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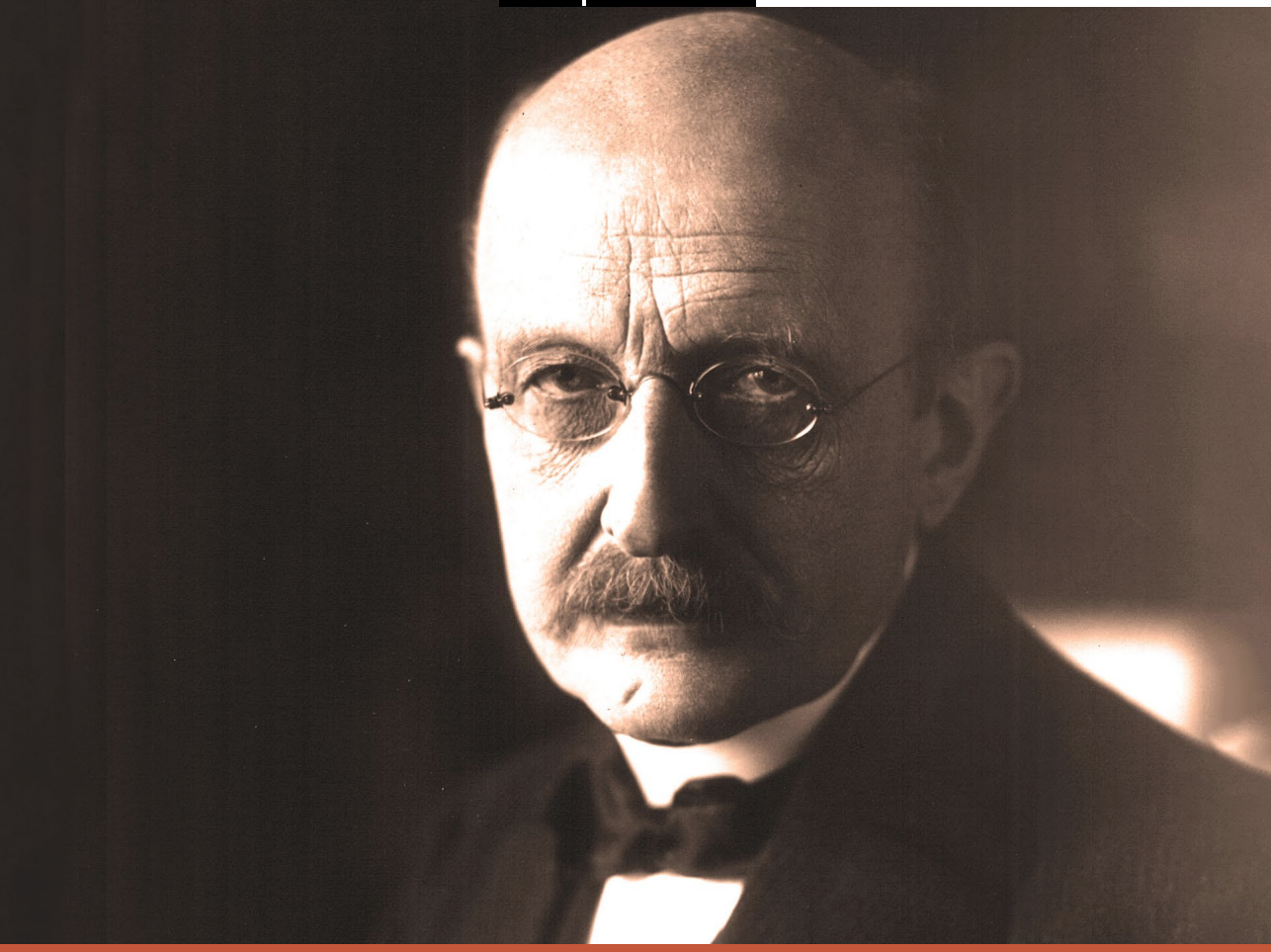

Michael Bonitz, Oliver Auge (Ed.)

KIEL CONTRIBUTIONS TO Max Planck

VOLUME 3

KIEL CONTRIBUTIONS TO

Max Planck

VOLUME 3

Regina Lackner, Patrick Ludwig, and Michael Bonitz

Condolences from Scientists on the Death of Max Planck in 1947

Institute of Theoretical Physics and Astrophysics
Department of Regional History at Kiel University

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1 Introduction

When on December 14, 1900, Max Planck presented his hypothesis of elementary energy quanta and thereby the derivation of his law of radiation to the Physical Society of Berlin, this marked the birth of quantum physics.[1] In the following decades, this discovery resulted in a radical change in science and technology, and also influenced mathematics, philosophy, and art. An overview has been given in Article [1] and in volume 1 of this series [2]. Along with his role as a scientist, for many decades Planck had also been active for German science in numerous responsible positions. In addition to that, he was well-known to the general public in Germany and in Europe as a whole through his many lectures on scientific and philosophical themes.

The high esteem in which Planck was held can be seen in numerous letters which were addressed to him, many thousands of which can be found in his archived papers [3]. In this regard, special significance should be accorded to the letters of condolence which were sent to his widow, Marga Planck, upon his death on October 4, 1947. First results of study of selected condolence letters were recently published [4, 5].

The first comprehensive analysis of the condolence letters was published in 2024 in volume 2 of this series [6], in German. The present volume presents an English translation of volume 2[2] with the goal of making these unique letters available to an English-speaking audience. As volume 2, we present a general overview of all the condolence letters sent by scientists. At this point a total of 139 cards and letters of sympathy have been recorded. They come from many famous physicists as well as representatives from other scientific disciplines, among them twelve Nobel Prize-winners in Physics (Niels Bohr, Max Born, Walther Bothe, William Lawrence Bragg, Louis de Broglie, Albert Einstein, Enrico Fermi, James Franck, Max von Laue, Robert Millikan, Erwin Schrödinger, George Paget Thomson), three in Chemistry (Adolf Butenandt, Hans von Euler, Richard Kuhn), two in Medicine (Max Delbrück, Otto Fritz Meyerhof), and one winner of the Nobel Peace Prize (Albert Schweitzer). In Planck's papers the condolences that Albert Einstein and Erwin Schrödinger wrote to Marga Planck are missing, but they have previously been published in full in other places [7]. In order to give the broadest possible impression of the condolences, we here present copies of Einstein's and Schrödinger's

[1] This term was first used by Arnold Sommerfeld.

[2] In this volume errors that occured in vol. 2 were corrected and some additional material has been added.

letters as well as excerpts of their transcriptions. Beyond that there are also 45 letters from scientists who wrote representing various universities, research institutes, foundations, museums, and other institutions.

In Chapter 2 a list of all the condolences sent by scientists can be found. Several of the letters are presented in more detail in Chapter 3. There we also give brief information about the sender and his or her connection to Planck and his wife, as far as is known. Some of the letters are handwritten in old German "Sütterlin" and are very difficult to decipher. For those the online repository (see below) contains, in addition to the scan of the original, also a transliteration into German. For these letters English excerpts[3] are included in Chapter 3. In Chapter 4 we list separately condolence letters and telegrams that arrived from scientific institutions in Germany and abroad. Information about these institutions and their current successors, if appropriate, is summarized in Chapter 5. In addition, we present selected excerpts from the condolences, insofar as they contain a particularly interesting connection to Planck. All correspondence is completely available in digital form (high resolution scans) and can be accessed through the supplemental material to this volume or directly via the link to the Planck Repository hosted by Kiel University (also referred to as CAU Kiel, German name Christian-Albrechts-Universität zu Kiel).

The present book is the third volume of the series "Kieler Beiträge zu Max Planck" that was founded in 2024. The present volume is the corrected and significantly expanded English translation of volume 2 [6] of the series. Since its publication a number of handwritten letters (in old German Sütterlin) became available which made it possible to include excerpts that are of broad interest but were missing in volume 2. These concern the condolences by A. Barneck (Section 3.2), A. Butenandt (Section 3.16), E. Cremer (Section 3.20), H. Drexler (Section 3.25), C.A. Emge (Section 3.28), E. Fischer (Section 3.34), R. and W. Gerlach (Section 3.41), R. Goldschmitt (Section 3.43), G. Hettner (Section 3.50), W. Huth (Section 3.52), H. Kindermann (Section 3.56), and H.H. Rebel (Section 3.82).

Planck's scientific career took place during imperial Germany and the Kaiser's reign, during the Weimar Republic, during the Third Reich, and during the first years after the Second World War, and was necessarily marked by the dramatic changes in German history that were associated with these regimes. By virtue of his elevated position he had access to leading representatives of the German scientific community, and also to many scientists in foreign countries. Thus the condolences give us not only new information about Planck's life, but also provide new perspectives on the lives and careers of the writers and on the history of German scientific institutions, particularly in regard to the Kaiser Wilhelm Society (KWG, Kaiser-Wilhelm-Gesellschaft) and the German Physical Society (DPG, Deutsche Physikalische Gesellschaft). In the last few years comprehensive source material on the history of both organizations has surfaced, not least in regard to their role during the Nazi period. For the history of the KWG, the reader is referred to items

[3] For those letters no excerpts were included in volume 2.

[8, 9] in the bibliography and the references that they contain, and also to the description of the Max Planck Society and its history on its own website. For the history of the DPG we refer the reader to items [10, 11], in the bibliography to this volume, and also to the chronicles of the DPG on its website.

The expressions of sympathy to Marga Planck came from the entire spectrum of German science – from active proponents and beneficiaries of the Nazi regime to those who were persecuted, driven from their professions, and ultimately forced to emigrate. In the condolences collection they are all united and express in often moving and sincere language their respect, esteem, and love for the scientist, colleague, humanist, and human being Max Planck.

2 List of Condolences from Scientists

Table 2.1: 139 personal condolences from scientists on the death of Max Planck on October 4, 1947, which have been catalogued up to the present (letters to Planck's widow Marga). Details on most of the writers can be found under the link in the final column. The complete texts (scans) can be accessed using the supplemental material at the web page of this volume or via the link Planck Repository. A question mark (?) means that the date when the letter was sent is unclear. Engin. Sci. means engineering sciences. An asterisk (*) behind a name signifies that the person was a Nobel Prize-winner. Further letters which were sent in the name of scientific institutions are listed in Table 4.1.

Last Name, First Name	Discipline	Date	Details
Andrade, Edward	Physics	11/10/1947	3.1
Barneck, Alfred	Mathematics	10/05/1947	3.2
Baur, Franz	Meteorology	10/14/1947	3.3
von Bergmann, Gustav	Medicine	10/13/1947	3.4
Beutler, Ernst	History	10/15/1947	3.5
Beyse	Medicine	10/09/1947	—
Bjerknes, Vilhelm	Physics	10/25/1947	3.6
Boehringer, Erich	Archaeology	10/04/1947	3.7
Boerner, Hermann	Mathematics	10/11/1947	3.8
Bohr, Niels*	Physics	10/14/1947	3.9
Born, Max*	Physics	10/07/1947	3.10
Bothe, Walther*	Physics	10/06/1947	3.11
Brackmann, Albert	History	10/11/1947	3.12
Bragg, William Lawrence*	Physics	10/18/1947	3.13
von Braun, Wernher	Eng. Sci.	11/14/1947	3.14
de Broglie, Louis*	Physics	?	3.15
Butenandt, Adolf*	Biochemistry	10/26/1947	3.16
Burgers, Johannes	Physics	10/30/1947	3.17
Castelnuovo, Guido	Mathematics	11/05/1947	3.18

continued on next page

Last Name, First Name	Discipline	Date	Details
Chudoba, Karl	Mineralogy	10/07/1947	3.19
Correns, Carl	Geology	10/18/1947	—
Cremer, Erika	Physical Chemistry	10/31/1947	3.20
Czerny, Marianus	Physics	02/22/1948	3.21
D'Ans, Jean	Chemistry	10/14/1947	3.22
Delbrück, Max*	Biophysics	11/12/1947	3.23
Diesselhorst, Hermann	Physics	10/17/1947	3.24
Drexler, Hans	Ancient Philology	10/13/1947	3.25
Durrer, Robert	Metallurgy	10/22/1947	3.26
Dzieiza, Albert	Philosophy	10/13/1947	—
Einstein, Albert*	Physics	11/10/1947	3.27
Emge, Carl August	Philosophy	?	3.28
Entholdt, Hermann	History	25.10.1947	3.29
von Euler, Hans*	Chemistry	10/05/1947	3.30
Fattinger, Franz	Chemistry	12/24/1947	—
Fermi, Enrico*	Physics	11/18/1947	3.31
Ficker, Martin	Bacteriology	02/01/1948	3.32
von Ficker, Heinrich	Geophysics	10/16/1947	3.33
Fischer, Eugen	Medicine	10/10/1947	3.34
Flint, H. T.	Physics	03/02/1948	—
Fokker, Adrian Daniel	Physics	10/18/1947	3.35
Föppl, Ludwig	Engin. Sci.	11/03/1947	3.36
Föppl, Otto	Engin. Sci.	10/07/1947	3.37
Franck, James*	Physics	10/12/1947	3.38
Frey, Emil	Medicine	10/10/1947	3.39
Fritz, Adolf	Medicine	10/16/1947	—
Gans, Richard	Physics	10/07/1947	3.40
Gerlach, Ruth	Medicine	10/22/1947	—
Gerlach, Walther	Physics	12/03/1947	3.41
Gerstinger, Hans	Ancient Philology	11/05/1947	3.42
Goldschmitt, Richard	Biology	10/14/1947	3.43
Grosse-Brockhoff, Franz	Medicine	10/25/1947	3.44
Grotrian, Walter	Astrophysics	10/08/1947	3.45
von Harnack, Axel	History	10/11/1947	3.46
Hartmann, Max	Zoology	10/21/1947	3.47
Hedin, Sven	Geography	10/21/1947	3.48
Helferich, Burckhardt	Chemistry	10/13/1947	3.49
Hemmemann, Paul	History	10/31/1947	—
Hennemann, Gerhard	Philosophy	10/12/1947	—
Hettner, Gerhard	Physics	10/17/1947	3.50
Hodge, William Vallance	Mathematics	11/04/1947	3.51

continued on next page

Last Name, First Name	Discipline	Date	Details
Huth, Walther	Natural Sciences	10/30/1947	3.52
Jordan, Pascual	Physics	10/07/1947	3.53
Kalitsunakis, Ioannis	Philology	12/05/1947	3.54
Kallmann, Hartmut	Physics	?	3.55
Kindermann, Heinz	Literature Studies	10/07/1947	3.56
Kossel, Walther	Physics	10/19/1947	3.57
Kotsakis	Astrophysics	02/28/1948	—
Köster, Werner	Physical Chemistry	10/07/1947	3.58
Krichhauff, Gisela	Psychoanalysis	10/13/1947	—
Kuhn, Richard*	Chemistry	10/04/1947	3.59
Kühn, Alfred	Biology	10/19/1947	3.60
Kuiper, Gerard Peter	Astronomy	11/21/1947	3.61
Ladenburg, Rudolf	Physics	10/05/1947	3.62
Lang, Minna	Physics	10/25/1947	3.63
von Laue, Max*	Physics	10/03/1947	3.64
Lauprecht, Edwin	Animal Husbandry	10/06/1947	3.65
Lenz, Friedrich	Biology	10/07/1947	3.66
Madelung, Erwin	Physics	11/01/1947	3.67
Magg	Medicine	04/14/1948	—
von Mangoldt, Hermann	Law	10/10/1947	3.68
Martin, Hans	Physics	10/15/1947	—
Martini, Paul	Medicine	10/13/1947	3.69
Mayer, Hans	Physics	10/07/1947	3.70
Meller, B.	Medicine	10/10/1947	—
Meitner, Lise	Physics	10/07/1947	3.71
Merritt, Ernest	Physics	10/28/1947	3.72
Meyer, Edgar	Physics	10/26/1947	3.73
Meyerhof, Otto Fritz*	Biochemistry	03/21/1948	3.74
Mie, Gustav	Physics	10/14/1947	3.75
Millikan, Robert Andrews*	Physics	12/02/1947	3.76
Noack, Kurt	Botany	10/05/1947	3.77
Peiper, Albrecht	Medicine	10/09/1947	3.78
Peiper, Herbert	Surgery	10/06/1947	3.79
Picht, Johannes	Physics	10/06/1947	3.80
Pochettino, Alfredo	Physics	11/07/1947	—
Ramsauer, Carl	Physics	10/30/1947	3.81
Rebel, Hans Hermann	Dentistry	11/01/1947	3.82
Regenbogen, Eberhard	Medicine	10/12/1947	—
Regener, Erich	Physics	10/23/1947	3.83
Reiche, Fritz	Physics	10/12/1947	3.84
Rienäcker, Günther	Chemistry	10/29/1947	3.85

continued on next page

Last Name, First Name	Discipline	Date	Details
Rieppel, Paul	Engin. Sci.	10/18/1947	—
Riesenfeld, Hermann Ernst	Physical Chemistry	10/23/1947	3.86
Rössle, Robert	Pathology	10/13/1947	3.87
Rubens, Ernesto	Chemistry	12/14/1947	3.88
Rudorf, Wilhelm	Biology	10/16/1947	3.89
Santifaller, Leo	History	10/15/1947	3.90
Schaefer, Clemens	Physics	10/09/1947	3.91
Schiemann, Elisabeth	Botany	10/06/1947	3.92
Schirmer, Max	Medicine	10/06/1947	—
Schmidt, Eberhard	Law	10/05/1947	3.93
Schmidt, Erhard	Mathematics	04/11/1948	3.94
Schoen, Rudolf	Medicine	10/11/1947	3.95
Scholz, Heinrich	Mathematics	10/11/1947	3.96
Schottky, Walter	Physics	10/15/1947	3.97
Schrödinger, Erwin*	Physics	10/04/1947	3.98
Schulthess, Oscar	Chemistry	02/03/1948	—
Schüler, Hermann	Physics	10/07/1947	3.99
Schüz, Ernst	Ornithology	10/07/1947	3.100
Schweitzer, Albert*	Medicine	03/04/1948	3.101
von Selve, Walther	Engin. Sci.	10/07/1947	3.102
Simon, Franz Eugen	Physical Chemistry	10/26/1947	3.103
von Skramlik, Emil Ritter	Psychology	11/05/1947	3.104
Sommerfeld, Arnold	Physics, Mathematics	10/07/1947	3.105
Spatz, Hugo	Neuropathology	10/18/1947	3.106
Stapff, Moritz	Engin. Sci.	10/12/1947	—
Stengel, Edmund	History	11/08/1947	3.107
Still, Rudolf	Medicine	10/11/1947	—
Thomson, George Paget*	Physics	10/18/1947	3.108
Unsöld, Albrecht	Astrophysics	10/10/1947	3.109
van Velzen, Syo Kornelius	Medicine	10/05/1947	—
Wattenberg, Diedrich	Astronomy	10/08/1947	3.110
Westphal, Otto	Chemistry	12/12/1947	3.111
Westphal, Wilhelm	Physics	10/06/1947	3.112
Wever, Franz	Physics	10/17/1947	3.113
Wirth, Wilhelm	Psychology	12/05/1947	3.114
Wöllflin, Ernst	Medicine	10/06/1947	3.115
Zenneck, Jonathan	Physics	10/10/1947	3.116
Zimmer, Ernst	Physics	10/10/1947	3.117
Zwiebler, Gerhard	Natural Sciences	10/15/1947	—

3 Information on the Senders and Their Letters

In the following we give brief information on most of the writers of the letters, which primarily serves to identify the persons and does not represent any kind of judgment. Further details can in general be found in Wikipedia entries, insofar as they exist, which are linked to the name. We have cited excerpts from letters which to us seem to be particularly interesting. All the letters, including those from writers who are not represented in detail here, are electronically available using the link to the Planck Repository.

