

The Double Life of Felix Hausdorff / Paul Mongré Tercera y última parte

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Nota. Estimados lectores, reproducimos a continuación la tercera y última parte del artículo

The Double Life of
Felix Hausdorff, Paul Mongré

Este trabajo fue escrito por Walter Purkert, y apareció publicado en la revista The Mathematical Intelligencer en abril de 2009.

El relato sobre la vida de Felix Hausdorff llega a su fin. Esta mini-biografía nos ha acercado a uno de los matemáticos más importantes del siglo XX. Hemos aprendido multitud de detalles de su extraordinaria obra literaria y matemática. Hausdorff es orgullosamente parte de nuestra comunidad. Ahora sabemos que fuimos colegas de una persona increíble. Hausdorff fue de los nuestros, y eso nos hace sentir muy bien. Sin embargo, el final del relato es triste. Los últimos años de Hausdorff y su familia fueron terribles. Ciudadanos judíos en plena Alemania Nazi.

El siglo XX fue, en muchos lugares y momentos, una etapa violenta y oscura. Hausdorff y su familia no pudieron escapar de esa circunstancia.

De todos modos, recomendamos ampliamente la lectura de este texto. La primera y segunda parte de este trabajo se encuentran en los números 788 y 790 del Boletín.

Walter Purkert es miembro del Mathematical Institute, Bonn University, Alemania. Agradecemos profundamente a nuestra querida colega, la profesora Elsa Puente por ponernos al tanto de este artículo. La versión completa se puede consultar en la página:

<https://link.springer.com/article/10.1007/BF03038095>

In 1927 Hausdorff published his book *Mengenlehre* as the second edition of the *Grundzüge*. In reality this was a totally new book. In order to appear in the Goshen series, it was necessary to provide a far more restricted presentation than in the *Grundzüge*. Thus large parts of the theory of ordered sets and the sections on measure theory and integration had to be dropped. Even more regrettable than these omissions -according to Hausdorff in his preface- was the need to save further room in point set theory by sacrificing the topological standpoint, despite its attractions for many readers of the first edition, and instead confining the discussion to the simpler theory of metric spaces.

Some reviewers of the work expressly regretted this circumstance. As a form of compensation, however, Hausdorff offered an up-to-date presentation of the state of research in descriptive set theory. This ensured that his new book received almost as strong a reception as had the *Grundzüge*, especially in *Fundamenta Mathematicae*. It became a highly popular textbook and appeared again in 1935 in an expanded second edition, which was reproduced by Dover in 1944. An English translation was published in 1957 with new printings in 1962, 1978, and 1991. A Russian edition came out in 1937, although this is not really a true translation; parts of the book were reworked by Alexandroff and Kolmogoroff in order to bring the topological standpoint to the foreground.

In 1928 Hans Hahn wrote a review of the *Mengenlehre*. Possibly Hahn already sensed the dangers of German anti-Semitism. He ended his review with these words:

This in every respect masterful presentation of a difficult and hazardous subject is a work of the type written by those who have carried the fame of German science around the world, a work of which the author as well as all German mathematicians may be proud.

Like most German academics, Hausdorff never engaged directly in political activity. His views were far more liberal, however, than most of his colleagues. After the First World War he joined the newly founded German Democratic Party (DDP), which for a brief time represented a sizable leftist-liberal constituency in the Weimar Republic. Several leading Jewish politicians and intellectuals were drawn to the DDP, including Albert Einstein, but its popularity quickly evaporated during which time its more conservative wing took control. Although never an active member, Hausdorff dropped out of the DDP altogether in the mid-1920s; the party languished on during the years that followed, becoming virtually irrelevant by the time that National Socialists began their dramatic surge.

With the assumption of power by the National Socialists, anti-Semitism became an official state doctrine. Hausdorff was not directly affected in 1933 by the notorious "law to restore the civil service," because he had already been a German civil servant since before 1914. His teaching activity was, however, apparently affected by activities undertaken by Nazi student functionaries. In his manuscript for his lecture course "Infinitesimalrechnung III" held during the winter semester of 1934 to 1935 he noted on page 16: "Interrupted 20 November". Two days later, on 22 November 1934, the "West-deutsche Beobachter" reported in an article entitled "Party educates the Political Students" that "during these days" a working conference of the Nazi Student Union was taking place at Bonn University. The focus of their work during this semester was the theme of "race and folklore." These circumstances make it likely that Hausdorff's decision to break off his lectures was connected with this political activity.

