able to talk about her homeland informally with her German guests.

Two days after the Nobel Prize was awarded, Albrecht Kossel arrived at the Karolinska Institute to give his lecture, titled

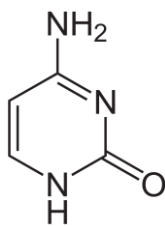
"The Chemical Composition of the Cell Nucleus"

Self-assured, he first traced the general development of his field, pointing out that there were certain chemical life processes common to both plants and animals. Biochemistry, he said, had studied protoplasm, the living substance in all cells, and found the building blocks of carbohydrates, proteins, and fats. He then turned to the cell nucleus, giving recognition to Hoppe-Seyler and Miescher as he went into the nucleins in detail. In many cases, they could be broken down into two parts: a protein substance and the nucleic acid. His comments were modest and reserved. Only at this point, concerning the nucleic acid, did he speak of himself:

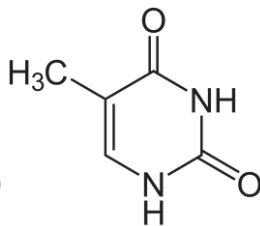
"From this, I succeeded in obtaining a number of fragments which could be dissolved out of the molecule in part, even by gentle chemical action and which were characterized by a quite specific concentration of nitrogen

atoms. Here four nitrogen-containing groups were present: cytosine, thymine, adenine, and guanine."

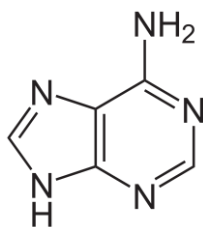
The highly interested listeners could now see the graphic formulae:



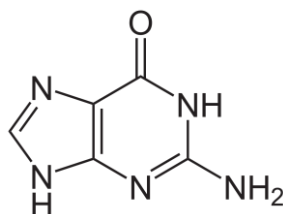
Cytosin



Thymin



Adenin



Guanin

What had Virchow said back in Rostock? – one researcher tears off this shell, the other that, until the last one takes hold of the beautiful core and presents it to the enchanted world.

This was such a moment! In that moment it grew very quiet. Everyone was excited: they could feel how potent and electrifying the work must have been, which had now led to clear results. Kossel paused. Then he continued,

again calmly, and stated emphatically to what large degree the clarification of the structural formulas had been the joint achievement of a number of renowned researchers. He gave tribute to Emil Fischer, of course. He also commended Carl Wilhelm Scheele and Torbern Olof Bergman, who both worked in Sweden. He mentioned uracil only casually.

Kossel then went on to say that the nucleic acid contained a carbohydrate with six carbon atoms and a phosphoric acid. His former colleague, Hermann Steudel, had even discovered that the four bodies, whose formulas Kossel showed, were each connected to one molecule of the carbohydrate and one molecule of the phosphoric acid. It was significant:

Cytosine, thymine, adenine, and guanine, as well as a carbohydrate and phosphoric acid were the building blocks of nucleic acid!

Kossel pointed out that this architectural idea was to be found in many different forms. The carbohydrate of the yeast nucleic acid had not six but five carbon atoms. Going into further detail, he mentioned the Swede Olof Hammarsten and even named the Norwegian Ivar Bang, with whom he had had some unpleasant confrontations.

Attentive listeners might have been astonished that Kossel dealt with nucleic acids before proteins in his lecture, as Professor Mörner had mainly referred to proteins in his laudation and had only briefly mentioned nucleic acids. Kossel was certainly doing this intentionally, as he was convinced that nucleic acids were of particular importance.

It was only in the further course of his speech that Kossel went into the more recent results of protein research. As he had done in Heidelberg two years ago, Kossel explained that proteins were also composed of building blocks. These at least nineteen building blocks or fragments were mainly constructed according to a common principle; they almost all had the character of amino acids:

"The first characteristic of these substances is the COOH group ... the second is the NH₂ group."

Kossel mentioned studies by Emil Fischer, Egon Baumann and Count Karl Axel Mörner and showed the structural formulae of the amino acids alanine, serine, cysteine, and histidine. The exact structure of histidine was now also known. When Kossel explained the structure of the amino acid arginine, he quoted the Swede Sven Hedin. He continued:

"We do not know how often each block is repeated in the whole structure ..."