3.1 Edward Andrade (1887-1971)

Edward Andrade was a British physicist and did research primarily in the area of electrochemistry and modern physics, among others with Ernest Rutherford. Andrade additionally was active as a teacher and occupied various academic positions at well-known universities. Besides this, he also worked at the BBC as an announcer for the radio program "Brains Trust," for which he also gave a speech on the occasion of Planck's death.

3.2 Alfred Barneck (1885-1964)

Alfred Barneck[1] was a German mathematician. He wrote his condolence letter as a head high school teacher at the Max Planck School in Berlin-Zehlendorf, in the name of students and teachers. In his letter he writes

''...I am herewith sending you my deeply felt sympathy on the passing of your spouse, the great scientist and thinker. It is a special honor for me, and I think of it with profound emotion, that scarcely two months ago I was fortunate enough to see him and converse with him one more time. - I thank you greatly for having sent the photograph with your husband's signature; it came to my hands the day before his passing and represents a permanent reminder of him...''

[1] No English Wikipedia page available.

3.3 Franz Baur (1887-1977)

Franz Baur[2] was a German meteorologist who is known as the originator of the long-term weather forecast. As part of his research efforts, he produced important contributions to research on weather phenomena and the development of meteorological instruments and methods of measurement. His research concentrated on the dynamics of the atmosphere, the origin of weather events, and the interactions among various atmospheric systems. In his very personal letter, he writes, among other things,

‘‘I cannot express in words how deeply the passing of your husband, whom I admired beyond measure, has shattered me. May the universal admiration of your husband as a scientist and a human being and his religious faith in an eternal life be a comfort to you in your pain.’’

3.4 Gustav von Bergmann (1878-1955)

Gustav von Bergmann was a German internist and a professor of internal medicine in Berlin, among other places. Although professionally his specialty had nothing to do with Planck’s work, von Bergmann writes about his correspondence with Planck, in which the latter

‘‘...expressed with total clarity and precision what the medical psychological perspective can learn from modern physics and where, on the other hand, both disciplines cannot be brought together.’’

Although they did not meet very often, here one can see von Bergmann’s respect for Planck’s judgment.

3.5 Ernst Beutler (1885-1960)

Ernst Beutler was a German literary historian who devoted himself intensively to the works of Goethe. Along with others, he precipitated the construction of a Goethe Museum and the creation of a Goethe Prize by the City of Frankfurt [see also Section 5.13], and published a 24-volume Goethe edition.

[2] No English Wikipedia page available.

3.6 Vilhelm Bjerknes (1862-1951)

Vilhelm Bjerknes was a Norwegian physicist and meteorologist. In 1890 he became an assistant to Heinrich Hertz in Bonn, and in 1895 a Professor for Applied Mechanics and Mathematical Physics at the University of Stockholm. In 1907 he transferred to the University of Cristiania. In 1912 he was appointed to the University of Leipzig, where he became the Director of the Geophysical Institute. When conditions for research in Leipzig worsened drastically as a result of the First World War, Bjerknes returned to Norway in 1917 and founded the Geophysical Institute of Bergen. From 1926 to 1932 he worked at the University of Oslo. Bjerknes, who wanted to describe the dynamic processes in the atmosphere on an exact mathematical/physical basis, laid the foundation for today's numerical weather forecasting. His work on temperature, density, and currents was also of great importance for the development of oceanography. It is notable that he was the first to nominate Planck for the Nobel Prize in 1907, and repeated that two more times, in 1909 and 1912.[3]

3.7 Erich Boehringer (1897-1971)

Erich Boehringer[4] was a German archaeologist. He specialized in numismatics (the scientific study of money, particularly coins). In the 1930s he was a professor at the University of Greifswald. From 1937 on he was a member of the Nazi Party, and during the period 1940-1943 was a cultural attaché in the German embassy in Athens. From 1946 on he taught at the Georg August University of Göttingen, where he met Planck.

3.8 Hermann Boerner (1906-1982)

Hermann Boerner was a German mathematician. At first he had studied art history, but then quickly changed to mathematics and theoretical physics, where he did research in the area of analytical functions. Additionally, he lectured at the University of Munich and in Göttingen. From 1949 until he became emeritus in 1971, he taught at the University of Giessen.

3.9 Niels Bohr (1885-1962)

Niels Bohr was an important 20th-century Danish physicist and is primarily known for his pathfinding contributions to quantum theory and atomic physics. His work

[3] Source: Website of the Nobel Foundation. Planck was nominated a total of 74 times. Of the scientists who are mentioned in this document, he was nominated by Bjerknes, Bohr, Born, Einstein, Meyer, Millikan, Sommerfeld, von Laue.

[4] No English Wikipedia page available.

revolutionized our understanding of atomic structure and led to the development of the Bohr model. In 1922 he received the Nobel Prize for Physics "for his contributions to research on the structure of atoms and the radiation that they emit." Bohr had a close relationship with Max Planck, whose work on quantum physics inspired him and substantially influenced his own research. In particular, Planck's ideas on the quantization of the energy of electromagnetic radiation were decisive for Bohr's concept of discrete emission-free orbits and energy levels in atoms. In his letter, written in German, he writes, among other things,

''For every physicist it is an enormous loss that the researcher who created the foundation on which we all work is no longer with us. The deep impression of his splendid and pure personality is one of my most treasured experiences, and I will always remember with gratitude the friendship which he extended to me for many years...''

3.10 Max Born (1882-1970)

Max Born was an important German physicist and mathematician and one of the founders of quantum mechanics. Planck's quantum hypothesis strongly influenced Born's own research in the area of quantum mechanics and contributed to the further development of theories of quantum mechanics, for which he received the Nobel Prize in Physics in 1954, in particular for his statistical interpretation of the wave function. From 1921 to 1933 Born was a professor in Göttingen, and was then forcibly put on leave by the Hitler regime because of his Jewish origins. He emigrated to England, where, among other things, he was a professor at the University of Edinburgh. He returned to Germany in 1953. The relationship between Born and Planck was marked by mutual respect and intellectual exchange. As mentor and a pioneer of quantum physics, Planck had a lasting influence on Born's scientific development. The ideas and insights which Born gained from his collaborations and interactions with Planck bore fruit not only in his own work, but also in the further development of physics as a whole. His condolence letter also contains a lengthy letter from Born's wife, who underscores the close relationship of the families.

''It is impossible for me to express what I have lost through the death of your husband. I owe him my scientific development and my career; above and beyond that, he was a sterling example of noble humanity for me...''

3.11 Walther Bothe (1891-1957)

Walther Bothe was a German physicist who worked primarily in nuclear physics and in 1954 won the Nobel Prize for his discoveries using the coincidence method

he had developed. From 1908 on Bothe studied physics in Berlin, largely self-financed; later he received his Ph.D. as a student of Max Planck's at the Physical-Technical State Institute,[5] to which he returned after being a prisoner of war during the First World War. From the lines of his condolence letter to Marga Planck one can feel his deep devotion to Max Planck, his "infinitely admired and dear teacher." The letter is one of the most moving and personal of all the letters of condolence from all over the world. Bothe writes about Planck, for example,

''...that essentially he gave my entire scientific life and efforts direction and form. I always had before my eyes his picture as the unattainable ideal of rigorous scientific effort, and again and again I was privileged to experience his non-judgmental human goodness. I am fortunate to be able to count myself among his students and will never forget him...''

3.12 Albert Brackmann (1871-1952)

Albert Brackmann was a German historian, whose education took place in large part in Göttingen. He concerned himself primarily with medieval German history; during the National Socialist years, Brackmann was one of the most important writers of history colored by Nazism, particularly in the area of research on the lands to the east of Germany. He continued this work even after he retired, and, in collaboration with others, wrote the white paper "Germanization of Posen and West Prussia." Despite this he was able to convince a denazification committee that he should not be prosecuted, since he had always expressed opposition to Walter Frank, a historian colleague who was a committed anti-Semite.

3.13 William Lawrence Bragg (1890-1971)

William Lawrence Bragg was an important Australian/British physicist who in 1915 won the Nobel Prize for his discoveries in the analysis of crystal structures using X-rays. At the time he was only 25 years old, making him the youngest Nobel prizewinner in the history of physics. His research revolutionized the understanding of crystal structures and had interdisciplinary effects also on chemistry and biology. His letter of condolence was written also in the name of the Cavendish Laboratory (see Section 5.8).

3.14 Wernher von Braun (1912-1977)

Wernher von Braun was one of the leading German figures of the 20th century in

[5] Physikalisch-Technische Reichsanstalt Berlin

the areas of rocket science and space exploration. Von Braun began his career in the 1930s, when he began to be interested in the development of rockets and became a member of the Association for Space Flight. During the Second World War he led the Nazi rocket program, which led to the development of the V-2 rocket, one of the first ballistic rockets. After the war he was recruited into Operation Paperclip by the United States, took part in the founding of NASA, and led the team that developed the Saturn V rocket, the heavy-lift launch vehicle that took the Apollo astronauts into space. His letter of condolence is one of the most detailed in the collection, and is formulated in a very personal tone. Among other things, Von Braun writes:

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‘‘...A world is mourning Max Planck. It isn’t every
day that a man like him leaves this earth in order
to take his place among the immortals, a place that
he deserves and that no one who knows who Max Planck
was would dispute... There still does exist a world
of the intellect, a world which bows in humility before
the great ones and, in the light that these have brought
to humanity, can forget earthly strife! The old, honored
councilor, whose life was lived in the service of the
battle for truth and knowledge, thus has brought light
into the darkness of this distorted world even through
his death.’’
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Other details were already noted in Ref. [4].

3.15 Louis de Broglie (1892-1987)

Louis de Broglie was a French physicist who is known for his work in the area of quantum mechanics. He formulated the so-called de Broglie wavelength hypothesis, which states that particles of matter such as electrons also have wavelike properties. This idea revolutionized our understanding of the nature of matter and contributed greatly to the development of quantum mechanics. For his discoveries, in 1929 de Broglie received the Nobel Prize in Physics. Max Planck also nominated him for the Max Planck medal for Theoretical Physics which was awarded to de Broglie in 1938, as is described in some detail in Section 3.45.

3.16 Adolf Butenandt (1903-1995)

Adolf Butenandt was a German biochemist who is known for his discoveries in the field of sex hormones. His work on the isolation and identification of hormones such as estrone, progesterone, and testosterone contributed greatly to the understanding of endocrine regulation and to the development of medicine. Along with

numerous other prizes and awards, in 1939 Butenandt received the Nobel Prize in Chemistry for his work in this field. In his letter he writes

‘‘...an incalculably large community throughout the world is mourning with you, and has grown much the poorer through the final departure of this unique person. Especially our Germany, already so beaten down, has reason for melancholy, but how thankful we still must be that a kind fate gave us a man for so long whose honored name gave proof of the undiminished purity of German science and research, and who alone was capable of and willing to go over the small bridge over which a new connecting relationship to the rest of the world is to be forged! We thank your husband for endless things, but we feel a particular gratitude for his existence in the last few years...

... I owe my appointment to Dahlem in 1936 to the untiring efforts of your spouse, and the institute owes him its redesign at the time to one of the best research facilities in the world. We could preserve only the Dahlem Institute goals necessary for life throughout the war, but the brilliance of the “Dahlem Time” remains, and only in all of us the obligation to achievement under the motto “and nevertheless” remains in our hearts, according to the admirable example of our esteemed deceased...’’

3.17 Johannes Burgers (1895-1981)

Johannes Burgers was a Dutch physicist who also did research in the field of applied mathematics. Burgers equations and Burgers turbulence model of fluid mechanics both stem from him. Johannes Burgers wrote his letter of condolence as the Deputy Secretary of the Royal Dutch Academy of Sciences, of which Max Planck had been a member since 1926.

3.18 Guido Castelnuovo (1865-1952)

Guido Castelnuovo was an Italian mathematician who did research in the field of algebraic geometry. He was a member of several academies and societies and also the president of the “Accademia dei Lincei” (Academy of the Lynx-Like), the first private institution devoted to the promotion of the natural sciences in Europe. His letter of condolence is the only one in this collection to have been written in Italian.

3.19 Karl Chudoba (1898-1976)

Karl Chudoba[6] was a German mineralogist and petrologist (the study of the characteristics of stone and its uses). In his letter of condolence he writes of "mutually experienced hours in Bonn" with Max Planck, where he was long-time rector of the Friedrich Wilhelm University.

3.20 Erika Cremer (1900-1996)

Erika Cremer was a German chemist. She studied chemistry, physics, and mathematics at the University of Berlin, with, among others, Max Planck, and received her Ph.D. there in 1925 with a thesis on the chlorine-oxyhydrogen reaction. Beyond that, Cremer was one of the first women in Germany to be appointed to a professorship for chemistry, and was one of the most important people in the development of gas chromatography. In her letter she writes

''...The death of our greatest physicist has thrown the entire scientific world into mourning. Among the mourners, those who experience his passing with special pain are those who had the very rare good fortune of being able to count Max Planck among their academic teachers. Since I can also count myself among these privileged few who this man, equally outstanding as a human being and as a researcher, treated "as a scientist and a friend" - I am here citing his own words - please permit me ... to express to you my profound condolences...''

3.21 Marianus Czerny (1896-1985)

Marianus Czerny was a German experimental physicist who concentrated largely on measurement methods of infrared spectroscopy. Marga Planck did not receive his condolence letter on Max Planck's death until February of the next year. The reason for the delay was that at the time Czerny was living in America.

3.22 Jean D'Ans (1881-1969)

Jean D'Ans[7] was a German chemist and wrote his letter of sympathy as a representative of the Technical University of Berlin (see Section 5.32). Additionally he emphasized that, by virtue of his advanced age, Planck was able to

[6] No English Wikipedia page available.
[7] No English Wikipedia page available.

‘‘...experience to the fullest the
revolutionary consequences of his work.’’

D’Ans himself performed research in both inorganic and organic chemistry on potassium salts and peroxides. Furthermore, the mineral D’Ansite is named after him.

3.23 Max Delbrück (1906-1981)

Max Delbrück studied astronomy and physics in Göttingen, achieving his Ph.D. in theoretical physics, before he then turned to biology. His interest in genetics drew him to research on bacteriophages, or viruses that infect bacteria. Together with Salvador Luria and Alfred Hershey, in 1969 he received the Nobel Prize for Physiology or Medicine for their work on the replication and structure of genetic material of viruses. He had emigrated to the United States, and his expression of sympathy therefore arrived late, but it mentions the close relationship of both families. He writes, in part,

‘‘...the sad news of the passing of your much admired
husband, for us one of the dearest friends of the family,
brought back many memories. I believe I last saw him at
the celebration of the 90th anniversary of the German
Physical Society, where he recounted his memories of
Helmholtz, Heinrich Hertz, and others...’’

This celebration took place in January 1935 [12].

3.24 Hermann Diesselhorst (1870-1961)

Hermann Diesselhorst,[8] whose full name was Hermann Georg Heinrich Diesselhorst, was a German physicist and professor in Braunschweig. He calls himself one of Planck’s “oldest students,” and states that he

‘‘...never had more respect and admiration
for another human being...’’.

3.25 Hans Drexler (1895-1984)

Hans Drexler[9] was a German philologist of ancient languages. In his letter he writes

[8] No English Wikipedia page available.
[9] No English Wikipedia page available.

‘‘...Your honored husband belonged to not only one family, but to all civilized persons. He was one of the great pathfinders of knowledge, and he was as great a human being as he was a man of science. And it is that which must diminish the bitter suffering of mourning for you: he was given a full, rich, and great life, a life rich with work and success, with moral strength and pain....’’

3.26 Robert Durrer (1890-1978)

Robert Durrer was a Swiss metallurgist who performed research in the field of steel production. On the basis of his foundational research, the Linz-Donawitz process of high-quality steel production should actually be named the Linz-Durrer process.

