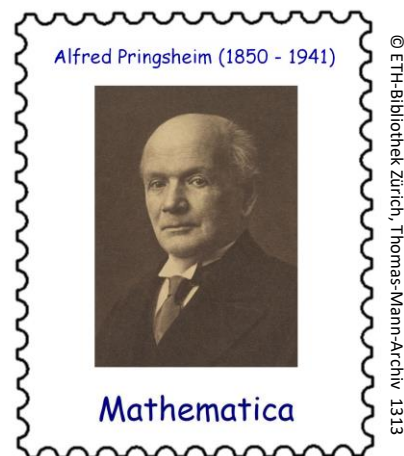


ALFRED PRINGSHEIM (September 2, 1850 –June 25, 1941)

by HEINZ KLAUS STRICK, Germany

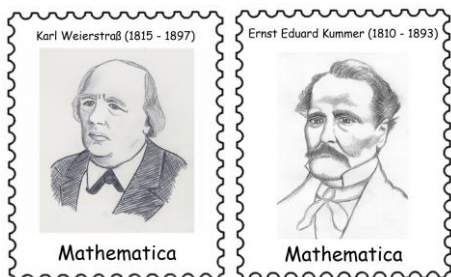
The mathematician ALFRED PRINGSHEIM is remembered for a number of theorems and ideas for proofs on the analysis of complex functions and on the theory of continued fractions. His lectures on number and function theory, which were exemplary for subsequent generations, appeared in five volumes between 1916 and 1932 and contain detailed contributions on the principles and applications of function theory, on the convergence of infinite series, infinite products and continued fractions. Although he himself had not studied under WEIERSTRASS, he was considered one of his most consistent successors in terms of methodological rigour in his proofs; he also achieved crucial simplifications of proofs, for example on CAUCHY's integral theorem of 1814.



ALFRED PRINGSHEIM was born in 1850 as the first child of RUDOLF PRINGSHEIM and PAULA DEUTSCHMANN in Ohlau, Lower Silesia, (today Olawa in Poland) about 35 km southeast of Breslau. This was the same year in which RICHARD WAGNER wrote his anti-Semitic pamphlet *On Judaism in Music*.

ALFRED's father had acquired a very large fortune as the owner of a coal mine in Upper Silesia and through the purchase and successful restructuring of a railway company during the industrialization of Upper Silesia.

After attending the Maria Magdalena Gymnasium in Breslau, where ALFRED's special talents in mathematics and music became apparent, he began studying mathematics and physics at the Humboldt University in Berlin in 1868 and the following year he transferred to the Ruprecht Karls University in Heidelberg.

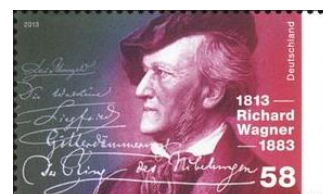


In 1872 he received his doctorate there under LEO KÖNIGSBERGER, a student of WEIERSTRASS and KUMMER (the doctoral regulations in Heidelberg at the time did not stipulate that candidates had to submit a doctoral thesis).

His attempt to qualify as a professor at the University of Bonn failed because of a curious question: During the colloquium, PRINGSHEIM was asked by one of the examiners present how he would solve a quadratic equation, which the proven expert in complex function theory was unable to understand ...

It was not only this event that made PRINGSHEIM doubt whether he should continue his career as a mathematician or switch to music. The excellent pianist could certainly have made his way there too. Enthusiastic about RICHARD WAGNER's music, he was one of his early followers and thanks to his family's wealth, he was also one of the first to help finance the Bayreuth Festival Hall (whose foundation stone was laid in 1874) and to attend performances from the very beginning. (The first performance of the complete *Ring of the Nibelung* was in 1876.) PRINGSHEIM's enthusiasm for WAGNER's music went so far that he even had to face a pistol duel because he had thrown a beer mug at the head of a visitor to a bar when he had made disparaging comments about WAGNER's music. The duel ended bloodlessly as neither opponent hit the target.

PRINGSHEIM was in close personal and written contact with WAGNER over the years. He transcribed excerpts from WAGNER's *Götterdämmerung* for piano, among others. He continued to perform these arranged pieces in private until he was very old.



PRINGSHEIM attended a performance of *Romeo and Juliet* in the theatre in Meiningen, fell in love with the 21-year-old leading actress GERTRUDE HEDWIG ANNA DOHM and courted her. The actress was the daughter of MARIANNE ADELAIDE HEDWIG DOHM, a well-known writer and women's rights activist, and ERNST DOHM, the editor of the political-satirical magazine *Kladderadatsch*.