However, it had since been discovered that the composition of the proteins was very different. The proteins of the cell nucleus loosely bound to the nucleic acid had an unusually high proportion of nitrogen-rich amino acids. The high nitrogen content also applied to the nucleic acids themselves and clearly distinguished both groups from the other cell components, emphasized Kossel.

"These atom groups rich in nitrogen and containing phosphorus are those whose deposits in the chromosomes are first set in motion during cell division and whose

transmission to other cells forms an essential part of the reproductive process.”

Yes, a great breath of fresh air was blowing through Kossel's words, and everyone felt it. They would build on the knowledge they had now gained and would use new scientific methods to clarify the secret of fertilization and even heredity. This biochemistry would advance medicine decisively! But Kossel also said that there was still a long way to go from looking at individual fragments of the apparatus to understanding its mode of action.

Once again, the audience sensed the striking modesty of the Nobel laureate when at the end of his speech he declared:

"... the names of many people would have to be mentioned if the merits of all contributors were to be acknowledged."

Quelle: Nobel Lectures, Physiology or Medicine 1901-1921, Elsevier Publishing Company, Amsterdam, 1967

Count Mörner chaired the memorable event. He had written a biochemical textbook on pharmaceuticals and published four articles in Kossel's journal in 1900, 1901, and 1904. Mörner had been a member of the editorial board since 1902.

As had been his custom for years, he and his wife hosted a banquet the evening after the Nobel Lecture. Countess Mörner could always be counted upon as an accomplished organizer and hostess. Weeks before the menu had been

worked out, twelve waiters had been hired. The dining room of the Mörner's villa could accommodate sixty people at two long tables, which were decorated with five-armed candlesticks, vases of flowers, and bowls of sweets and fruit. Before the guests arrived, the Kossels learned that Emanuel Nobel had presented the esteemed Mrs. Mörner with a kilo of the most delicious Russian caviar. This was served to everyone on small sandwiches, and so the meal began.

Of course, the host spoke, partly in German, as a greeting. He was still in a state of elation from Kossel's lecture and was delighted to honor him and his wife with this feast.

The caviar was followed by a broth, an excellent fish dish, fillet of beef and ham, a vegetable platter, poultry, and finally ice cream, cheese, cookies, and dessert. There were four wines to choose from. After dinner, the guests scattered about the premises and strong coffee was served in small cups.

At this point, the Mörner children appeared, too, and, dressed in their elegant Sunday best, took their turn to welcome the guests. The hostess, as well, was festively dressed: she wore the diamond brooch on display in the painting of an ancestress from the seventeenth century. Luise overheard someone exclaiming to Count Mörner: "Your beautiful wife!"

Albrecht Kossel, who had his official duties behind him, was relaxed and free to enjoy these hours together with Luise. Of course they were the center of attention, and had countless conversations. Thus, the Mörner banquet was one of the highlights of their time in Stockholm.

St Lucy's Day also coincided with their stay. On the morning of 13 December, they witnessed a procession of young girls in the high, columned lobby of the Grand Hotel. Holding lighted candles in their hands, the girls looked lovely with their blonde hair and long white robes. Lucy with a candle wreath on her head led the way. Slowly and mysteriously, they all proceeded forward as they sang. The Kossels, along with everyone else, were served saffron biscuits. This Swedish custom was very foreign and impressive to them.

By Christmas the couple was back at home. In the peace and quiet of the holiday season, they had ample time to relive and reflect upon all that they had experienced.

In January 1911, the Kossels gave an evening party, to which they invited numerous guests, especially academics. The gentlemen wore frocks, tails, or dinner jackets, the ladies beautiful evening gowns. Around 7:30, the sound of a brass band suddenly arose: in honor of their professor, the first Nobel Prize winner of Heidelberg, the students were arriving in a torchlight procession. But first, the presidents of the six corps came on horseback, wearing white breeches, long boots, a coat or tunic, round hats or lined caps, gauntlet gloves, and swords at their sides. They dismounted, walked noisily up the stairs, then gathered in formation, and presented their professor with large wreaths of laurel.

Kossel gave a friendly speech, offered everyone a glass of wine and joined in a toast. After this ceremony, they again went into formation, full of verve, and marched out. Now Kossel turned to the participants of the torchlight procession who had gathered in the courtyard. He stepped

out onto the balcony and, somewhat hampered by the smoke, gave a speech. He mentioned the hallowed unity of Germany, which had so zealously promoted the natural sciences. German natural scientists and physicians had been able to make significant contributions during these decades and had received much recognition worldwide. Hailing the German Reich and the university, the procession departed from the institute grounds to the sound of the band.