3.27 Albert Einstein (1879-1955)

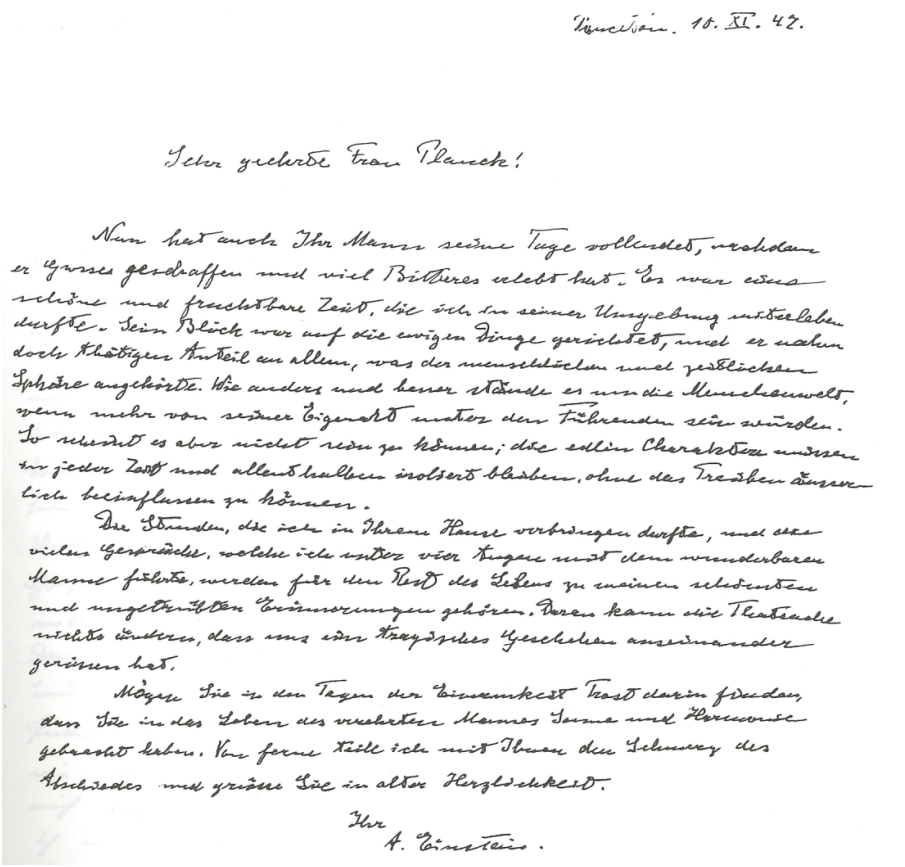
Albert Einstein was, like Max Planck, one of the most important scientists of the first half of the 20th century. He became famous primarily by virtue of his development of the special and general theories of relativity. He greatly contributed to the acceptance of Planck’s quantum theory through his explanation of the photoelectric effect using Planck’s photon hypothesis, for which he won the Nobel Prize for Physics in 1921. Planck and Einstein were very close friends, which has been the subject of a number of books [13].[10] In his letter of condolence to Marga Planck, he writes, among other things,

‘‘...Now your husband, too, has ended his days, after he has produced great work and survived many bitter experiences. It was a beautiful and fruitful time that I was allowed to spend in his company. His vision was fastened on eternal things, and he took an active part in everything that belonged to the human and spiritual sphere...

The hours that I was allowed to pass in your house, and the many conversations that I enjoyed alone with the great man will belong to my best and most clear memories for the rest of my life. This can in no way be changed by the fact that we were torn apart by tragic events.’’

Einstein’s letter was (no longer) in Planck’s papers when they arrived in Kiel in 2020. In Illustration 3.1 we reproduce a copy of the entire letter from Ref. [7].

[10] At the same time, Einstein was very critical of the behavior of a number of his physicist colleagues during the Third Reich [14].



Princeton. 16. XI. 42.

Sehr geehrte Frau Planck!

Nun hat auch Ihr Mann seine Tage vollendet, nachdem er Grosses geschaffen und viel Bitteres erlebt hat. Es war eine schöne und fruchtbare Zeit, die ich in seiner Umgebung miterleben durfte. Sein Blick war auf die ewigen Dinge gerichtet, und er nahm doch thätigen Anteil an allem, was der menschlichen und geistlichen Sphäre angehörte. Wie anders und besser stände es um die Menschenwelt, wenn mehr von seiner Eigenart unter den führenden Leute würden. So scheint es aber nicht recht zu können; die edlen Charaktere müssen in jeder Zeit und allenthalben isoliert bleiben, ohne das Treiben äusserlich beeinflussen zu können.

Die Stunden, die ich in Ihrem Hause verbringen durfte, und die vielen Gespräche, welche ich unter vier Augen mit dem wunderbaren Manne führte, werden für den Rest des Lebens zu meinen schönsten und ungetrübten Erinnerungen gehören. Daran kann die Tragödie nichts ändern, dass uns ein tragisches Geschehen auseinander gerissen hat.

Mögen Sie in den Tagen der Einsamkeit Trost darin finden, dass Sie in des Lebens des verehrten Mannes Sonne und Herrlichkeit gebraucht haben. Von ferne teile ich mit Ihnen den Schmerz des Abschiedes und grüsse Sie in alter Herzlichkeit.

Ihr
A. Einstein.

Figure 3.1: Einstein's letter of condolence (from reference. [7]). The transcription (an excerpt) can be found in Section 3.27.

3.28 Carl August Emge (1886-1970)

Carl August Emge[11] was a German legal philosopher and sociologist who wrote numerous books and papers in this field. During the Nazi period he was heavily involved in politics. He joined the Nazi party already in 1931 and was one of the initiators of a call to vote for it on July 29, 1932. After the Second World War he became a professor in Würzburg. In his letter he writes

''... I had the good fortune to be able to speak very often with the now deceased. I am indebted to him for kind words

[11] No English Wikipedia page available.

after my last lecture at the Prussian Academy of Sciences,
where we often saw each other....
...aside from the pride of having known such an august
personality, the impression of this distinguished human
being on our further life will be inestimable...''

3.29 Hermann Entholdt (1870-1957)

Hermann Entholdt[12] was a German historian and archive director, among other places, at the State Library of Bremen.

3.30 Hans von Euler (1873-1964)

Hans von Euler (von Euler-Chelpin) was a German-Swedish biochemist who was born in Germany and took Swedish citizenship in 1902. He held numerous posts as a senior lecturer and professor at various universities and did research on the joint effects of materials such as enzymes, vitamins, and hormones on the body's absorption of food. In 1929, together with Arthur Harden, he received the Nobel Prize for Chemistry for his discoveries in the area of the fermentation of sugar. Euler had close ties to National Socialism. Thus in 1937 he became the chairman of the Stockholm section of the Reich Unification Sweden-Germany and furthered its "Nazification," according to the Swedish police.

3.31 Enrico Fermi (1901-1954)

Enrico Fermi was an important Italian physicist of the 20th century. In his early years Fermi already showed a talent for physics and produced important contributions to quantum mechanics. He became well-known particularly for the application of quantum statistics to particles with half-integer spin, which became known as Fermi-Dirac statistics. In 1938 Fermi was awarded the Nobel Prize for Physics for his accomplishments. Fermi left a great scientific legacy which is of significance even today, as one can easily see from the numerous physical measurements and effects named after him (fermion, Fermi energy, Fermi's Golden Rule, Fermi paradox...). Planck and Fermi belonged to different generations and knew each other only slightly. Thus Fermi's condolence is but brief. He writes, in part,

''I wish to express to his family my deepest regret for
this loss, which removes from scientific activity one
of the great masters.''

[12] No English Wikipedia page available.

3.32 Martin Ficker (1886-1950)

Martin Ficker[13] was a German bacteriologist, who spent much of his life in Sao Paulo. He first went to the bacteriological institute there in 1913 and returned in 1917. In 1923 he went back to Sao Paulo in order to found his own bacteriological laboratory. He remained there to the end of his life. His connection to the Planck family is demonstrated by his regular correspondence with them even after Max Planck's death.

3.33 Heinrich von Ficker (1881-1957)

Heinrich von Ficker[14] was an Austrian meteorologist and physicist, who wrote in his capacity as president of the Austrian Academy of Sciences. Among other things, he studied air currents and their connection to cold fronts and heat waves. He was also a mountain climber and, during the Second World War, a member of the National Socialist air corps.

3.34 Eugen Fischer (1874-1967)

Eugen Fischer was a German anthropologist and biologist, known for his work in "racial hygiene" and eugenics. Between 1918 and 1927 Fischer was a professor at the University of Freiburg and Director of the Anatomical Institute there. From 1927 until 1942 he held the position of the Chair of Anthropology at the Friedrich Wilhelm University in Berlin. From 1933 to 1935 he was the Rector of the University of Berlin. His work "An Outline of Human Heritability Science and Eugenics" from 1921 supported racist ideologies. In 1937, along with other professors, he pushed through the forced sterilization of many so-called "Rheinland bastards" [15], which even at that time was illegal. In his letter he writes

''...The news we have just received about the death of your greatly esteemed spouse has sent me into sincere grief. Our cherished president, who was like a good father to all of us, the whole time that he led the destiny of the KWG, our pride and our almost reverent love! None of us in the ranks of the KWG will ever be able to forget him! And it is difficult to realize that the dear eyes which looked at one with such kindness in every discussion and consultation are now closed forever...''

[13] No English Wikipedia page available.
[14] No English Wikipedia page available.

3.35 Adrian Daniel Fokker (1887-1972)

Adrian Daniel Fokker was a Dutch physicist and musician. He became well-known for his contributions to statistical physics (the Fokker-Planck equation) and to the theory of relativity. He studied physics at the University of Leiden and had close contact to well-known physicists such as Albert Einstein and Lise Meitner. In 1938, along with Dirk Costner, he helped Meitner flee Austria and settle in the Netherlands. From 1942 on he discovered the field of music and music theory on his own and as a result even developed new instruments. In his condolence letter to Marga Planck he also writes about an essay of Planck's on music and asks for "a small remembrance [...], a quotidian thing which he [Max Planck] often used."

3.36 Ludwig Föppl (1887-1976)

Ludwig Föppl was a German statistician. During the First World War he worked as a cryptographer with a German radio and communications unit. In this position he deciphered numerous Allied codes. There is also another letter that he wrote and signed as a representative of the Technical College of Munich (see Section 5.31).

3.37 Otto Föppl (1885-1963)

Otto Föppl[15] was a German engineer and professor in Braunschweig. He was a longtime friend of the Planck family. In his letter he describes how Planck

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''...about 45 years ago bicycled from the Tegernsee
to Ammerland for the first time, in order to pick
you [Marga] up...''.
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3.38 James Franck (1882-1964)

James Franck was a German physicist who later emigrated to the United States and became an American citizen. James Franck knew Max Planck well from his time in Berlin. After 1918 he was the head of the physics department at the Kaiser Wilhelm Institute for Physical Chemistry in Berlin-Dahlem under Fritz Haber. In 1920 he was called to the University of Göttingen as a professor for experimental physics. On April 17, 1933, he resigned his professorship in protest of "the removal of all Jews from state positions," which caused much uproar. In 1934 Franck emigrated with his family to the USA, where, among other things, he received professorships in Baltimore and Chicago. Franck, an excellent experimental physicist, performed

[15] No English Wikipedia page available.

important experiments relating to quantum mechanics, among them the famous Franck-Hertz experiment, which contributed to the understanding of the quantum nature of the atom. Franck himself, along with Gustav Hertz, received the Nobel Prize for Physics in 1925 for his contributions to atomic physics, in particular for the Franck-Hertz experiment. Franck highly esteemed Planck's intellectual rigorousness and his reputation as a leading pioneer of quantum theory. In his long letter of condolence he writes, among other things,

''...the world's scientists mourn with you, particularly
those to whom not only the scientific accomplishments of
the great scholar are sacred, but who have also experienced
the greatness of his noble humanity in both good and bad
times...

In these times, when one often is tempted to despair
about humanity, I have always felt it to be a great
comfort that there are men like Max Planck in this world.''

3.39 Emil Frey (1888-1977)

Emil Frey[16] was a German surgeon who, after his habilitation under Ferdinand Sauerbruch, did research in the field of lung surgery. Above and beyond that, he saw action as a field surgeon in both world wars. He, too, was well acquainted with the Plancks and writes that for him,

''Uncle Max was always a shining example
in [his] academic career.''

3.40 Richard Gans (1880-1954)

Richard Gans was a German physicist. He studied in Hanover, performed research in Heidelberg as an assistant to Georg Quincke and in Tübingen as an associate of Friedrich Paschen. Later he taught in Strasbourg and from 1912 to 1925 was a professor at the university in La Plata, Argentina. From 1925 to 1935 he was a professor at the University of Königsberg. Because of his Jewish heritage, Gans was forced to retire in 1935, but he remained in Germany. After the Second World War he emigrated to Argentina, where he occupied various physics professorships until 1953. Gans concentrated on the field of optics, in particular the scattering of light by microparticles in gases and liquids. His close relationship to Planck becomes evident from his letter of condolence:

[16]No English Wikipedia page available.

‘‘...Everyone knows that one of the greatest scholars in the world is no longer with us. To speak of that any further is not appropriate. But only those who knew him personally are aware what a splendid human being is now lost to his friends and acquaintances. Just recently I had the pleasure of reading some of your husband’s memories from his college days, which he had sent to me. I will always hold him in high honor and in my fondest memories....’’

Further information on Richard Gans can be found in Ref. [16].

3.41 Walther Gerlach (1889-1979)

Walther Gerlach was a German physicist who was primarily known for the famous Stern-Gerlach experiment, which he carried out at the urging of Otto Stern. This experiment confirmed the quantization of the magnetic moment of atoms (directional quantization) and laid the foundation for the development of the concept of spin. Gerlach studied physics in Tübingen and Munich, and received his doctorate in 1912 in Frankfurt. During the First World War he served as a field artillery officer. In addition to his contributions to quantum mechanics, Gerlach also worked in the fields of atomic physics and nuclear physics. During the Second World War he participated in the development of torpedoes. In 1943 he was appointed deputy head of nuclear physics for the German Uranium Project by Göring, although not with the goal of building an atom bomb. After the war he actively supported the rebuilding of German scientific capabilities and was instrumental in the founding of the Max Planck Institute for Physics in Göttingen. In addition to his letter, there is also a letter from Ruth Gerlach where she writes

‘‘...Now your husband’s little light, which last winter in Bonn you had re-lit with such moving patience and effort, was not able to keep burning for long, and you have had to experience difficult days until it finally went out completely.

...now you have been left alone and after so many weeks of illness and after the final farewell and after the endless keeping your chin up, now finally your grief will close in on you after such a long life together and so many difficult months and the last several years...

Dear esteemed Mrs. Planck, now as back then in winter and spring in Bonn I have sincerely and in a heartfelt manner felt myself your suffering for your husband, for whom now the entire world mourns.’’

Walter Gerlach himself writes

‘‘I scarcely dare to write you for the first time since the death of your husband. Due to difficult external circumstances I received the news of his passing more than a week late; then came the renewed worsening of our problem - you have already heard this in Goettingen; I am still in Bonn myself, but only with limited permission to stay. I wanted to send you some photos, which didn’t come until today - in short, I couldn’t find any peace, was only afraid of writing you a letter. The weeks in Bonn are still too real before my eyes - therefore it is a far too depressing thought that your husband is no longer among us. Last Friday we had a very dignified memorial service here, at the same spot where your husband spoke to the young academics for the last time, the students had decorated the lecture hall with mourning boughs...’’

3.42 Hans Gerstinger (1885-1971)

Hans Gerstinger[17] was an Austrian philologist of ancient languages and a college teacher.

3.43 Richard Goldschmidt (1878-1958)

Richard Goldschmidt was a German-American biologist, who was born in Frankfurt on the Main. Goldschmidt studied at the University of Munich and received his doctorate in zoology in 1902. At first he worked in Germany, but then emigrated to the USA because of the political climate. There Goldschmidt continued his research at the University of California in Berkeley, where he continued to be active until his death in 1958. His experiments and theories are concentrated on the mechanisms of evolution and the origin of new species. In his letter he writes

‘‘...Here the newspapers brought the news which at some point would have to come: the world is the poorer for the loss of one of its greatest. I hope that he was able to keep all his faculties about him up until his death, and that the cruelty of time touched him only very sparingly. I don’t need to mention the scientist: he belongs to all of humanity. But my thoughts drift back to the unfortunately all too few occasions on which I was fortunate enough to see Planck the human being. I think about the time I was able to hear him play the Trout

[17] No English Wikipedia page available.

Quintet in the Harnackhaus; I think about the amicable and tranquil boat tour that we took in Frankfurt. I think about the devastating visit at which he pleaded with me with tears in his eyes not to emigrate. His idealism and his belief in the German spirit did not allow him to imagine that I was literally saving my life. Much has happened since that time, and the great idealist has had to learn what it means when a people are simultaneously idealistic and bestial. I wish that just once in the last several years I could have seen into his heart. He must have suffered greatly.

May I ask you, dear lady, to accept these lines in the spirit in which they are written; as the expression of a deep sympathy with a great man whom fate had placed in a tragic and cruel time. I have been extremely fortunate to have met many truly great human beings in my life. Max Planck was one of the greatest, and his memory takes a seat of honor in my heart.''

3.44 Franz Grosse-Brockhoff (1907-1981)

Franz Grosse-Brockhoff[18] was a German physician. He studied medicine and passed the state examination in Bonn in 1932. Thereafter he was active as an intern in Göttingen and in Bonn. During the Third Reich he was a member of both the Nazi party and the SA [Hitler's storm troops]. In 1945 he became the senior physician at the university clinic in Bonn. There in 1946 he apparently treated Max Planck after he suffered an attack of debility during a lecture in Bonn, to which he makes reference in his condolences:

''...The months which the esteemed councilor spent with you [Marga] in the clinic meant, for those of us who were privileged to treat him, too much to simply send off our sympathy as the expression of an official statement...''

3.45 Walter Grotrian (1890-1954)

Walter Grotrian was a German astrophysicist. During his career, in which he concentrated primarily on spectroscopy, he was, among other things, an observer at the Einstein Institute in Potsdam and, from 1941 on, the managing director of the German Physical Society. Grotrian was also instrumental in the planning of

[18] No English Wikipedia page available.

a big celebration for Planck's 80th birthday [17], at which the comedic play he had written, "The Precise Determination of the Planckian Action Quantum" was performed, including performances by, among others, Peter Debye, Walther Gerlach (Section 3.41), Werner Heisenberg und Arnold Sommerfeld (Section 3.105). In his letter of condolence, which is also signed by his wife Mädi, he portrays Max Planck as a

''...fatherly friend, who, filled with kindness and deep human understanding, took loving part in our destiny. Our thoughts wander back into the past of the years before the war, when we were privileged to pass many an unforgettable evening in the company of your family in your beautiful home in Grunewald. We then think especially of the celebration of his 80th birthday, when he was still in complete possession of his faculties and exchanged such fateful words with Francois-Poncet.[19] Then difficult and terrible years came down on you and him, but with almost superhuman energy, right up to the final moment, he put his efforts in the service of science and teaching humanity about final and most profound questions. Thus he stands before our eyes as a shining example of the highest and most noble humanity.''

3.46 Axel von Harnack (1895-1974)

Axel von Harnack was a German historian, philologist, and librarian.