PRINGSHEIM had decided on a career in mathematics. After successfully completing his *habilitation* in Munich in 1877, he was allowed to give lectures as a private lecturer, for which he received no salary – as was usual (he got only the fees that the listeners to his lectures had to pay), but he did not need this because of his family's wealth. Before he could marry his beloved HEDWIG, however, he needed permission from the university, which was granted, so that the marriage took place in October 1878.

The happy marriage of ALFRED and HEDWIG PRINGSHEIM produced five children in quick succession: three sons, ERIK, PETER and HEINZ, and the twins KLAUS and KATIA. ALFRED's and HEDWIG's parents were of Jewish origin, though ALFRED described himself as a *non-practicing Mosaic*, and HEDWIG had been baptised as a Protestant. In 1885, the couple had all their five children baptised as Protestants.

From 1890 onwards, the family lived in what the public called the *Palais Pringsheim* on the edge of the Königsplatz in Munich; it was one of the first houses with electric lighting, telephone and central heating. The receptions in the Renaissance-style house became a social meeting place for musicians, artists, scientists and politicians.

When PRINGSHEIM's father died in 1901, ALFRED inherited a fortune of 13 million marks, and property that yielded 800,000 marks in dividends annually. PRINGSHEIM, a patron of art and music, used this to purchase valuable works of art – including goldsmith's work from the 15th and 16th centuries and what is probably the world's largest collection of Italian *majolica* (colourfully painted tin-glazed ceramics). The famous painter FRANZ VON LENBACH was commissioned to paint portraits of all members of the family.



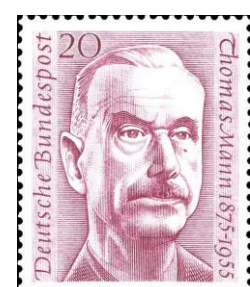
PRINGSHEIM's academic career also progressed. In 1886 he was appointed associate professor, and in 1898 he became a member of the *Bavarian Academy of Sciences*. From 1901 until his retirement in 1922 he held a full professorship and during this period two female and eleven male students completed their doctorates under him.

His most famous student, OSKAR PERRON succeeded him in his chair. (PERRON had completed his doctorate under FERDINAND VON LINDEMANN in 1902. When LINDEMANN retired in 1924, PRINGSHEIM helped to ensure that CONSTANTIN CARATHÉODORY became his successor.)



PRINGSHEIM gained great respect not only for his perfectly prepared lectures and presentations, but his annual "beer speech" with witty wordplay was the social highlight at the Congress of the *German Mathematical Society* and was also a topic of conversation in the months that followed.

PRINGSHEIM's daughter KATIA, who had been privately tutored from the age of seven, was the first woman in Munich to be admitted to the *Abitur* examination in 1901 (after passing a preliminary examination) and then, upon application, to study mathematics and physics. When the 29-year-old writer THOMAS MANN, who had become famous through the novel *Buddenbrocks*, met her at a reception in February 1904, he was so enchanted by her that he soon asked for her hand in marriage. After KATIA had requested a six-month period of reflection, she agreed to the marriage, which was then celebrated in February 1905. KATIA continued her studies until she became pregnant for the first time.



During World War I, the patriotic PRINGSHEIM subscribed to war bonds for most of his cash, leaving little left after the war and the subsequent inflation. From then on, he and his wife lived off his pension and – as he used to say – "from the wall to the mouth", i.e. from the sale of works of art from their collections.

After the Nazis seized power, the PRINGSHEIMS were forced to give up their house – as were their neighbours. The new government had all the houses on the street demolished and administrative buildings built. In their new apartment there was no room for the valuable mathematical library; this too had to be sold. When ALFRED PRINGSHEIM refused to take the oath of allegiance to HITLER in 1934, his pension was reduced.

KATIA and THOMAS MANN, who had lived in exile in Switzerland since the seizure of power, urged the PRINGSHEIMS to leave the country before it was too late; but they saw no danger – not even when their passports were confiscated in 1937. After *Kristallnacht* in 1938, the SS confiscated the entire gold and silver collection and the LENBACH portrait of HEDWIG PRINGSHEIM was seized for the planned *Führer Museum* in Linz (the authorities did not realise that HEDWIG was of Jewish descent).

From 1939 onwards, ALFRED WAS forced to add "ISRAEL" as a middle name. Anyone who wanted to leave the country now had to pay a *Reich flight tax*. The Majolica collection was auctioned off at Sotheby's in London – at well below its market value. The departure to Switzerland on October 31, 1939, the last day before the border was closed, would have failed if a brave SS man had not picked up the necessary papers for them in Berlin at the last minute.

ALFRED PRINGSHEIM died in exile in Zurich at the age of 91, his widow the following year.

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<https://www.spektrum.de/wissen/alfred-pringsheim-grosser-wagner-fan-und-von-den-nazis-vertrieben/2214585>

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