The rest of the evening was now dedicated to food and drink, with the encouragement of Albrecht Kossel, who was a gracious host. Again and again the obligatory toast could be heard: "Cheers, colleague!" and the hours passed happily.

Many honors, invitations and lecture tours followed in 1911: the Kossels were often on the road.

Already back in 1909, Albrecht Kossel had received an invitation to give a lecture, the so-called Herter Lecture, at the Johns Hopkins University in Baltimore and had accepted the invitation. It would be necessary to prepare well. Above all, Kossel wanted to improve his English, which is why he accepted the aid of Ruth Skelton, a graduate of London University College. She spoke English with them and furthered their mastery of the language in various ways, such as with readings from Charles Dickens' *Pickwick Papers*. Kossel enjoyed the Dickens especially, whose writings reminded him of his Mecklenburg countryman Fritz Reuter, whose humor he loved so much. Mrs. Kossel, who already had a good command of English, supported him by reading to him from an English reference book.

Kossel would not only lecture in Baltimore, he was also to give a Harvey lecture. The Harvey Society had been

founded in New York in 1905, and had initiated these lectures in the field of medicine and biology. The Harvey Lectures were also very highly regarded in the whole of the United States.

At the beginning of July 1911, Kossel applied to the Grand Duke's Ministry for a longer leave of absence. Soon he received permission. Luise was pleased that they would have enough time to visit her relatives. Their daughter Gertrud would accompany them on the journey.

On 20 August they boarded the "Prinz Friedrich Wilhelm" in Bremerhaven. This steamer had just been built in 1908 and was very comfortable. About 500 passengers could be accommodated in first class. Altogether the steamer could accommodate up to 2,500 passengers. There were short stops in Southampton and Cherbourg, then it proceeded non-stop across the Atlantic.

The seven-day journey was very pleasant. Kossel had lots of documents in his luggage and was constantly busy. Among other things, he reread the 1910 memorandum of Otto Cohnheim, who had been a visiting professor at Boston University for three years.

"Listen, Luise, he certainly doesn't mince words: 'In the field of biology the Americans have been leading for years ... Unfortunately, there is no doubt that the work in German physiology has been deteriorating in recent years.'"

"That sounds very critical," she rejoined.

"He even writes that the Americans feel increasingly superior to the younger German scientists in particular, and 'that for the next Herter Lectures they have not asked mostly younger people like me, as before, but Rubner and Kossel.'"

"Father, he is making you into an older man here, almost an old man," exclaimed his daughter Gertrud, who had also been listening in amazement.

"Cohnheim is a capable man, I have just recommended him for the chair in Halle. He is probably even right when he writes about modern scientific organization. This reminds me of Strasbourg again, when the university there was newly founded. Back then there were no traditional structures, which is one of the reasons they had such great results at that time."

"That actually fits in with what our relatives in America have been saying. It's the land of unlimited opportunity!" Luise added.

In New York, Kossel also wanted to meet Phoebus Levene, who now chaired the chemical department of the Rockefeller Institute for Medical Research. The brilliant-minded Levene had worked for some time in Marburg, and later with Fischer in Berlin. He had grown up in Russia, but had emigrated to the United States due to the persecution of the Jews. Levene spoke several languages fluently and was extremely determined. His first works appeared in Kossel's journal. In 1902, at the same time as Kossel, but independently of him, Levene had been able to obtain cytosine in a particularly pure form and to establish its molecular formula. Curiously, however, at the time, Levene thought that he had found thymine, an error that was then corrected in a footnote. He produced nucleic acid from various organs and detected thymine and cytosine everywhere. In 1908 and 1909, he had published two papers in Germany in which he proved that the carbohydrate in the yeast nucleic acid with the five carbon atoms was r i b o s e. It was Emil Fischer who first

synthesized ribose and derived the name from arabinose, another carbohydrate with five carbon atoms.

In 1908, Levene, like Kossel's former colleague Steudel before him, had found that nucleic acid seemed to have the same composition everywhere. The molecules adenine, guanine, thymine, and cytosine always seemed to occur in a ratio of 1:1:1:1. But how could the nucleic acid be the carrier of the genetic material if it actually had the same composition in all organisms? In his Nobel Lecture, Kossel had not wanted to emphasize these more recent findings. He took a deep breath – it was something he wanted to talk to Levene about.