3.47 Max Hartmann (1876-1962)

Max Hartmann was a German zoologist and nature philosopher who performed research in the area of the physiology of fertilization and sexuality and, among other things, coined the term "termon" for a hormone-like substance. Since the Hartmanns were both friends of Max Planck, a note from Luise Hartmann was included in his letter of condolence.

[19] In 1938 Max Planck insisted that the Max Planck Medal be again awarded. The Prize Committee awarded it, following Planck's wishes, to Louis de Broglie (see section 3.15). Due to illness, the prize's recipient could not attend the celebration on April 23, 1938, and was represented by the French ambassador, André François-Poncet. In his speech Planck expressed his desire ''...for a true and permanent peace which makes possible undisturbed, productive work on both sides. May a kind fate allow that Germany and France find their way to each other, before it becomes too late for Europe...'' In his answer, François-Poncet called Planck "the brilliant founder of modern physics," at whose feet he "symbolically laid a branch from the French laurel or-chard" [18]. This dialogue caused displeasure among the representatives of the Hitler regime.

3.48 Sven Hedin (1865-1952)

Sven Hedin was a Swedish geographer and explorer. He undertook numerous expeditions, above all through the mountains and deserts of Asia such as the Gobi, Transhimalaya, Tarim Basin, and Pamir. His trips were often marked by adventure and deprivation, but they also served greatly in the exploration and mapping of these far-off regions. Hedin documented not only geographic details, but also cultural, ethnographic, and archaeological aspects of the areas he traveled to. Hedin admired the Third Reich and Adolf Hitler and made that known publicly. At the same time he also let it be known that his contacts to leaders of the National Socialist movement, who used him for their own purposes, had made it possible for him to save numerous victims of National Socialism from execution or death in death camps.

3.49 Burckhardt Helferich (1887-1982)

Burckhardt Helferich was a German chemist who published over 300 works during the course of his life. Moreover, he was the first to succeed in synthesizing a disaccharide. From 1922 on he was a professor of organic chemistry at, among other places, the universities of Frankfurt, Greifswald, and Leipzig, and, after the Second World War, in Bonn.

3.50 Gerhard Hettner (1892-1968)

Gerhard Hettner[20] was a German physicist who did research on the absorption spectrum of hydrogen. In 1935 he became a professor of theoretical physics at the University of Jena. After the end of the war he was the head of the Institute for Theoretical Physics at the Technical University of Munich until 1961. In his extensive condolence he describes his relationship to Planck and his admiration for him, and calls himself his student.[21] He writes

‘‘...When in September I was able to visit your dear spouse in his sickbed, I did not think that the end was so near. But it will be a comfort to you that he was spared further suffering and an altogether too long painful illness, and that he found peace from a life that had been dedicated to work, obligations, and the well-being of others.

[20] No English Wikipedia page available.

[21] Hettner was well familiar with Planck’s work on blackbody radiation and his collaboration with the experimental groups. He gave interesting details in a memorial article for Heinrich Rubens [19]; see also Section 3.88.

Not only the relatives, friends, colleagues, and students of your husband, but the entire educated world shares in your loss. Even though as a former student of your husband's I can humbly express my profound affection and sympathy, I do it as part of my supreme admiration for him. I can still remember how proud I was when my father intimated to me, as a young student at the University of Berlin, that in a conversation with him your spouse had spoken not unfavorably of my scientific achievements. I have the impression that he always remained kindly disposed toward me, and I know that I owe him a great deal of gratitude. I hardly need to assure you that I will remain conscious of this throughout my entire life.

The terrible strokes of fate which you and your husband have had to endure in your family have always moved me beyond words, and I have admired the strength of character with which your husband bore them.''

3.51 William Vallance Hodge (1903-1975)

William Vallence Hodge was a British mathematician whose principal areas of study were algebraic geometry and differential geometry. Today his name is associated with numerous concepts such as the Hodge conjecture, Hodge decomposition, Hodge manifold, and many others. In his letter of condolence he expresses his sympathy to Marga Planck in the name of the entire Cambridge Philosophical Society, of which Planck was a member for 33 years (see section 5.7).

3.52 Walther Huth (1875-1964)

Walther Huth was interested in many aspects of science and technology, but started out first with a military career. After subsequent studies with an emphasis on biology, he began to become interested in airplane manufacturing and ultimately founded the Albatros Airplane Works. After the end of the First World War and the resultant limitations placed on the construction of airplanes, he became the president of the National Federation of the German Aerospace Industry. In his letter he writes

‘‘...What the world has lost with your husband belongs to the history of human science. What you, dear lady, have lost can only be judged by someone who not only respected the world-famous researcher in him, but also was able to know him personally. Such hours lent our life the richest contents.

His great goodness, his human understanding, his deep connection to God's creation were a gift; human beings can receive none more valuable. The world owes to his life's work not only the greatest progress in scientific disciplines but also in matters of ideals, world view, and religion. I personally am indebted to him for the most valuable possession. His works and letters have given me insights and inspirations such as I have never experienced from any other scientist. They fill up the work of my golden years, and always gave me peace.''

3.53 Pascual Jordan (1902-1980)

Pascual Jordan was a German physicist and was instrumental in the development and mathematical formulation of quantum mechanics. In addition, he was one of the founders of quantum field theory. He designed a mathematical structure for the treatment of problems in quantum mechanics, which today is known as Jordan algebra. From 1935 on he was additionally a full professor of physics at the University of Rostock, from 1944 to 1945 at the University of Berlin, and finally from 1953 to 1971 at the University of Hamburg. In his condolence letter to Marga Planck he describes how Max Planck's work influenced him. He wrote, among other things,

''...I personally am indebted to him - as are most of the physicists of my generation - for the entire content and the entire purpose of my own scientific life's work...''

Further details were given in Reference [4].

3.54 Ioannis Kalitsounakis (1878-1966)

Ioannis Kalitsounakis[22] was a Greek historian who specialized in the history of the Byzantinian empire. He was a founding member of the Academy of Athens, and his condolence letter was also written in the name of the Academy in his function as its president (see Section 5.6).

3.55 Hartmut Kallmann (1896-1978)

Hartmut Kallmann was a German physicist and received his doctorate in physics in 1920 under Max Planck, after first having studied chemistry. Among other things, he discovered the scintillation process for the measurement of alpha particles. During his lifetime he applied for approximately 70 patents.

[22] No English Wikipedia page available.

3.56 Heinz Kindermann (1894-1985)

Heinz Kindermann[23] was an Austrian academic in literary studies and studied German, Romance Languages, Scandinavian Languages, and Philosophy in Vienna and Berlin. He joined the Nazi party early on, supported it, and in 1936, by order of the Reich Ministry of Education, became a professor in the School of Philosophy in Münster. On the basis of his numerous publications, all riddled with National Socialist thinking, he is regarded as one of the most important Nazi proponents among literary specialists. After the Second World War he was at first relieved of his position, but was later rehabilitated and received a professorship in Vienna. For the rest of his life he devoted himself mainly to cultural history. In his letter he writes

‘‘...I read of the passing of your spouse with deep emotion. You know how much I esteemed him and how well we got along whenever we met. With heartfelt sympathy my thoughts are with you in these days. I will faithfully remember your spouse and all our conversations about the world of the future, also the ones most meaningful to me concerning Goethe, and will carry them with me for the rest of my life as a precious legacy from one of the greatest scholars and human beings of our age.’’

3.57 Walther Kossel (1888-1956)

Walther Kossel was a German physicist who received his doctorate under Philip Lenard and achieved his habilitation under Arnold Sommerfeld (see Section 3.105). In 1907-1908 he studied in Berlin, where he also heard lectures given by Max Planck. From 1921 to 1932 Kossel was a professor of theoretical physics in Kiel, as well as the rector of the CAU Kiel in 1929/30, and thus became a successor to Max Planck. From 1945 to 1953 he was a professor of theoretical physics at the University of Tübingen. He was a recipient of the Max Planck Medal and was nominated for the Nobel Prize eight times. Kossel did research primarily in the area of atomic structure and formulated many theories, such as the valence theory and the Kossel-Stranski theory. In his extensive, very personal letter, he writes, among other things,

‘‘...How thankful the entire German scientific establishment should be to him for having devoted his person in all its dignity to it. How much this meant for the recognition of its worth in Germany and abroad!...
The longer one muses on the ranking of his mind in the history of thought - perhaps moved to reflection by outside

[23] No English Wikipedia page available.

circumstances - the more clear its timeless measure becomes. Such an achievement was never even considered in all the efforts regarding the atom over the centuries; today it stands, indispensable, at his side, firmly grounded, yet still an object of astonishment. Complete comprehension may still take the work of generations.''

3.58 Werner Köster (1896-1989)

Werner Köster[24] was a German chemist who specialized in various subjects in the area of metals research, among other things in new materials for permanent magnets, how to handle heated metals, and their distortion. In 1934 he became a professor at the Technical University of Stuttgart and Director of the Kaiser Wilhelm Institute for Metals Research in Stuttgart. The opening celebration, at which Max Planck was also present, is described in detail in his letter of condolence:

``...The opening celebration of my institute is one of my fondest memories simply because of the presence of your husband. Back then he drank to the success of the Institute from a golden goblet at the gate to the building.''

3.59 Richard Kuhn (1900-1967)

Richard Kuhn was born in Vienna in 1900, where he was in the same class as Wolfgang Pauli from 1910 to 1918. He also began his studies of chemistry there, but soon transferred to the Ludwig Maximilian University of Munich. In 1938 he was the first person to crystallize vitamin B6; in the same year, he won the Nobel Prize in Chemistry for his research on carotinoids and vitamins. He expressed his condolences in the name of the Kaiser Wilhelm Institute for Medical Research in Heidelberg, whose director he had been since 1937 (see Section 5.21).

3.60 Alfred Kühn (1885-1986)

Alfred Kühn, a German zoologist and geneticist, studied in Freiburg and also became a professor there in 1914. In his condolence letter he writes what a

``deep impression... on everyone this life completely dedicated to striving for the ideal and doing one's duty had to make, a life which right up to the end was filled with research and bearing witness to the achieved

[24] No English Wikipedia page available.

view of nature and the world. Max Planck will always be
a supreme model to us.''

3.61 Gerard Peter Kuiper (1905-1973)

Gerard Peter Kuiper was a Dutch astronomer. Many know his name primarily from the name given to the area in the solar system beyond the orbit of Neptune with numerous little heavenly objects – the so-called Kuiper belt. Kuiper concentrated on the exploration of the solar system; thus, he proved that there was carbon dioxide in the atmosphere of Mars and discovered the atmospheres of moons such as Titan, Miranda, and Nereid. Additionally, he was involved in the Apollo Program during the 60s. In his brief condolence, he writes, among other things,

''May I offer you my sympathy on this great loss.
Your husband will be remembered through the ages as one
of the greatest scientists. I consider it a privilege
that I had an occasion to meet both of you in 1945.''

With that innocent-sounding last sentence, Kuiper is alluding to the 16th of May, 1945. Marga and Max Planck had lived through the last months of the war in Rogätz near Magdeburg – an area that until very recently had been the scene of active battles and which would shortly become a part of the Soviet Occupation Zone. It was Gerard Kuiper, who at the time was in the service of the ALSOS mission of the US Army, who set out on a risky trip into war territory with a Jeep and a driver, managed to find Marga and Max Planck, and offered to take them into the British Zone, to Göttingen [13]. The Plancks gratefully accepted, and Max spent the last two and a half years of his life in Göttingen.

3.62 Rudolf Ladenburg (1882-1952)

Rudolf Ladenburg was a German physicist who emigrated to the United States in 1932. He did research in quantum physics, the field newly opened by Max Planck. In his letter of condolence he mentions, among other things, a "little book" he had written, "On the Experimental Determination of Planck's Quantum Effect;" moreover, he also succeeded in being the first to confirm experimentally emission stimulated by radiation. Born in Kiel, in 1947 he wrote to Marga Planck "that mourning for Max Planck affects everyone even here, so far away."

3.63 Minna Lang (1891-1959)

Minna (Wilhelmine) Lang[25] was born in 1891 in Zakrze in Silesia, and in 1917

[25] No English Wikipedia page available.

was the first woman to receive a doctorate from the University of Frankfurt, with a dissertation on the subject of "Absorption of Hard X-Rays in Gases." Thereafter she became a teacher in Meiningen. When in 1933 she was accused by the Nazi Party of spreading the theories "of the Jew Einstein," she turned to Max Planck and asked him to take a public stance on the matter. Planck wrote to her on January 2nd, 1933: "As far as I am concerned, for years I have spoken and written most clearly of my high regard for his great scientific accomplishments and have presented my reasons for that. But due to certain highly unpleasant experiences I have ultimately given up pursuing this into the realm of politics." He told her that he felt himself "unable to express himself about such matters with even just a few words in a daily newspaper." [Source: German Wikipedia entry, see above.]

3.64 Max von Laue (1879-1960)

Max von Laue was an important 20th-century German physicist who is well-known for his contributions to research on X-ray radiation. Born on October 9, 1879, in Pfaffendorf, Germany, von Laue studied physics in Berlin, Munich, and Göttingen, and in 1903 he was the first student to receive his doctorate from Max Planck in Berlin. Even after that time von Laue remained one of Planck's closest and most trusted friends, which is demonstrated by their extensive personal correspondence in Planck's papers.[26] Von Laue's most well-known achievement was his 1912 discovery of the diffraction of X-rays by crystals, for which he received the Nobel Prize for Physics in 1914. During his career von Laue also made great contributions to the development of modern physics and mentored young scientists, such as Werner Heisenberg and Erwin Schrödinger. Despite the political tensions during the Nazi period in Germany, von Laue was openly opposed to Nazi ideology. Since during the Third Reich the wearing of the Nobel Prize medal was forbidden (after Carl von Ossietzky had won the Nobel Peace Prize in 1935), he and James Franck gave theirs to Niels Bohr, who – as Nazi troops were marching into Copenhagen in April of 1940 – dissolved it in aqua regia to protect himself. Later the medal was re-cast by the Royal Swedish Academy of Science and returned to von Laue and Franck. It was also Max von Laue who gave the eulogy at Max Planck's funeral on October 7th in the Albani Church in Göttingen.

3.65 Edwin Lauprecht (1897-1987)

Edwin Lauprecht[27] was a German animal breeding scientist who held numerous positions at various institutes of animal husbandry and feeding. In 1941, after his

[26] More details on this will be published in volume 4 of this book series.
[27] No English Wikipedia page available.

habilitation, he transferred to the Kaiser Wilhelm Institute for Research on Animal Breeding in Dummerstorf near Rostock.

3.66 Friedrich Lenz (1889-1972)

Friedrich Lenz[28] was a German limnologist (a scientist who studies bodies of fresh water), but at first had studied natural sciences and mathematics. A primary subject of his work was research on chironomids [nonbiting midges, or lake flies]. In 1934 he received an acting professorship at the CAU Kiel.

3.67 Erwin Madelung (1881-1972)

Erwin Madelung was a German physicist who is primarily known for his work in the field of theoretical physics. Madelung's contributions comprised in particular his works on solid-state physics and on the theory of the electron shell of atoms and molecules. Madelung had studied in Kiel, among other places, shortly after Max Planck had become a professor there. He writes, among other things,

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''I admired the deceased as an outstanding researcher,
I loved him as an older colleague and friend who was
always friendly and supportive and never flaunted his
superiority. But Max Planck the human being is also an
object of my highest esteem; I knew how much in the way
of difficulties he had to bear...''
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3.68 Hermann von Mangoldt (1895-1953)

Hermann von Mangoldt[29] was a German legal scholar and politician. After beginning studies in construction engineering he switched to legal studies. He received his habilitation during the Nazi period and became a professor in Tübingen; during this time, among other things, he published papers such as "Race Law and Judaism." From 1943 on he was a professor in Kiel until the end of the war. Thereafter his name was mentioned above all as the founder of the Mangoldt-Klein commentary on the Basic Law;[30] he was also the Minister of the Interior of Schleswig-Holstein and a judge in Bremen. His letter of condolence is formulated in the name of the CAU Kiel (see Section 5.39).

[28] No English Wikipedia page available.
[29] No English Wikipedia page available.
[30] Grundgesetz, the German constitution.

3.69 Paul Martini (1889-1964)

Paul Martini[31] was a German doctor who was a senior physician in Munich and supervising physician in Berlin. In 1932 he was called to the University of Bonn as a professor. In Bonn in 1952 he became the rector of the university and became an emeritus in 1959. In his letter of condolence he also makes reference to one of Planck's hospital stays:

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''... The months your husband spent in our clinic
being treated by us were immensely valuable for all
of us, due to the great goodness which he radiated...''
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Presumably this refers to the same hospital stay which was mentioned in Section 3.44.

3.70 Hans Mayer (1895-1980)

Hans Ferdinand Mayer was a German physicist and is known primarily because of the so-called Oslo Report, a report on military secrets of the German Army which he wrote on a business trip in 1939 and anonymously sent to the British embassy in Oslo. Mayer, who received his doctorate under Philip Lenard, was condemned in 1943 to imprisonment in a concentration camp, a sentence which lasted until the end of the war. After that he spent several years in the United States. His letter of condolence also contains an apology:

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''...I am the one who needs to ask your forgiveness.
But in ignorance of the critical situation I presented
my request to your husband. Almost fatefully, my last
attempt to achieve a resolution of my case through a
decision of Professor Planck's remained a failure. I
thank you for having returned the letter...''
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3.71 Lise Meitner (1878-1958)

Lise Meitner was a well-known Austrian physicist who primarily did research in the field of nuclear physics. Together with Otto Hahn and Fritz Strassmann, she belonged to the discoverers of nuclear fission in uranium. However, a Nobel Prize remained denied to her, although she was nominated for one 49 times (among them, 7 times by Max Planck). After her studies at the University of Vienna she began her scientific career in Berlin, where she worked closely together with Planck at the university. Planck, who at that time was already a leading figure in the field of

[31] No English Wikipedia page available.

physics, quickly recognized Meitner's talents and supported her to the maximum extent possible. He encouraged her to specialize in one area that at that time was still little studied: radioactivity. Meitner became a very close friend of the Planck family. The deep friendship that bound her to the family remained unbroken even after Meitner's 1938 flight from Nazi Germany to Sweden, as one can see from the regular correspondence between them which is fully documented in Planck's papers.[32] Lise Meitner's letter of condolence to Planck's widow Marga is one of the most personal of this collection. She writes,

''... I would have given much to have been with your husband, whom I esteemed and loved as no other person on earth (you know this), during his last days on earth and to have been able to give him a last goodbye on his journey.