On 31 March 1935, after some back and forth, Hausdorff retired as an emeritus professor in Bonn. For his forty years of successful labor in German higher education he received not a word of thanks from the then responsible authorities. He continued to work on indefatigably, publishing not only the newly revised version of his book *Mengenlehre* but also seven papers on topology and descriptive set theory, all of which appeared in two Polish journals: one in *Studia Mathematica*, the others in *Fundamenta Mathematicae*.

In his final publication (1938), Hausdorff showed that a continuous mapping from a closed subset F of a metric space E can be extended to all of E (allowing for the possibility that the image space can also be extended). In particular, a homeomorphism defined on F can be extended to a homeomorphism on all of E . This was a continuation of earlier investigations published in 1919 and 1930. In 1919 Hausdorff gave a new proof of the Tietze extension theorem, and in 1930 Hausdorff showed that if E is a metric space and F , closed set, is contained in E , and if on F a new metric is given that leaves the original topology invariant, then this new metric can be extended to the entire space without altering its topology.

Several articles would not suffice to list all the perfidious laws, decrees, ordinances, and other legalistic machinations designed to discriminate and isolate the Jews and to deprive them of their property and rights. Historians have counted them though: up to the November 1938 pogrom there were more than 500 such proclamations. One wonders why Hausdorff, an internationally recognized scholar living under such conditions, did not attempt to emigrate during the mid 1930s. The answer can only remain conjectural: in Bonn he had his home, his library and the possibility to work, some true friends, and although he was always a skeptic, even he would not have considered it possible that the Nazi regime would destroy the economic foundations established by elderly people in the course of their long lives, or that ultimately they would pay with their lives. The November pogrom, which came to be known as the "Night of the Broken Glass", with its open brutality, made all this quite evident and clear. Hausdorff, now over 70, at last made an attempt to emigrate. Richard Courant wrote to Hermann Weyl on 10 February 1939:

Dear Weyl, I just received the enclosed short and very touching letter from Professor Felix Hausdorff (which please return), who is seventy years old and whose wife is sixty-five years old. He certainly is a mathematician of very great merit and still quite active. He asks me whether it would be possible to find a research fellowship for him.

Weyl and John von Neumann provided letters of recommendation that were presumably sent to American institutions and colleagues. Weyl emphasized Hausdorff's many accomplishments and contributions to mathematics, calling him "A man with a universal intellectual outlook, and a person of great culture and charm." These

efforts of Weyl and von Neumann were, however, evidently unsuccessful.

From several sources, in particular the letters of Bessel-Hagen, we know that Hausdorff and his family were forced to undergo a number of humiliations, especially after November 1938. In mid-1941 the Nazi government began to deport the Jews in Bonn to the monastery "Zur ewigen Anbetung" in Bonn-Endenich, from which the nuns had been expelled. From there they were then transported to the extermination camps in the east. In January 1942, Felix Hausdorff, his wife, and her sister Edith Pappenheim, who lived with them, were ordered to resettle in the internment camp in Bonn-Endenich. On 26 January, all three took their own lives with an overdose of Veronal. Their last resting place is the cemetery in Bonn-Pop-pelsdorf.

Some of Bonn's Jewish citizens may still have had illusions about the camp in Endenich; Hausdorff had none. Erwin Neuenschwander found Hausdorff's farewell letter to the Jewish lawyer Hans Wollstein in the papers of Bessel-Hagen, from which we cite the beginning and end:

Dear Friend Wollstein!

By the time you receive this letter, we three will have solved this problem in another way -the way you always tried to dissuade us from. The feeling of safety that you predicted would be ours once the difficulties of moving had been overcome has not come about at all. On the contrary: Even Endenich is perhaps not yet the end (das Ende nicht)!

What has happened to the Jews in the last months awakes justified anxiety in us that we will no longer be allowed to experience bearable conditions.

After expressing his gratitude to friends, and with great composure in formulating his last wishes regarding his funeral and last will, Hausdorff wrote further:

Excuse us for causing you troubles even after death; I am convinced that you will do what you can (and that is perhaps not very much). Excuse us also for our desertion! We hope that you and all our friends will experience better times.

Your truly devoted,

Felix Hausdorff

This last wish of Hausdorff was not fulfilled: the lawyer Wollstein was murdered in Auschwitz. Hausdorff's library was sold by his son-in-law and sole heir Arthur König. His posthumous papers were preserved by a friend of the family, the Bonn Egyptologist Hans Bonnet.

The late Professor Gunter Bergmann from Munster performed a great service by carefully ordering the surviving 25,978 pages of the Hausdorff Nach-class. In 1980 he transferred the now secure results over to the Bonn University library. Bergmann also published some of the preserved papers in two facsimile volumes (1969). 