It was really peculiar that animal and vegetable fats were apparently not chemically different and that the large carbohydrates, like starch in all plants and like glycogen in all animals, had the same composition. But, if even the nucleic acid did not show any differences, then only the proteins seemed to remain as possible carriers of the genetic information: in them, the diversity of living nature would be revealed.

Finally, the week at sea came to an end. The Kossels made sure to be out on deck as they passed the Statue of Liberty at dawn. On 27 August 1911, they reached New York. That very afternoon, the New York Times journalists – polite, educated gentlemen – came to pay Kossel their respects.

First they were guests of the Dakins in New York. Henry Drysdale Dakin, born in England, had worked for Kossel in Heidelberg. In 1905, he had gone to the United States and now worked at Columbia University in New York. It was a pleasant reunion. In addition to the professional exchange, Kossel was able to test his English in the Dakin family before the great journey across the country began.

But there was no need to worry: a friend of the Dakins even remarked that he had never heard a German speak English so well. Nevertheless, Kossel was pleased that Dakin was willing to provide a faultless translation of his lectures for publishing in American journals.

The Kossels had a good time with the Dakins. Henry Dakin showed them the sites in Manhattan, apologizing for the ugly skyscrapers on Third Avenue. Kossel – humorous and positive as always – just came back with: "But they do provide shade!"

There was also a meeting with the Villard family in New York. Henry Villard had been a distant uncle of Luise. He was born Heinrich Hilgard in Speyer in 1835 and had changed his name when he emigrated to the United States. Initially a journalist, who became a pacifist after his experience of covering the American civil war, he was destined to have an impactful career. As a financier, he acquired several railway and steamship companies, and was president of the Northern Pacific Railway. In 1880, he took over the *New York Evening Post* and *The Nation*. Villard made substantial donations to universities, churches, hospitals, and orphanages. In 1860, he had married Helen Frances Garrison. She was the daughter of the writer William Lloyd Garrison, a pioneer for the abolition of slavery.

Henry Villard had passed away, but the Kossels spent some animated, stimulating hours with his wife Fanny, as she was called: Fanny's fight for civil and women's rights left a deep impression upon them.

Kossel was able to meet other former students on this journey. They spent a week with Professor Albert Mathews, who had worked at Kossel's Marburg Institute and was

now head of the Department of Biochemistry at the University of Chicago. He was pleased to be able to show his revered teacher his present sphere of activity. Of course, they placed great importance in Kossel giving a lecture. These events were followed by thought-provoking discussions that were not only biochemical in nature: politics were also broached upon, when Kossel mentioned that he rejected the imperialistic behavior of the German Reich.

Then they drove across the country to the West Coast. They accepted an invitation from Luise's relatives in San Francisco and visited the University of California in Berkeley. Uncle Eugene Woldemar Hilgard had spent his youth in the United States after his father had emigrated there with a large family. He had studied in Heidelberg, and in 1855 he began an academic career. How warm this encounter turned out to be! As an agricultural chemist, Professor Hilgard was critical of the soil depletion that he observed in the United States. He also taught geology and botany and was highly respected by the American public. The Hilgard family was happy to hear about their old home, Heidelberg, and about Germany. Kossel was also asked to give a lecture at Berkeley, this highly renowned university. He gladly complied.

The Herter Lecture in Baltimore and the Harvey Lecture in New York then took place in October in front of a very open-minded audience. In Baltimore, Kossel devoted himself to the latest results of protein research, while the talk in New York, entitled "On the Chemical Composition of the Cell," took on a somewhat more general character.

With a wealth of new ideas and experiences, the Kossels embarked upon their return journey to Europe. It was

perfect that the long journey across the Atlantic offered ample leisure to reflect on the many impressions.

Kossel's brother Hermann's appointment to Heidelberg University in the summer semester of 1910 was also grounds for celebration. As a student of Robert Koch, he had been Koch's companion on several research trips. Appointed professor in 1898 on Koch's recommendation, he now had become director of the Institute of Hygiene in Heidelberg. Two of the eleven chairs in the medical faculty were now held by the brothers Albrecht and Hermann Kossel.

And not so long after his return, in 1912, Albrecht Kossel was pleased to receive a further mark of distinction, from the Scottish University of St. Andrews: an honorary doctorate. He had every reason to be proud.