You husband's life was unusual, as he himself was unusual, with his wonderful, pure personality, which made everyone who even came near him a better person.

...In any case I ask you to remember that you have a very good friend here, on whom you can always count. Be warmly embraced by your faithful Lise.''

The letter is accompanied by an invitation to Marga.

3.72 Ernest Merritt (1865-1948)

Ernest Merritt was an American physicist who concentrated his research in the area of luminescence. In 1892 he was named an assistant professor at Cornell University in Ithaca, and spent the year 1893 in Berlin, where he worked together with Max Planck, among others. Soon thereafter Merritt became a full professor at Cornell and remained there until he became an emeritus in 1935. Merritt, along with E.L. Nichols, founded the Physical Review in 1893, was among the founders of the American Physical Society, and was its president from 1914-1916. Merritt remained in close contact with Planck's family right up to his death. In his condolence letter he writes, in part (also in the name of his wife):

''I think that I hardly need to tell you how deeply my wife and I sympathize with you. As I have said before, my feeling toward your husband is not merely the respect and admiration that one feels for a great man, nor is it merely the gratitude that one feels for a great teacher.

[32] These letters will appear in volume 4 of this book series.

It has in it the affection that one has for a father, or a brother, or a very dear friend.''

Merritt also attached to the letter various articles from American newspapers on Planck's death. He added, as commentary to them:

''...Most of the notices published in our papers point out that the Germany to which your husband belonged was a very different Germany from that of Hitler and the Nazis, and that we must all hope that the older Germany may come back again! ...''

3.73 Edgar Meyer (1879-1960)

After he passed his Abitur [school-leaving exam], Edgar Meyer[33] began his physics studies in Berlin, where he also wrote his dissertation. He was interested in and worked on many aspects of the field, among them the composition of the earth's atmosphere, the photoelectric effect, and ultrasound. He dismissed the strict separation of theoretical and applied physics, and after he became an emeritus he took up archaeological research. In his letter he terms Planck his "highly respected teacher," presumably from his time in Berlin, and emphasizes Planck's "kind understanding of us boys." Edgar Meyer twice nominated Max Planck for the Nobel Prize, in 1918 and 1919.

3.74 Otto Fritz Meyerhof (1884-1951)

Otto Fritz Meyerhof was a German biochemist who went to Kiel in 1913, received his habilitation, and became a professor. During his time in Kiel he received the Nobel Prize for Medicine in 1922, along with Archibald Vivian Hill, for his research on the processes of transformation of energy in muscles. After his dismissal, which was motivated by anti-Semitism, he fled through several European countries and finally came to the United States, where he spent the rest of his life.

3.75 Gustav Mie (1868-1957)

Gustav Mie was a German physicist who today is known principally through his work on the calculation of the scattering of an electromagnetic wave on a homogeneous dielectric sphere (Mie scattering). He studied mathematics and physics in Rostock, simultaneously also educating himself in numerous other disciplines. He received his doctorate in mathematics, and after holding several other positions,

[33] No English Wikipedia page available.

became the Director of the Physical Institute in Freiburg, where he remained until he became an emeritus. Today the Mie Crater on Mars is named after him. Mie writes, in his letter,

‘‘I personally always think of my famous colleague with great affection; in particular I like to remember the lovely afternoon which many years ago I once was able to spend in your welcoming home in Grunewald... Above all I am always filled with joy that he often publicly revealed himself to be a Christian. Since his name is famous everywhere as that of a particularly outstanding learned man, perhaps this will have great and strengthening influence on many who still live in doubt!...’’

3.76 Robert Andrews Millikan (1868-1953)

Robert Andrews Millikan was an American physicist who, after he received his doctorate in 1895 from Columbia University, on the advice of his supervising professor went to Planck and Nernst in Germany, as he describes in his letter of condolence:

‘‘I have always regarded it as particularly fortunate that I was able to be not only his pupil in 1895, but his friend in later years, especially in the year 1912, when he was exceedingly kind to me in inviting me to his home during the months which in that summer I passed so pleasantly and profitably in Berlin. I could see at that point that his home reflected the fineness of his character quite as well as did his public writings as Rector of the University of Berlin, and as one of the foremost of the world’s theoretical pysicists.’’

He is known today primarily for his work on the determination of the charge of a single electron, also known as the elementary charge (the oil drop experiment, known as the Millikan experiment, for which he won the Nobel Prize for Physics in 1923), and on the photoelectric effect.

3.77 Kurt Noack (1888-1963)

Kurt Noack[34] was a German botanist. He studied natural sciences in Tübingen and Munich and received his doctorate in Leipzig in 1912 and his habilitation in 1918 in Strasbourg. During his career he held professorships in Erlangen, Halle, and Berlin, where he was a full professor of botany and plant physiology from 1931 to 1956.

[34] No English Wikipedia page available.

There he was also the Dean of the School of Mathematics and Sciences during the period from 1945 to 1953. In this capacity he sent a telegram of condolence (see Section 5.34.1).

3.78 Albrecht Peiper (1889-1968)

Albrecht Peiper,[35] a nephew of Max Planck's second wife, Marga Planck, was a German doctor and director at university clinics. After his medical studies and his doctorate in 1914, he specialized in the field of pediatric medicine. In his condolence letter he remembered his visits in the Plancks' house:

''We often thought about the evenings that we were privileged to experience in your hospitable home, and which always remained an inspiration to us for many long weeks. I was moved by the solicitude with which Uncle Max asked about my further plans in science. When one time I had experienced a failure, he observed that sometimes that had happened to him, too. Back then that was a real comfort to me.''

3.79 Herbert Peiper (1890-1952)

Herbert Peiper[36] was a German surgeon and founder of myelography, a medical process of imaging in which before an X-ray is taken, a contrasting substance is injected into the spinal bone marrow. During the Second World War, Peiper was drafted and then worked as a supervising senior physician. Herbert was the brother of the above-named Albrecht Peiper and thus also a nephew of Marga Planck.

3.80 Johannes Picht (1897-1973)

Johannes Picht[37] was a German physicist who studied mathematics and physics in Berlin starting in 1919 and received his doctorate under Max von Laue in 1925. From 1949 to 1962 he was a professor for theoretical physics at the Pedagogical College of Potsdam and also Director of the Institute of Theoretical Physics. Picht's fields of study were optics, atomic physics, and electron microscopy.

[35] No English Wikipedia page available.
[36] No English Wikipedia page available.
[37] No English Wikipedia page available.

3.81 Carl Ramsauer (1879-1955)

Carl Ramsauer was a German physicist who worked primarily in the area of quantum effects. The Ramsauer effect is named after him, which ultimately confirmed the wavelike nature of electrons. In his letter of condolence he expresses his personal sympathy to Planck's wife. At the same time he also spoke "in the name of all German physicists, insofar as I am entitled to do this, as the last president of the old German Physical Society."[38] He held that position from 1940 to 1945. Previously Max Planck had held the office 4 times: 1905-1906, 1906-1907, 1908-1909, and 1915-1916. In his capacity as the president of the German Physical Society of Berlin at the time, Ramsauer was also an organizer of the celebration for Max Planck's eightieth birthday [17].[39] Ramsauer continues in his condolence:

''German physicists will always keep the longtime honorary member of their Society and their old master with worldwide significance faithfully and proudly in their memory.''

3.82 Hans Hermann Rebel (1889-1967)

Hans Hermann Rebel[40] was a German dentist who studied in Munich beginning in 1910. Later he earned his doctorate and directly thereafter became the head of a department of the university's Dental Institute in Göttingen. After various positions as a college teacher and for technical journals, in 1933 he joined the Association of Deployed Dentists and in November signed the Declaration of Professors at German Universities and Colleges for Adolf Hitler. After the Second World War he went to Tübingen, where, as the head of the institute there, he specialized in research on fluoride. Additionally he was at times the Dean of the Medical School until he became an emeritus in 1958. In his letter he writes

''...We, my wife and I, have often thought of you and your husband since we have moved. Now we have heard that your husband has passed. Even though one must be prepared to deal with death at such an advanced age and with such heavy demands on body and soul under the circumstances, the news caused us much grief. Permit me, dear Mrs. Planck, also in my wife's name, to express my deepest sympathy. Your husband is not lost to all of us, he will always be among us! One can say that only of a very few!...''

[38] See References [10, 11] on the German Physical Society in the Third Reich.
[39] See also the entry on Walter Grotrian, Section 3.45.
[40] No English Wikipedia page available.

3.83 Erich Regener (1881-1955)

Erich Regener was a German physicist who in his scientific career did research largely in the field of cosmic rays, which had only recently been discovered. He investigated the rays by use of ionization chambers, which he sometimes constructed under the earth and sometimes sent high into the atmosphere using balloons. He postulated the existence of a cosmic background radiation already in 1933. Regener was personally acquainted with Planck through his study of physics in Berlin, where he took courses from Planck. The close relationship and the respect which resulted from these classes speak from his lines:

''He will live eternally as the leading master in his field as long as there are physical sciences; as his one-time student I will remain bound to him in devoted personal admiration as long as I remain on this earth.''

3.84 Fritz Reiche (1883-1969)

Fritz Reiche[41] was a German theoretical physicist. He studied in Munich and in Berlin with Max Planck, under whom he wrote his dissertation pertaining to black body radiation in 1907. From 1915 to 1918 he was an assistant to Planck, succeeding Lise Meitner. As a result of this relationship, he developed a long-term friendship with Max Planck. In 1921 he became a professor of theoretical physics at the University of Breslau [today Wroclaw], succeeding Erwin Schrödinger. In 1933 he was dismissed as a result of the growing tightening of Nazi regulations against the Jews. In 1941 Reiche emigrated to the United States, where he held various teaching positions and in 1946 became a professor at New York University, where he remained until his retirement in 1958. His areas of study included quantum theory and supersonic flow. His close relationship to Planck is manifest from his very personal condolences to Marga Planck:

''...The creator of a new era has now been called home. I knew him for 45 years. I can remember exactly the day that I, a young student, came into his lectures very much without a clue and remained forever fascinated. And then when later I had the great good fortune of getting to know him better, as his assistant and a young teacher, I learned more and more what this great man, with his marvelous simplicity and modesty and his deep human goodness, meant to my life...''

[41] No English Wikipedia page available.

3.85 Günther Rienäcker (1904-1989)

Günther Rienäcker[42] was a German chemist. He was born in Bremen in 1904. He studied chemistry in Munich, where he also received his doctorate in 1926. In 1936 he was habilitated in Freiburg. Between 1942 and 1954 he held numerous positions at the University of Rostock, before he transferred to the Humboldt University in Berlin. Rienäcker became internationally known through his work on heterogeneous catalysis. Along with his scientific efforts, he was also politically active in the GDR [German Democratic Republic, or East Germany], among other things as a member of the SED [Socialist Unity Party], and between 1958 and 1963 as a member of its Central Committee. In 1953 Rienäcker became a regular member of the German Academy of Sciences in Berlin and was its general secretary from 1957 to 1963. His letter of condolence was written in the name of the University of Rostock in his capacity as its rector (see Section 5.40). In the letter he writes,

‘‘...A truly rich and fulfilling life has thus come to an end, a life that was dedicated to science as no other. The science community the world over counts the deceased rightly as one of the greatest, and German universities are proud that he was one of theirs....’’

3.86 Hermann Ernst Riesenfeld (1877-1957)

Hermann Ernst Riesenfeld was a German/Swedish chemist who became known for his contributions in the field of electrochemistry at the interface between two immiscible electrolyte solutions. He studied natural sciences in Heidelberg and Göttingen, where he received his doctorate under Walter Nernst. In 1913 he became a professor in Freiburg and in 1920 at the University of Berlin. During the years in Berlin he became acquainted with Max Planck’s family. Because of his Jewish heritage, he was dismissed after the Nazis came to power and emigrated to Sweden in 1934. There he worked until 1952 at the Nobel Institute for Physical Chemistry. In his letter of condolence, which he wrote together with his wife, he mentions that they were regularly kept informed about Planck’s difficult last years by Lise Meitner, who had also fled to Sweden (see Section 3.71). In his letter, he writes

‘‘...and we suffered with you, as you so tragically lost a family member at that time.[43] We always looked up to the deceased with admiration and wonder, and will preserve his memory faithfully as a unique person of this milieu, and with gratitude remember the hours that we were allowed to be together with him in your house....’’

[42] No English Wikipedia page available.

[43] Apparently he is referring to the execution of Erwin Planck on January 23, 1945.

3.87 Robert Rössle (1876-1956)

Robert Rössle was a German pathologist who became well-known through his studies on infection, in particular the study of the causes of cirrhosis of the liver and allergic infections, as well as his investigations of growth and aging processes. For them he received numerous awards, honorary doctorates, and memberships in scientific associations. Rössle studied medicine in Munich, Kiel, and Strasbourg. He received his doctorate in Munich and his habilitation at the CAU Kiel. In his later career he also held professorships in Jena, Basel, and from 1929 on at the Charite in Berlin (one of Europe's largest and oldest university hospitals), where he became emeritus in 1948. In his personal condolence he writes

''...The wonderful thing about your husband was that one was not intimidated by his greatness, but rather loved him immediately because of his simplicity and goodness. Such a balance of admiration and affection is given to only a few among the great Germans...''

The letter closes with greetings to Nelly Planck (the widow of Planck's son Erwin) and her family.

3.88 Ernesto Rubens

Ernesto Rubens was a Ph.D. in chemistry and the son of Heinrich Rubens[44] and Marie Rubens. Due to the threat of persecution because of his Jewish parentage, during the Nazi period he emigrated to Chile. There he became a professor at the Universidad Santa Maria in Valparaiso. In his condolence he mentions that he had been informed about Planck's last years through a recent letter from Max von Laue. Rubens writes:

''...I wish I could be holding your hand right now, in order to personally express my sympathies... I know what my mother went through when my father died.[45] Letters of condolence are of no use then. But I want you to know that throughout the whole world there are many people who understand your pain and feel along with you. The name Max Planck means for me not primarily the world-famous researcher, but the colleague and friend of my father. I think about sailing on the Wannsee in

[44] Starting in 1898, Heinrich Rubens, along with Ferdinand Kurlbaum, made great contributions to determining the energy spectrum of black body radiation. Their measurements in the far infrared region proved the incorrectness of Wien's radiation law, which gave rise to Planck's discovery and therefore to the development of quantum theory [19].

[45] Heinrich Rubens died in 1922 after a long battle with bone cancer, presumably due to his unprotected activities with radioactive substances.

my father's yacht, on which I was brought along as a child; and about many social gatherings where I was allowed to be present. Above all I think about how, as much as he was able, your husband helped my mother through very difficult times, until she fell victim to the Nazis[46] - Be assured that your husband will always live on in my memory as the very essence of an upright, warm, truly great man...''

3.89 Wilhelm Rudorf (1891-1969)

Wilhelm Rudorf[47] was a German agrarian and geneticist. After his service as a soldier in World War I and subsequent internment as a French prisoner of war, he studied in Münster and Berlin and later received his doctorate in Halle. A member of the paramilitary steel helmets even before 1929, he worked closely with the Nazi regime during its time in power and managed a plant breeding operation in the concentration camp of Auschwitz for the purpose of research on rubber. In 1936 he became the director of the Kaiser Wilhelm Institute for Plant Breeding and Research in Müncheberg. In 1946 he was entnazified in Göttingen without further consequences, and was allowed to keep his position at the Kaiser Wilhelm Institute in Müncheberg.[48]

3.90 Leo Santifaller (1890-1974)

Leo Santifaller was an Austrian historian. During his career he was, among other things, Head of the State Archives in Bolzano, Professor in Breslau and, from 1942 on, in Vienna. After the war he took a leading position within the newly forming field of Austrian history and thereby greatly influenced whole generations of historians and archivists. There are two letters in the collection, one from Mrs. Bertha Santifaller[49] and one from Leo Santifaller, from which one could deduce an active correspondence.

3.91 Clemens Schaefer (1878-1968)

Clemens Schaefer[50] was a German physicist and later a professor in Breslau and

[46] Marie Rubens, maiden name Hirschfeld, committed suicide in 1941, when as a Jew she was forced to wear the yellow star under the Nazi regime and feared that she would be deported.
[47] No English Wikipedia page available.
[48] The institute was renamed in 1951 as the Max Planck Institute for Plant Breeding Research (Erwin Baur Institute).
[49] A painter, she was the daughter of the geographer and historian Eduard Richter.
[50] No English Wikipedia page available.

Cologne. He performed research in both theoretical and applied physics, from thermodynamics to optics. Together with Ludwig Bergmann he wrote a series of textbooks on experimental physics which are still known today under the name "Bergmann-Schaefer."

3.92 Elisabeth Schiemann (1881-1972)

Elisabeth Schiemann was a German geneticist. From 1908 on she studied in Berlin and belonged thereby to the first generation of women for whom this was even a possibility. Later she received her doctorate with a dissertation on mutations in the mold species aspergillus; thereafter she achieved her habilitation with a work on the genetics of summer and winter barley. Subsequently Schiemann worked intensively on cultivated plants and received her own department at the newly-founded Kaiser Wilhelm Institute for Research on Cultivated Plants. In 1946 she received a professorship in Berlin. During the Nazi period she was very active in support of those persecuted by the Nazi regime as well as her Jewish colleagues. She was a very close friend of Lise Meitner's (see Section 3.71). Elisabeth Schiemann received numerous awards, among them the Darwin Medal of the Leopoldina and an honorary doctorate from the Technical University of Berlin. Yad Vashem, the memorial site in Jerusalem, honored her on December 16, 2014, with the title of "Righteous Among Nations."

The letter of condolence is signed by her and her sister Gertrude and points to close contact between them and the Planck family. In the letter they write

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''...And how thankful I am that last year in Göttingen I
was able to visit you and spend such a pleasant, friendly
hour chatting with the old man himself... For us he was
the exponent of the good German conscience throughout all
the evil years; and therefore his name, which today is well
known in the entire world, will be our best defender, so
that we may maintain the belief in a better Germany...''
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3.93 Eberhard Schmidt (1891-1977)

Eberhard Schmidt[51] was a German scholar of jurisprudence and a professor of criminal law and criminal justice. He taught at the universities of Breslau, Kiel, Hamburg, and Leipzig, and during the Second World War was active as a military jurist. In 1945 he became an American prisoner of war, but was able to continue his academic career in the same year, first in Göttingen and then in Heidelberg from 1948 on. In the 1950s Schmidt participated in the reform of the Major Criminal Law of the Federal Republic of Germany. He writes, also in the name of his wife,

[51] No English Wikipedia page available.

‘‘...This passing will be felt as an irreparable loss by an entire world. It is precisely science which can hardly bear that today one of its senior members of such outstanding importance was called to his maker and can no longer defend, with the dignity of the esteem in which he is held, the values for which science battles...’’

3.94 Erhard Schmidt (1876-1959)

Erhard Schmidt was a German mathematician who did research in the field of functional analysis and is considered to be one of its founders. During his investigations of solutions to integral equations in Hilbert spaces and the Gram-Schmidt process of orthonormalization, named after him, he simultaneously created important tools for calculations in quantum mechanics – the field of physics which Planck founded. Schmidt was well-acquainted with the Planck family and often visited them in Berlin. Schmidt was inducted into the Academy of Sciences on July 3, 1919, when Planck was its secretary [20]. Schmidt himself excused the late date of his letter of condolence with the following reasoning:

‘‘After I received the news of the passing of your husband, I procrastinated about writing you a letter because I was convinced that you would get so many hundreds of letters from all the ends of the earth that you would never be able to read all of them. I wanted to write you for his 90th birthday, which now is more imminent.’’

3.95 Rudolf Schoen (1892-1979)

Rudolf Schoen[52] was a German physician who was both a supervising physician in Leipzig and held various professorships in Leipzig and Göttingen. He became an emeritus in 1961, after he had been the Dean of the Medical School and later the Rector of the University of Göttingen. During his time there he was also the doctor treating Max Planck, who was becoming more and more ill, as he recalls in his letter of condolence.

3.96 Heinrich Scholz (1884-1956)

Heinrich Scholz, following in his father’s footsteps, first studied theology and even received a professorship for the philosophy of religion and systematic theology, but

[52] No English Wikipedia page available.

then later changed direction entirely. He began the study of mathematics and theoretical physics and became a mathematical logician. His theoretical works would also have great influence on theoretical computer science; Scholz long had contact with Alan Turing, the world-famous mathematician and computer scientist. Thus among Scholz's papers were found many of Turing's works containing handwritten notes, which had been auctioned off for impressive sums. He writes

‘‘...From the very first, at the latest after his Rector's Lecture of August 3, 1914, he was for me, next to my unforgotten great mentor Adolf von Harnack, a pillar of German knowledge at the very highest level on which this can be said of a mortal great man. I admired him like no other...’’

3.97 Walter Schottky (1886-1976)

Walter Schottky was a German physicist who made great contributions primarily in the field of theoretical solid-state physics. After studying physics in Berlin, in 1912 he received his doctorate under Max Planck with a dissertation titled “On Relativistic Energetics and Dynamics.” Numerous physical effects bear his name, such as the Schottky diode, the Schottky defect, the Schottky anomaly, and the Schottky equation. From 1923 to 1927 he was a professor of theoretical physics at the University of Rostock and then went to the company of Siemens and Halske in Berlin, where he conducted foundational research on semiconductor physics and electronics. During the Second World War, his research group moved to Pretzfeld in Franconia, where in 1946 a new Siemens laboratory was founded. Schottky lived there until his death. In his honor the German Physical Society created the Walter Schottky Prize for Solid-State Physics, and an institute at the Technical University of Munich is named after him.

3.98 Erwin Schrödinger (1887-1961)

Erwin Schrödinger was one of the most important physicists of the 20th century. With the equation that was named after him he laid the basis for the mathematical formulation of quantum mechanics, for which he received the Nobel Prize for Physics in 1933 and the Max Planck Medal in 1937. There are several letters from Erwin Schrödinger and his wife, Annemarie, among Planck's papers, from which it can be deduced that the two families had a close relationship. Schrödinger's letter of condolence is clearly differentiated from most of the others by virtue of his philosophical approach. In his letter he writes

‘‘A great man has left us... ‘The traces of his earthly

existence will not disappear in eons'.[53] His name will remain alive like that of Democritus, Aristotle, or Galileo. And more than his name: his deeds and his findings [?]: just so long, and no longer. For us that is too little. Not only for a great man, but for a friend. For the sun will grow cold and the planet will die. And shall everything that we have striven for, that we have thought, that we have constructed, passing the torch from one to the other, then be as though it had never existed? I cannot imagine that...''

Schrödinger's letter of condolence is in part difficult to decipher, and the word marked by a [?] is uncertain. The letter was no longer among Planck's papers when it reached Kiel in 2022. In illustrations 3.2 and 3.3 we reproduce a copy of the entire letter from Ref. [7].

3.99 Hermann Schüler (1894-1964)

Hermann Schüler[54] was a German experimental physicist. He received his doctorate under the guidance of Friedrich Paschen, whose hollow cathode discharge tube he further developed, so that with it he could make highly precise measurements in the field of atomic physics. He was also one of the first to concern himself with the determination of magnetic moments through the observation of hyper-fine structure. From 1920 to 1924 Schüler was an assistant to Paschen and also became his son-in-law. Thereafter he worked at the Observatory in Potsdam-Babelsberg. In 1937 he transferred to the Kaiser Wilhelm Society in Berlin, and after 1950 he was the head of the research division for spectroscopy of the Max Planck Society.

3.100 Ernst Schüz (1901-1991)

Ernst Schüz first studied zoology, botany, chemistry, and geography in Tübingen before he specialized in ornithology with a dissertation on powder downs, a special feather found in certain bird species. From 1929 on he became the head of the ornithological station Rossitten, but later on was drafted into the war. After the Second World War he founded a successor to that station as a part of the Max Planck Institute for Ornithology. In his letter as head of the ornithological station [see Section 5.42], Schüz recalls a visit of Max Planck's in Rossitten, East Prussia, with the words

[53] A slightly modified citation from Goethe's "Faust II," Act 5: The traces of my days on earth cannot vanish in eons.

[54] No English Wikipedia page available.

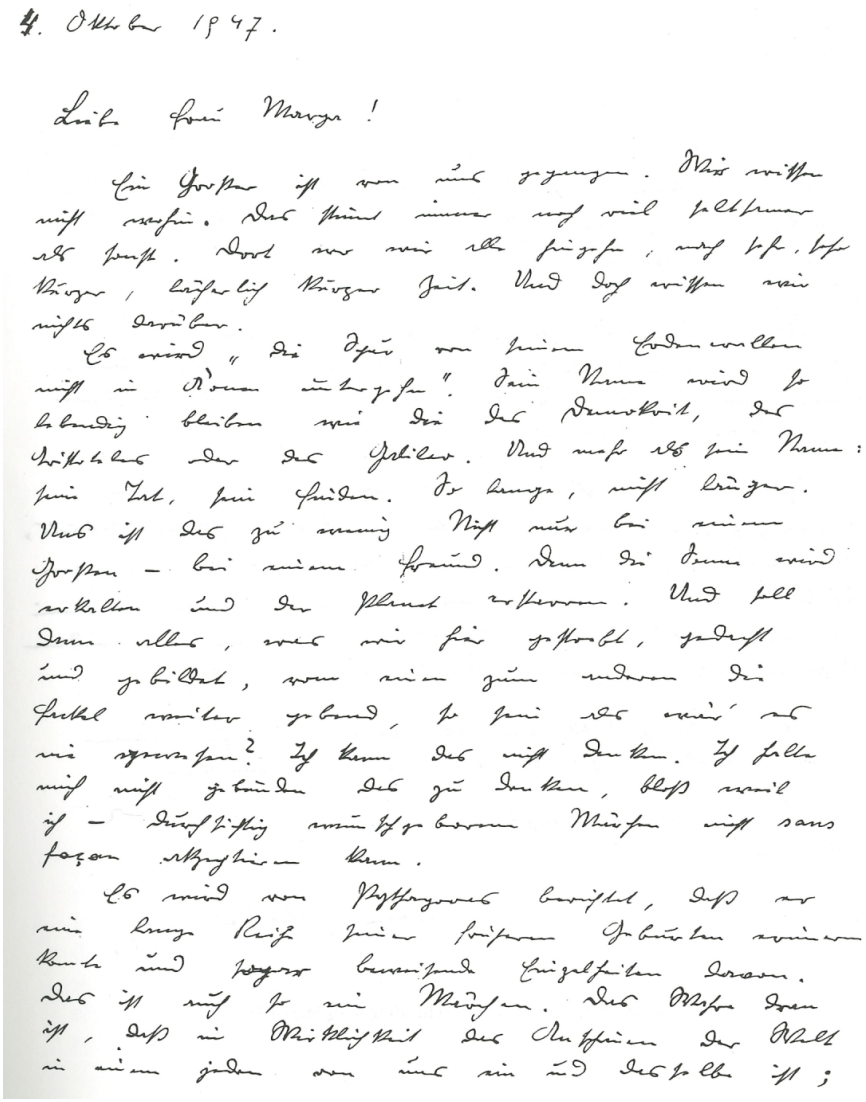

Figure 3.2: Page 1 of Schrödinger's letter of condolence (from Ref. [7]). The excerpted translation can be found in Section 3.98).

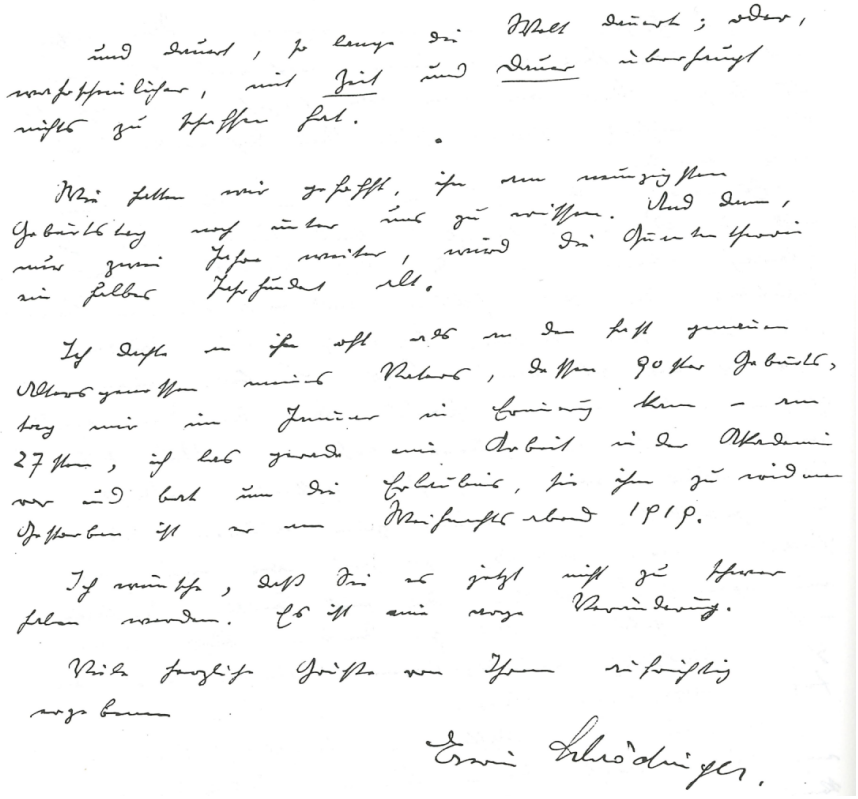

Figure 3.3: Page 2 of Schrödinger's letter of condolence (from Ref. [7]). The excerpted translation can be found in Section 3.98).

‘‘We have special cause to remember the councilor with gratitude, since he was so kind as to have great appreciation for the ornithological station Rossitten, and back then, once when we were able to host both of you in Rossitten, he also conquered our hearts with his friendly and open manner.’’

3.101 Albert Schweitzer (1875-1965)

Albert Schweitzer was a towering figure of the 20th century, well-known as a theologian, doctor, music lover, organist, and pacifist. He achieved international fame for his medical missionary activities in Africa. He founded the Albert Schweitzer Clinic in Lambarene, Gabon, where he himself provided medical services and helped thousands of people. Schweitzer was a proponent of great reverence for life, and in 1952 was honored with the Nobel Peace Prize. Although Schweitzer and Planck never actually met, they shared an active correspondence, grounded in their mutual respect and esteem. This can clearly be seen from Schweitzer’s letter of condolence to Marga Planck, which we here present, slightly condensed:

‘‘...One who achieved great things and was a great human being has left us. I revered him, and it was a great honor for me to be in correspondence with him, even though we were never able to meet in person. His letters were so edifying, and that which he achieved as a thinker will only be recognized accordingly later. He was not only a remarkable researcher, but also a deep thinker, and as such he expressed convictions which are very significant intellectual insight...

But what difficulties he then had to endure in his old age! And during the difficulties he then proved himself to be an upright man, to whom many eyes were directed. He represented eternal ethical cultural values in the face of those who attempted to change and devalue them. Thereby he gave comfort and strength in terrible times to many who did not want to take part in the general confusion... In a time when so many learned men showed themselves to be much smaller as human beings, he preserved a most noble humanity and exhibited a quiet imperturbability...’’

3.102 Walther von Selve (1876-1948)

Walther von Selve,[55] whose complete name was Hermann Heinrich Max Walther

[55] No English Wikipedia page available.

Selve, was a German entrepreneur and inventor. Along with that he was also an enthusiastic bicyclist, as well as a car and motorboat racer. As the latter he even set world records, a fact which was used not least as good advertisement for Selve's car company. At first he had taken over his father's company, Basse & Selve, which on his urging had also begun the production of motors for airplanes and blimps. After his death, his wife Else took over one of his companies, which she subsequently expanded to a large business. At the end of his life, Selve had withdrawn from active management of his companies and retired to Lichtenstein.

3.103 Franz Eugen Simon (1893-1956)

Franz Eugen (Francis) Simon was a physicist who emigrated to Great Britain in 1933 because of the persecution of Jews in Germany. His scientific achievements include a process for the liquefaction of helium and the enrichment of the isotope U^{235} by means of gas diffusion. After his military service during the entire First World War and a subsequent period as a prisoner of war, he pursued studies in Berlin with, among others, Max Planck, Max von Laue, and Fritz Haber, to which he also refers in his letter of condolence. He writes from Oxford, where from 1945 to 1956 he was Professor of Thermodynamics at Christ Church College:

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''Even if I cannot really maintain that I was a student of
Planck's, still I was greatly influenced by him, at first
as a student in his lectures in Berlin, and later perhaps
even more so in colloquia... His death [is]... a terrible
blow... for all scientists - and particularly for German
scientists, who now would need him as a guiding star more
than ever!''
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3.104 Emil Ritter von Skramlik (1886-1970)

Emil Ritter von Skramlik[56] came from a family originally from Prague, but spent a great part of his life in Germany. He made many contributions to his field, physiology, among them research on the physiology of the heart, the five senses, and the inner organs, but also serology and the effects of toxic substances on the body. In 1927 he became the Director of the Physiological Institute in Jena; he was also the President of the Medical-Natural Sciences Society there, of which Max Planck was an honorary member.

[56]No English Wikipedia page available.

3.105 Arnold Sommerfeld (1868-1951)

Arnold Sommerfeld was one of the leading German theoretical physicists of his time. He studied mathematics in Königsberg, where he received his doctorate in 1891. Following that he went to Göttingen, where in addition to mathematics he also turned to mathematical physics and in 1895 received his habilitation. Further stations of his career were professorships in Clausthal and Aachen, before in 1906 he was called to the Ludwig Maximilian University of Munich as Professor of Theoretical Physics. There he founded an important Center for Theoretical Physics and remained there until he became an emeritus in 1935. Along with Max Planck, Albert Einstein, and Niels Bohr, Sommerfeld was counted among those scientists who, at the beginning of the 20th century, played a significant role in helping quantum physics break through and become accepted. Among other things, Sommerfeld worked on expanding the Bohr atomic model, including the fine structure of spectral lines (the Bohr-Sommerfeld atomic model), introduced the fine-structure constant, and developed a theory of X-ray radiation. In his letter to Marga he describes a scientific exchange between himself and Planck:

‘‘I am pleased to mention another old reminiscence. In 1915 both your husband and I were working on the same subject of spectral lines. He helped me at that time, without a trace of competitiveness, through a particular difficulty I was having. We would not have expected anything different, since his objectivity and selflessness were ever-present.’’

Sommerfeld was nominated for the Nobel Prize a total of 84 times for his foundational contributions to quantum physics, more than any other physicist before him – among them were eight nominations by Max Planck – but he never received it. His significant influence can also be seen from the number of his mentees, many of whom also appear in these pages.

3.106 Hugo Spatz (1888-1969)

Hugo Spatz was a German pathologist who concentrated his research on the human brain. After his medical studies in Munich and Heidelberg, he received a habilitation in psychiatry in 1923. For his discovery of the Hallervorden-Spatz Syndrome he dissected over 700 brains from victims of the Nazi euthanasia/mass murders, the so-called Action T4. Despite this, after the end of the Second World War he was quickly rehabilitated and headed the Max Planck Institute for Brain Research in Giessen until shortly before he became an emeritus. In his letter of condolence he expresses his esteem for Max Planck and writes that he met him personally once, on the occasion of his being named Director of the Kaiser-Wilhelm Institute in

Berlin-Buch.[57]

3.107 Edmund Stengel (1879-1968)

Edmund Stengel[58] was a German historian. He studied Modern History and Philology in Lausanne, later in Greifswald and Berlin, where he received his doctorate in 1902. During his career he concentrated on medieval German history, particularly that of the Salic kings. In 1907 he received his habilitation in Marburg, and became a professor there in the same year. As Professor for Medieval and Modern History in Marburg, in 1929 he founded the Photographic Archive for Older Original Documents. During the Nazi period he was named by Hitler to be President of the Reich Institute for Older German History and thereby became the head of the Monumenta Germaniae Historica (MGH) and of the German Historical Institute in Rome. Stengel came into contact with Planck probably primarily during his time in Berlin. In his condolence letter he mentions the "unforgettable evenings" around 1900 which he spent in Berlin in the Plancks' house, as well as a visit in 1942, before he left Berlin.[59]

3.108 George Paget Thomson (1892-1975)

George Paget Thomson[60] was a British physicist. After serving in the First World War, he studied physics and in 1930 became a professor at the Imperial College in London. Like his father,[61] he received the Nobel Prize in 1937, together with Clinton Davisson, for the discovery and investigation of the bending of electrons in crystals. In his letter to Marga Planck he refers to his father, who had died in 1940 and belonged to Planck's generation, and who had known him personally:

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''...It is known to all the world that your husband was one
of the very greatest scientists of his age. Those who had
the very great privilidge of knowing him personally knew
that he was equally preeminent as a man, that the goodness
and greatness of his character matched his scientific
eminence. My father had the deepest respect for your
husband both as scientist and as a friend. If he had been
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[57] Apparently in 1935. After that Spatz functioned as Director of the Kaiser Wilhelm Institute for Brain Research. His predecessor, Oskar Vogt, had to resign from the post, but remained as interim director until he became emeritus in 1937. In his letter, Spatz wrote without further explanation, "... my acceptance of this post would certainly bring a great deal of misfortune to me and my family..."

[58] No English Wikipedia page available.

[59] At that time Stengel's institute was moved to Marburg.

[60] Not to be confused with his also very well-known father, Joseph John (JJ) Thomson (1856-1940), for whom the Thomson atomic model is named.

[61] J.J. Thomson received the Nobel Prize in 1906.

alive he would certainly have wished to express these feelings, and I hope you will [allow] me, in some sort, to express them for him....''

3.109 Albrecht Unsöld (1905-1995)

Albrecht Unsöld was a famous German astrophysicist who is known for his contributions to our knowledge of the stars and interstellar atmospheres. He was born on March 29, 1905, in Fürth, and studied physics and astronomy in Munich and in Göttingen, where in 1932 he received his doctorate. He spent a great deal of his career as a professor at the Institute of Theoretical Physics at the CAU Kiel, whose rector he was in 1958/59. Thus he was a successor to Max Planck, who from 1885 to 1889 also researched and taught in Kiel. In his condolence, among other things he describes a visit of Planck's to Kiel in 1942. He writes, also in the name of the Kiel physicists:

''...only a few times in the history of science has there been such a great researcher, who was also such a great human being. In good and in difficult times he was the good spirit who floated above our scientific efforts; we will never forget him for that. May the absolute purity of his attitudes and his openness to "the labor pains of the mind" always remain our guiding light! The wonderful hours which we were able to spend together at that time during the Kiel University Week in 1942 will remain a dear memory for me for a very long time. Back then it impressed me in a most positive way in what a lively manner the great thinker also participated in more pedestrian matters of everyday life and lifted them up into his sphere, and how connected he remained to the place he was born and the university where he first studied....''

3.110 Diedrich Wattenberg (1909-1996)

Diedrich Wattenberg was a German astronomer. As Director of the Archenhold Observatory, as well as a member of the Olbers Society, he published numerous papers and also gave lectures in popular science. Because of his involvement and commitment, astronomy classes were introduced at the polytechnic high schools in the German Democratic Republic [East Germany].

3.111 Otto Westphal (1913-2004)

Otto Hermann Eduard Westphal[62] was a German chemist and immunologist. He studied chemistry in Freiburg and Berlin. He received his doctorate and habilitation in Heidelberg. After that he remained in Heidelberg and became a scientific assistant to Richard Kuhn at the Kaiser Wilhelm Institute for Medical Research. In 1952 he became an associate professor at the University of Freiburg and then in 1962 founding director of the newly created Max Planck Institute for Immunobiology in Freiburg. He is the son of Wilhelm Westphal (see Section 3.112). He added an obituary from the Badische Zeitung to his letter of condolence, which Marga Planck had requested from his father. He mentions that he and his wife had once been able to spend a day with the Plancks, and that "a few times [we] were able to play music for your husband and that he himself had very much enjoyed it."

3.112 Wilhelm Westphal (1882-1978)

Wilhelm Heinrich Westphal was a German physicist who, among other things, published many textbooks which are still used even today and also writings on popular science. He studied in Bonn, Munich, and, along with James Franck and Gustav Hertz, in Berlin under Max Planck. In 1908 he received his doctorate under Arthur Wehnelt und his habilitation in 1913. Following that, he was an assistant to Heinrich Rubens, whom he regarded as his real teacher. After the First World War he received a professorship at the University of Berlin, then later also at the Technical College of Berlin. He remained there until he became an emeritus in 1950, also having led the beginners' lab course program in physics in the newly founded institute after the Second World War. In his letter of condolence he remembers, quite emotionally, Planck's support and interest during his studies, 40 years previously:

‘‘...where first as a student I was welcomed in such a friendly manner into the Planck household, in which later I was privileged to spend so many unforgettable hours. It is with the deepest gratitude that I remember all the many tokens of friendly interest which I experienced on the part of your husband throughout so many years... Back then I was one of the students in those memorable lectures in which your husband first spoke of quantum theory, and I was privileged to observe his very profound wrestling with its consequences at close quarters, that whole conflict, in which his essentially so conservative perspective necessarily clashed with the revolution in physics that he was born and

[62] No English Wikipedia page available.

bred to foment. That will always remain one of the strongest impressions of my entire career.''

3.113 Franz Wever (1892-1984)

Franz Wever[63] was a German physicist and materials scientist. He received his doctorate in 1920 under Peter Debye with a dissertation on the "Theory of Light in Active Crystals." During the Nazi period he taught in Cologne as a professor of applied physics and metallurgy. In 1944 he became the Director of the Kaiser Wilhelm Institute for Iron Research – later the Max Planck Institute for Iron Research – which he led until 1959. A telegram from the Institute signed by him on October 7th can be found in Section 5.20. In addition to that, on October 17th he sent a personal, handwritten letter to the widow.

3.114 Wilhelm Wirth (1876-1952)

Wilhelm Wirth[64] was a German psychologist who is known for laying the foundations of experimental psychology. He received his doctorate in 1898 in Munich, then received his habilitation in 1900. From 1908 on he was a professor in Leipzig. In addition to his work in his field, Wirth was also an enthusiastic author of science fiction, who, together with his brother – just 13 years old – wrote the book "From Saturn to the Ring." This book, as well as books they wrote later, they also illustrated themselves. After he retired, Wirth moved to Bavaria.

3.115 Ernst Wölfflin (1873-1960)

Ernst Wölfflin[65] was a Swiss physician, whose area of specialization was diseases of the eye. He did research primarily on disorders of color and light perception. After receiving his doctorate he held various positions as an assistant doctor, after his habilitation in 1904 he became a teaching physician in Basel, and in 1920 he was appointed an associate professor. Among other things, he was named an honorary member of the Ludwig Maximilian University in Munich. In Planck's papers there are several postcards from Wölfflin from September and October of 1947, from which one can deduce ongoing contact. He also mentions that he had sent Planck a "comfort package."

[63] No English Wikipedia page available.
[64] At the time this chapter was written, the English Wikipedia page contained little useful information.
[65] No English Wikipedia page available.

3.116 Jonathan Zenneck (1871-1959)

Jonathan Zenneck was a German physicist, investigator of the ionosphere, and pioneer of radio communications. Together with Ferdinand Braun he developed a cathode ray tube, and later he conducted early experiments on wireless telegraphy in Cuxhaven. As an officer in the reserves, he had to fight in the First World War; thereafter he probed the ionosphere with echo sounding, with a view to improving communications technology. In 1933 he took over as head of the Deutsches Museum in Munich. Zenneck was the president of the German Physical Society from 1935-1937, 1939-1940, and 1950-1951 [12, 11]. Despite his political proximity as a member of the nationally conservative German National People's Party [DNVP], he never became a member of the National Socialists. Because of that he was also able to remain responsible for the re-opening of the Deutsches Museum after the Second World War. In addition to a letter of condolence in the name of the Deutsches Museum (see Section 5.10), in a personal condolence he also wrote:

‘‘...Thus may it also be a comfort to you to know that everyone who had the privilege of knowing your husband grieves with you not only for the great scholar who completely revolutionized the foundations of physics, but also for the remarkable man whose personal charisma no one could resist...’’

3.117 Ernst Zimmer (1887-1965)

Ernst Zimmer[66] was a German physicist and non-fiction author. In his schoolboy days he was already friends with members of the Planck family who went to the same school he did, among them Planck's son Karl. After his studies in the fields of chemistry, physics, mineralogy, and philosophy, he taught in various capacities and places. It was a major goal of his work to make the principles of physics accessible to the general public and to encourage the public to become interested in the field. To further this purpose, he wrote books such as "Revolution in the World View of Physics," for which Max Planck wrote a foreword. The book was very influential and was re-published many times. In his four page-long personal letter, he describes his memories of Max Planck, from their conversations about the mountains in the Tyrol, which they both loved (like Planck, Zimmer was a member of the German Alps Association),[67] to his scientific achievements.

[66] No English Wikipedia page available.
[67] Alpenverein

4 Condolences from Scientific Organizations

In addition to personal condolences from various scientists, which were presented in the previous chapters, there also exist numerous expressions of sympathy from domestic and foreign scientific organizations. These are listed below and explained more fully in Chapter 5.

Table 4.1: 45 condolences which have been registered up to date, on the death of Max Planck from scientific organizations. Letters and telegrams to Planck's widow, Marga. Details on the letters can be found under the Section link as described in the last column. The complete letters (scans) are available in the Planck Repository. Abbreviations: KWI = Kaiser Wilhelm Institute; KWG = Kaiser Wilhelm Society

Organization	Location	Date	Details
Accademia delle Scienze di Torino	Turin	11/07/1947	5.1
Accademia Nazionale dei Lincei	Rome	11/05/1947	5.2
Akademie der Wiss. in Göttingen	Göttingen	10/18/1947	5.3
Akademie der Wissenschaften in Wien	Vienna	10/16/1947	5.4
Akademie der Wissenschaften in Wien*	Vienna	10/16/1947	5.5
Akademie von Athen	Athens	12/05/1947	5.6
Cambridge Philosophical Society	Cambridge	11/04/1947	5.7
Cavendish Laboratory	Cambridge	10/18/1947	5.8
Deutsche Forschungsanstalt f. Psychiatrie	Munich	10/07/1947	5.9
Deutsches Museum	Munich	10/07/1947	5.10
Forschungsstelle für Wasserbau ...	Munich	10/10/1947	5.11
Franklin Institute	Philadelphia	11/26/1947	5.12
Freies Deutsches Hochstift...	Frankfurt	10/15/1947	5.13
Goethe-Gesellschaft	Weimar	10/07/1947	5.14
Kaiserlich Leopoldinisch-Carolinisch...	Halle	10/07/1947	5.15
Koninklijke Nederlandsche Akademie...	Amsterdam	10/30/1947	5.16
KWG, Hydrobiologische Anstalt	Plön	10/07/1947	5.17
KWI für Arbeitsphysiologie	Dortmund	10/08/1947	5.18

continued on next page

Organization	Location	Date	Details
KWI für Physik Dahlem	Berlin	10/07/1947	5.19
KWI für Eisenforschung	Düsseldorf	10/07/1947	5.20
KWI Heidelberg	Heidelberg	10/04/1947	5.21
KWI für Metallforschung	Stuttgart	10/07/1947	5.22
KWI für Silikatforschung	Königshofen	10/07/1947	5.23
Medizinisch-Naturwiss. Gesellschaft	Jena	11/05/1947	5.24
National Academy of Sciences	Washington, D.C.	11/26/1947	5.25
Phil.-Theol. Akademie (Studierende)	Paderborn	10/09/1947	5.26
Physikalische Gesellschaft Zürich	Zürich	10/10/1947	5.27
Physikalisch-Medizinische Sozietät	Erlangen	11/07/1947	5.28
Physikalischer Verein	Frankfurt	10/30/1947	5.29
Suomalainen Tiedeakatemia	Helsinki	11/29/1947	5.30
Technische Hochschule	Munich	11/03/1947	5.31
Technische Universität	Berlin	10/14/1947	5.32
Universität Athen	Athens	12/01/1947	5.33
Universität Berlin (MN-Fakultät)	Berlin	10/05/1947	5.34.1
Universität Berlin (Studentenschaft)	Berlin	10/08/1947	5.34.2
Universität Berlin (Studierende)	Berlin	10/05/1947	5.34.3
Universität Frankfurt	Frankfurt	10/24/1947	5.35
Universität Göttingen	Göttingen	10/04/1947	5.36
Universität Göttingen – Studenten	Göttingen	-	5.37
Universität Graz	Graz	11/05/1947	5.38
Universität Kiel	Kiel	10/10/1947	5.39
Universität Rostock	Rostock	10/29/1947	5.40
University of Cambridge	Cambridge	11/10/1947	5.41
Vogelwarte Radolfzell der KWG	Radolfzell	10/07/1947	5.42
Wittheit zu Bremen	Bremen	10/25/1947	5.43

5 Information on the Organizations and Their Letters

The general information on the organizations is mostly taken from their Wikipedia pages (linked to the name of the organization), where further details can be found.

5.1 Accademia delle Scienze di Torino

The Academy of Sciences in Turin[1] was founded in 1757. The letter of condolence is signed by the Commisario, Professor Alfredo Pochettino.

5.2 Accademia Nazionale dei Lincei

The National Academy of the Lynx-Like was founded in 1603. In 1611 Galileo Galilei, among others, became a member. The letter of condolence is signed by its president, Prof. Guido Castelnuovo.

5.3 The Academy of Sciences in Göttingen

The Academy of Sciences in Göttingen was founded in 1751 and re-named as the Lower Saxony Academy of the Sciences in Göttingen in 2022. The letter of condolence is signed by its president, Professor Dr. Correns, and notes that Planck had been a member of the Academy since 1901.

5.4 Academy of Sciences in Vienna

The Imperial Academy of the Sciences in Vienna was founded in 1847 and re-named the Academy of the Sciences in Vienna in 1921. In 1947 it again changed its name to the Austrian Academy of the Sciences. The letter of condolence was signed by its president, Professor Dr. Heinrich von Ficker (see Section 3.33). It emphasizes the fact that Planck had been a member for 32 years and an honorary member for 25 years. Above and beyond that, it says

[1] No English wikipedia page found. More information on the home page.

‘‘With the death of the right honorable[2] Max Planck, one of the most important scientists of the present day, one of the most noble figures of German learning, has left us. His scientific discoveries have made the entire world take note. His unfailingly pure striving for truth has done more for his people than so much of what gained outward fame and glory during his lifetime...’’

5.5 Academy of Sciences in Vienna*

There is also another letter of condolence in the collection from the president of the Austrian Academy of the Sciences (see Section 5.4), Prof. Dr. Heinrich von Ficker, and from its general secretary, Josef Keil. It was addressed to the Deutsche Akademie der Wissenschaften [German Academy of the Sciences] in Berlin, and it forwarded a copy to Marga Planck. It says, among other things,

‘‘Equally significant both as a man and as a scholar, the right honorable[3] Max Planck incorporated an intellectuality that provoked esteem and admiration from the world. In his works, scientific rigorousness and boldest thoughts were united to remarkable perfection. His scientific achievements brought about a new age in physics. His discoveries had far-reaching effects that touched all the sciences, gave philosophy new perspectives, and transformed the entire scientific worldview. His being and his name were an intellectual shield for his people; they increased the reputation of the German nation in all the world and heightened its fame.’’

5.6 The Academy of Athens

The Academy of Athens[4] was founded in 1926. It is the leading supporter of academic research outside of universities and the central scientific organization of Greece. The letter of condolence was signed by its president, Professor J. Kalitsunakis (see Section 3.54), and its general secretary, G.P. Oikonomos.

[2] German: Geheimrat
[3] German: Geheimrat
[4] There is only a very short English Wikipedia page.

5.7 Cambridge Philosophical Society

The Cambridge Philosophical Society is a scientific society at the University of Cambridge, and was founded in 1819. The letter of condolence was signed by its president, Sir William Vallance Douglas Hodge, see Section 3.51. It reads, in part,

''The Society has been very proud to count Professor Planck amongst its most famous foreign members for thirty-three years, and we are deeply conscious of the honour he did us in joining our Society. Many of us have the happiest recollections of meeting him during his visit to Cambridge in 1946...''

5.8 Cavendish Laboratory

The Cavendish Laboratory Cambridge is the world-famous Institute of Physics at the English University of Cambridge, and was founded in 1873. The letter, signed by William Lawrence Bragg (see Section 3.13), reads, in part,

''We have felt a warm affection for your husband, as well as our profound admiration of his scientific work. We were so glad that we had an opportunity of meeting him again not long ago, when he visited Cambridge. His name will always be an honoured one amongst scientists over the whole world...''

5.9 Deutsche Forschungsanstalt für Psychiatrie

The German Research Institution for Psychiatry was opened in 1917 in Munich, and in 1924 became affiliated with the Kaiser Wilhelm Society. In 1954 the institute was taken over by the Max Planck Society, while preserving the original endowment. The letter is signed by Willibald Scholz (in 1947 he was serving as the Managing Director of the German Research Institution for Psychiatry), Franziska Pruckner (as Head/Director of the Serological Institute), and Franz Jahnel (as Head/Director of the Institute for Spirochete Research). The letter says, in part, about Max Planck:

''The obligation remains ours to carry out our work as he would have, to bring up our youth in a manner in which we may use him as their model as a man and as a scientist.''

5.10 Deutsches Museum Munich

The Deutsche Museum von Meisterwerken der Naturwissenschaft und Technik[5] was inaugurated in 1925. Its mission is to explain scientific and technological achievements to the interested layperson in as accessible, illustrative, and comprehensible a manner as possible. To this end, it shows the historical development of science and technology as well as its significance for technical and societal development using selected examples. As a research museum, today the Deutsches Museum is a member of the Leibniz Society.

Its letter is signed by Jonathan Zenneck, who led the museum from 1933 until 1953 (see Section 3.116). From the letter one can learn that Max Planck was continuously interested in the museum and had functioned as the chairman of its board for 3 years. Additionally in the letter it says:

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‘‘Now this man has passed on, whom the physicists of the
whole world have admired as one of the heroes of their
science, and who everyone who was privileged to know him
personally revered as a noble, kind man, who was interested
in everything beautiful.’’
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5.11 Forschungsstelle für Wasserbau und Wasserkraft Obernach

The Research Station for Hydraulic Engineering and Water Power Munich, with an experimental station in Obernach near Lake Walchen[6] was taken over in 1925/26 by the Kaiser Wilhelm Society. Its letter was signed by its director, Dr. Hanns Jakob Kirchbach.

5.12 The Franklin Institute

The Franklin Institute in Philadelphia, founded in 1824, is a science museum and a center for scientific education and research in Philadelphia, Pennsylvania, USA. The letter in the name of the president and the members of the Board of Governors is signed by the secretary of the Institute. In the letter they emphasize that Planck was an honorary member of the Institute and that in 1927 he had received the Institute’s highest award, the Benjamin Franklin Medal.

[5] Translation of full name: German Museum of Masterpieces of Science and Technology.

[6] The research station is listed on the German page of the Kaiser-Wilhelm Society. The station is now part of the chair “Hydraulic Engineering” of the School of Engineering and Design of the Technical University Munich. See this link for further information.

5.13 Freies Deutsches Hochstift Frankfurter Goethemuseum

The Free German Distinguished Foundation Frankfurt Goethe Museum is an association based in Frankfurt and was founded in 1859. Since 2009 its name has officially been "The Frankfurt Goethe House – Free German Distinguished Foundation." The association devotes itself to running the Frankfurt Goethe House and the German Romantic Museum, as well as promoting editions of literary works. Its letter is signed by Ernst Beutler, who had been its director since 1925. He mentions that in 1945 he had brought Planck the document notifying him that he had won the Goethe Prize (see Section 3.5).

5.14 Goethe-Gesellschaft

The Goethe-Gesellschaft in Weimar e.V. [7] was founded in 1885. Today it has over 50 branches in Germany. Moreover, there are 40 Goethe Societies in foreign countries. The Society's telegram was signed by Prof. Anton Kippenberg, who was its president 1938-1950. In the telegram it is mentioned that Max Planck was an honorary member and had been a member of the board of the Society for many years.

5.15 Kaiserlich Leopoldinisch-Carolinisch Deutsche Akademie der Naturforscher

The Academia Naturae Curiosorum was founded in 1652 and later named for Emperor Leopold I. It is the oldest continuously existing scientific research academy in the world, and in 2008 was re-named as the National Academy of the Sciences Leopoldina. The letter of condolence in the name of the president was signed by the vice-president, O. Schlüter. In it he emphasizes the close relationship of the Leopoldina to Planck as one of its "very few honorary members." It furthermore remarks that

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''...An especially broad circle of admirers deeply mourns
with his family. For he was one of the greatest in the empire
of the sciences, whose long research career, so rich in work
and important successes, has now reached its end...''
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[7] More information is given on the German page.

5.16 Koninklijke Nederlandsche Akademie van Wetenschappen

The Royal Dutch Academy of the Sciences (KNAW) was founded in 1808. The letter of sympathy from the deputy secretary, Professor Dr. J.M. Burgers (see Section 3.17), mentions that Max Planck had been a member of the Academy since 1926.

5.17 Hydrobiologische Anstalt der Kaiser-Wilhelm-Gesellschaft in Plön

The Hydrobiological Station of the Kaiser Wilhelm Society in Plön[8] goes back to the Biological Station founded there in 1891. It was taken over by the Kaiser Wilhelm Society in 1917, and the Max Planck Society in 1948. The telegram from the station was signed by Professor Friedrich Lenz (see Section 3.66.

5.18 Kaiser-Wilhelm-Institut für Arbeitsphysiologie

The Kaiser Wilhelm Institute for Industrial Physiology was founded in Berlin in 1913 and moved to Dortmund in 1929. In 1948 the institute was re-named the Max Plank Institute for Industrial Physiology. Today it is known as the Max Planck Institute for Molecular Physiology. The letter of condolence was written by its director, Prof. Dr. Gunther Lehmann.

5.19 Kaiser-Wilhelm-Institut für Physik Dahlem

The Kaiser Wilhelm Institute for Physics Dahlem,[9] since 1948 the Max Planck Institute for Physics Dahlem, sent a telegram together with the Dahlem Scientific Colloquium. It was signed by Professor Hartmut Kallmann (see Section 3.55).

5.20 Kaiser-Wilhelm-Institut für Eisenforschung

The Kaiser Wilhelm Institute for Iron Research was absorbed into the Kaiser Wilhelm Society in 1917. At first it was located in Aachen, but in 1921 was moved to Düsseldorf. In 1943 the institute was removed to the Bergakademie Clausthal [Mountain Academy Clausthal], and in 1948 was taken over by the Max Planck Academy. In April of 2024 the institute was re-named the Max Planck Institute for

[8] No English page available.
[9] No English Wikipedia page available..

Sustainable Materials. It sent a telegram which was signed by Eduard Herzog and Franz Wever (see Section 3.113).

5.21 Kaiser-Wilhelm-Institut für medizinische Forschung

The Kaiser Wilhelm Institute for Medical Research was founded in 1930 and renamed the Max Planck Institute for Medical Research in 1948. It sent a telegram, which was signed by Nobel Prize-Winner Professor Richard Kuhn (see Section 3.59).

5.22 Kaiser-Wilhelm-Institut für Metallforschung

The Kaiser Wilhelm Institute for Metals Research was founded in Berlin in 1921, and moved to Stuttgart in 1934. In 1949 it was re-named as the Max Planck Institute for Metals Research, and finally in 2011 it became the Max Planck Institute for Intelligent Systems. The letter of sympathy is written in the name of the board and the members of the institute, and was signed by its director, Prof. Werner Köster (see Section 3.58).

5.23 Kaiser-Wilhelm-Institut für Silikatforschung

The Kaiser Wilhelm Institute for Silicate Research[10] was founded in 1926 in Berlin-Dahlem and moved to Lower Franconia and the Rhön area in 1943. In 1948 it was newly founded in Würzburg as the Max Planck Institute for Silicate Research. In 1971 the Frauenhofer Society took over the institute. The institute sent a telegram signed by Prof. Adolf Dietzel und Dr. Karl Schusterius.

5.24 Medizinisch-Naturwissenschaftliche Gesellschaft zu Jena

The Medical-Scientific Society of Jena sent condolences through its chairman, Professor von Skramlik (see Section 3.104).

[10] No English Wikipedia page available.

5.25 National Academy of Sciences

The National Academy of Sciences (NAS) was founded in 1863 by the United States Congress. The letter of condolence was signed by its executive secretary, Raymund L. Zwemer.

5.26 Philosophisch-Theologische Akademie Paderborn Bad Driburg

The Philosophical-Theological Academy Paderborn[11] grew out of the Theological Division of the University in Paderborn and has been so named since 1917. During the Second World War and until 1949 classes and academic activities were moved to Bad Driburg. The student body sent a telegram, which was signed by Karl Schneider.

5.27 Physikalische Gesellschaft Zürich

The Physical Society of Zurich was founded in 1887. Its letter of condolence is signed by its president, Senior Lecturer[12] Dr. G. Busch.

5.28 Physikalisch-Medizinische Sozietät Erlangen

The Societas physico-medica Erlangensis was founded in 1808 with the goal of exchanging "thoughts, observations, and experiences from all areas of science, technology, and medicine." Its letter of condolence was signed by its chairman, professor and physician Kurt Gross.

5.29 Physikalischer Verein zu Frankfurt am Main

The Physical Association – Society for Education and Science[13] was founded in 1824. Its letter of condolence is signed by its chairman, Ludwig Protz. It reads, in part,

‘‘Since 1894 the Physical Association has been able to call the deceased one of its honorary members. The Association is proud of this distinction... The attempts of this world-famous scholar and researcher to see beyond physics and to relate it

[11] No English Wikipedia page available.
[12] Privatdozent
[13] No English Wikipedia page available.

to other intellectual problems and large questions brought him particularly close to us. His memory will always be held in high esteem and never be erased!''

5.30 Suomalainen Tiedeakatemia

The Finnish Academy of Science and Letters was founded in 1908. Its brief expression of sympathy was signed by its secretary.

5.31 Technische Hochschule München

The Technical College of Munich was founded in 1868 as a (new) polytechnical school and was known from 1877 on as the Royal Bavarian Technical College of Munich. The re-naming from Technical College of Munich to Technical University of Munich (TUM) came about in 1970. Its letter was signed by the rector of the college, Professor Ludwig Föppl (see Section 3.36) and notes that Planck held an honorary doctorate from the college.

5.32 Technische Universität Berlin

The Technical University of Berlin-Charlottenburg was founded in 1879 as the Royal Technical College of Berlin. In 1946, now destroyed and in the British sector of divided Berlin, the educational institution was newly founded as the Technical University of Berlin, with a revised emphasis on the humanities. Its letter is signed by the rector of the TU Berlin, Professor and Dr. of Engineering Jean D'Ans (see Section 3.22).

5.33 Universität Athen

The National and Kapodistrian University of Athens was founded in 1837 and sent a letter of sympathy which was signed by its rector, Sp. Dontas.

5.34 Universität Berlin

The University of Berlin, called the Friedrich Wilhelm University of Berlin between 1828 and 1945, and since 1949 Humboldt University, sent three telegrams.

5.34.1 Mathematisch-Naturwissenschaftliche Fakultät [Department of Mathematics and Sciences]

A telegram was sent in the name of the Department of Mathematics and Sciences and was signed by Dean Kurt Noack (see Section 3.77).

5.34.2 Studentenschaft der Universität [The Student Body of the University]

A telegram was sent in the name of "The Student Body of the University of Berlin" and was signed by Gerhard Petermann. It read, in part,

''THE RIGHT HONORABLE[14] MAX PLANCK WILL REMAIN FOR ALL TIME A MODEL FOR YOUNG GERMAN STUDENTS AND A MOTIVATION TO THE HIGHEST ACHIEVEMENT.''

5.34.3 Studenten der Universität [Students of the University]

A telegram was sent in the name of the "Mathematical Physical Work Group" of the university. Herbert Stachowiak was listed as the sender. The text was as follows (corrected):

''THE STUDENTS OF THE UNIVERSITY OF BERLIN EXPRESS THEIR DEEPLY FELT SYMPATHY TO YOU ON THE DEATH OF THE GREATEST SCHOLAR OF OUR CENTURY.''

5.35 Universität Frankfurt

The Goethe University of Frankfurt was opened in 1914 as an endowed university and sent a letter of condolence, signed by the rector, Walter Hallstein.

5.36 Universität Göttingen

The Georg August University of Göttingen was founded in 1732. Its letter of condolence was signed by the registrar and reads, in part,

''The hour in which the most important scholar of our time ended his existence is a moment of reverent contemplation and profound emotion for everyone who takes conscious part in the intellectual existence of humanity...''

[14] German: Geheimrat

5.37 Universität Göttingen – Students

There is also another letter (undated) from the University of Göttingen; this one is from student representatives of the Department of Mathematics and Sciences and is signed by the first faculty representative, Kund Rub (?). It reads, in part,

''Full of reverence we stand at the grave of the man who as the most upright servant of science was its complete master. May you find comfort in the thought that the right honorable[15] Planck leaves behind a generation of young academics who are inspired by the desire to emulate his great example and to continue to further science in his spirit.''

5.38 Universität Graz

The University of Graz, previously known as the Karl Franzen University, was founded in 1585 and sent a condolence card, signed by the rector, Hans Gerstinger.

5.39 Universität Kiel

Kiel University (also referred to as CAU Kiel, German name Christian-Albrechts-Universität zu Kiel) was founded in 1665. The letter is signed by Rector Professor Hermann von Mangoldt (see Section 3.68). The letter says, in part, about Max Planck,

''...Alone the seldom-awarded title of Honorary Senator may indicate to you what he meant to us. Throughout the decades we felt particularly connected to him, and it was precisely that which was to be expressed through the first awarding of the title of Honorary Senator to him. The University of Kiel always regarded it as one of its most special honors to be able to count this man, who by virtue of his scientific achievements was world-renowned, among its own in this manner.''

5.40 Universität Rostock

The University of Rostock was founded in 1419. In 1919 the university granted Max Planck, along with Albert Einstein, an honorary doctorate. The letter is signed by Rector Professor Günther Rienäcker (see Section 3.85).

[15] German: Geheimrat

5.41 University of Cambridge

The University of Cambridge was founded in 1209 and is one of the world's leading universities. The letter of condolence was sent by the Vice Chancellor of the University (without his name or signature), and emphasizes that the University is proud to count Planck among its honorary graduates.

5.42 Vogelwarte Radolfzell (vorher Rossitten) der Kaiser-Wilhelm-Gesellschaft

The Ornithological Station Rossitten was located in Rossitten (Rybatschi) on the Curonian Spit in East Prussia between 1901 and 1944. From 1923 on it belonged to the Kaiser Wilhelm Society. Since 1946 the work of the station has been carried on by the Ornithological Station Radolfzell on Lake Constance, which has belonged to the Max Planck Society since 1959 and is currently a part of the Max Planck Institute for Behavioral Biology. A Russian ornithological station in what is today Rybatschi is also a successor to the Ornithological Station Rossitten. The letter is signed by the head of the ornithological station, Dr. Ernst Schüz, and was written in the name of his colleagues as well as of the Schüz family (see Section 3.100).

5.43 Die Wittheit zu Bremen

The Wittheit zu Bremen is the Scientific Society of the Free Hansa City of Bremen and was founded in 1824. The letter of condolence was signed by its president, Prof. Dr. Hermann Entholt.

6 Epilogue

In this volume of the Kiel Max Planck Series we have presented an overview of the letters of condolence from the scientific world on the death of Max Planck which were found in his papers. Because of the great number of such letters, we were constrained in how many we could present individually. We used public interest as a basis for deciding which letters to include, and selected those which were especially detailed or especially personal, reasoning that they would thus be of interest to many readers. Some other letters are written in an older script[1] no longer in use. Their transcription is available online. The complete letters are present and accessible digitally via the additional materials to this book. Readers may make themselves a complete picture using these materials. Please, go to the online repository to access the letters.

Besides the condolences from the scientific world, there are numerous communications from the non-academic population, as well as from representatives of municipal or regional governmental organizations. These will be published in this series at a later time.

Since the documents in the estate were not well ordered, it is possible that despite thorough searches some further condolences have not yet been identified as such. Future finds will be published as updates to this volume.

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[1] Sütterlin

(Section 3.28), E. Fischer (Section 3.34), R. and W. Gerlach (Section 3.41), R. Goldschmitt (Section 3.43), G. Hettner (Section 3.50), W. Huth (Section 3.52), H. Kindermann (Section 3.56), and H.H. Rebel (Section 3.82). We thank Hannes Ohldag for producing the high-resolution scans of the letters. Our thanks go to Wiebke Buckow for the cover design and Kai Lohsträter for his support in setting up the series. We thank Ove Sörensen for support with the data repository for the scans of the original documents.

Bibliography

[1] Michael Bonitz. Max Planck, Kiel und die Quantenphysik. *Schleswig-Holstein*, (Winter/Frühjahr):110–125, 2023.

[2] Michael Bonitz und Oliver Auge (Hg.). *Kieler Beiträge zu Max Planck*, volume 1. Universitätsverlag Kiel, Kiel, 2024.

[3] Karoline Liebler. Max Planck und die digitale Erfassung seines Nachlasses. *Schleswig-Holstein*, (Winter/Frühjahr):126–127, 2023.

[4] Erik Schroedter. Kondolenzschreiben zum Tode Max Plancks. *Schleswig-Holstein*, (Winter/Frühjahr):139–145, 2023.

[5] Erik Schroedter und Michael Bonitz. 125 Jahre sind erst der Anfang — Erinnerungen an Max Plancks Leistungen und seine letzten Jahre. *Schleswig-Holstein*, (Winter), 2024.

[6] Michael Bonitz und Oliver Auge (Hg.). *Kieler Beiträge zu Max Planck*, volume 2. Universitätsverlag Kiel, Kiel, 2024.

[7] Hans Roos und Armin Hermann (Hg.). *Max Planck: Vorträge Reden Erinnerungen*. Springer, Berlin, Heidelberg, 2001.

[8] Rüdiger Hachtmann. *Wissenschaftsmanagement im "Dritten Reich"*. Wallstein Verlag GmbH, Berlin, 2007.

[9] Rüdiger Hachtmann. Eng mit dem NS-System verwoben. Zur Geschichte der Kaiser-Wilhelm Gesellschaft während des "Dritten Reiches". In *Informationen. Wissenschaftliche Zeitschrift des Studienkreises Deutscher Widerstand 1933-1945*. 2008.

[10] Dieter Hoffmann and Mark Walker (Hg.). *Physiker zwischen Autonomie und Anpassung*. Wiley VCH-Verlag, Weinheim, 2007.

[11] Dieter Hoffmann. Zwischen Autonomie und Anpassung: Die Deutsche Physikalische Gesellschaft im Dritten Reich. Technical Report 192, Max-Planck-Institut für Wissenschaftsgeschichte, 2001.

[12] Stefan L. Wolff. Die Ausgrenzung und Vertreibung der Physiker im Nationalsozialismus - welche Rolle spielte die Deutsche Physikalische Gesellschaft? In *Physiker zwischen Autonomie und Anpassung*, chapter 4. Wiley VCH-Verlag, 2007.

[13] Dieter Hoffmann. *Max Planck. Die Entstehung der modernen Physik*. C.H. Beck, München, 2008.

[14] Dieter Hoffmann. "Anders ist es mit den paar Einzelnen.... Albert Einsteins Verhältnis zur Deutschen Physikalischen Gesellschaft". *Physik Journal*, 4(3):85–90, 2005.

[15] Götz Aly. *Warum die Juden? Warum die Deutschen? Gleichheit, Neid und Rassenhass 1800–1933*. Fischer Taschenbuch Verlag, Frankfurt am Main, 2012.

[16] Edgar Swinne. *Richard Gans. Hochschullehrer in Deutschland und Argentinien*. ERS-Verlag, Berlin, 1991.

[17] Dieter Hoffmann, Hole Rößler, and Gerald Reuther. "Lachkabinett" und "großes Fest" der Physiker. Walter Grotrians "physikalischer Einakter" zu Max Plancks 80. Geburtstag. Technical Report 369, Max-Planck-Institut für Wissenschaftsgeschichte, 2009.

[18] Richard Beyler, Michael Eckert, and Dieter Hoffmann. Die Planck-Medaille. In *Physiker zwischen Autonomie und Anpassung*, chapter 7. Wiley VCH-Verlag, 2007.

[19] Georg Hettner. Die Bedeutung von Rubens Arbeiten für die Plancksche Strahlungsformel. *Naturwissenschaften*, 10:1033–1038, 1922.

[20] Christ Kirsten and Hans-Günther Körber (Hg.). *Physiker über Physiker II*. Akademie-Verlag, Berlin, 1979.