Mathematicians Fleeing from Nazi Germany

Reviewed by Michèle Audin

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Reinhard Siegmund-Schultze
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German mathematicians emigrating to the United States in the 1930s: We immediately think of a few personalities, such as Emmy Noether, Hermann Weyl, Richard Courant. We know legends, we have heard anecdotes.

Emmy Noether, for instance, found a position at Bryn Mawr—note that she never had any academic position in Germany, because of German prejudice against women. Well, what do we know for sure? Although it is true that Noether's life was now secure, the position she got in Bryn Mawr (keep women among women, right?) was neither top-level nor even permanent. As the book shows, she was very influential in importing abstract algebra to the States, and this was very remarkable, since she spent only a year and a half there before her death in 1935.

Richard Courant also played a role in developing applied mathematics in the United States. His abilities as an organizer—he was the director of the mathematical institute in Göttingen before his dismissal—helped him to create what is now called the Courant Institute at New York University.

These are the kinds of sketchy details most of us know about our mathematical forebears who left Europe for the United States during the Nazi era. However, such anecdotal impressions can obscure the fact that the tumultuous history of the twentieth century had a major impact on the history of mathematics and mathematicians. Several authors have investigated the massive slaughter of World War I, which almost destroyed the French scientific elites and obliterated a generation of mathematicians, and the subsequent boycott of German science at a time when German mathematicians were developing new trends such as abstract algebra and general topology. Reinhard Siegmund-Schultze's book deals instead with another trauma of the last century, namely that caused by Nazi policies, and its effects on mathematics worldwide but especially in Europe and the United States.

What This Is Not

As one might expect from the title, this is not a book about mathematics and mathematicians in Nazi Germany, nor is it about science under the Third Reich, nor even about mathematics and German mathematicians during the Nazi period—all subjects that would also deserve a rigorous treatment.[1] Rather, the book is about the flight and exile of an important part of the German mathematical elite and the effects on the development of mathematics, especially in the United States.

The issue here is quite precise and clearly delimited in the book's subtitle: "Individual fates and global impact". So: who emigrated? Why did they do so? Where did they go? How did they find their places in the host countries? How did they influence the scientific life there? The book is a rigorous work of history, in the sense that it addresses a clear-cut issue and is based on verifiable and carefully quoted sources. In addition to the published and archival documents, the author did quite a few interviews and received letters from witnesses and relatives during the

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[1] *See, however, [3] and [5].*

1990s. Note that, although this is an English version of an older German book [6], it is indeed a new book, relying on new sources (the Freiburg archives, for instance) and new works.

Even the definition of each of the words in the expression "emigré German-speaking mathematician" is investigated very carefully, leading the author to a list of 145 persons. And this is indeed a book about human beings (mathematicians) involved in human activities (mathematics, if possible; mathematics, when they could) during terribly hard times, a book in which mathematicians of today will "find information about the lives, policies, and not least, sufferings of their predecessors".[2]

Individual Fates

This book is not a compendium of individual stories, but it takes individual cases seriously. In addition to the 145 who emigrated, seventeen German-speaking mathematicians who were murdered are listed in the book. Examples include Otto Blumenthal, a close friend of David Hilbert's and a managing editor of *Mathematische Annalen*, who was dismissed from his position in Aachen for racial and political reasons in 1933. He then emigrated to the Netherlands and was eventually deported to Theresienstadt—or driven to suicide. Another example is Felix Hausdorff, one of the inventors of general topology, who also wrote under the name of Paul Mongré and who committed suicide together with his wife and sister-in-law to escape deportation in 1942. There is also a (probably incomplete) list of seventy-one mathematicians persecuted in other ways.
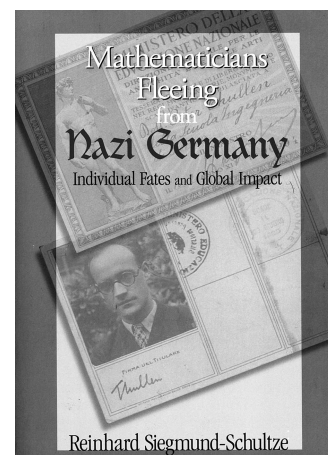
But let us come back to our 145 emigrés, the 145 men and women[3] who were the actors in this story: Emmy Noether, Hermann Weyl, Richard Courant, as we know, but also 142 others. One thinks of the scientists who left Germany because the anti-Semitic laws caused them to lose their positions and their jobs, forbade them to publish, and even threatened their lives. But there were also mathematicians who emigrated because they could not bear to live under the Nazi terrorism—some of them, like Carl Ludwig Siegel, went back to Germany during the 1950s. One of them was the complex analyst Peter Thullen, who left for Italy and then Ecuador (in 1934–35) and whose 1933 daily notes, reproduced in an appendix to the book, give evidence of the terrorist ambiance that nobody, whether Jewish or not (Thullen was a member of the Catholic youth), could avoid noticing from the very beginning of the Nazi regime. However, the majority of the emigrés were

indeed Jewish—or at least were considered Jewish according to the Nazi laws.

Some tried first to find positions in Europe—in France (as did Emil Julius Gumbel and Felix Pollaczek) or in Italy (as did Thullen). These two choices rapidly turned out to be rather bad, because of the fascist Italian (after 1922) and collaborationist French (after 1940) political powers. Note that some Italian (e.g., Beniamino Segre) and French (Jacques Hadamard, Szolem Mandelbrojt, André Weil...) mathematicians had to emigrate themselves to escape the anti-Semitic policies of their countries. We already mentioned the Netherlands, which was later occupied by Germany, and the fate of Otto Blumenthal. Max Dehn expected to replace Viggo Brun in Trondheim, Norway, but was forced to leave in 1940 when Germany occupied Norway (he succeeded in reaching the United States—by the trans-Siberian railroad). Fritz Noether emigrated to the Soviet Union, where he eventually was a victim of Stalinism. Other countries (Sweden, Great Britain, Turkey, Australia, Ecuador, Canada...) are mentioned. But the United States of America was the main and/or the final destination of most of our fleeing mathematicians.

America

The American mathematical community was already well organized in the 1930s, and its members had already produced high-level results.[4] It was nevertheless deeply transformed by the massive arrival of good, even outstanding, European mathematicians, often working on subjects that were not yet investigated in the United States. Of course, there was a fear that these immigrants would take all the positions and nothing would be left for the students whom the American mathematicians were teaching. There were even some anti-Semitic feelings that were not politically incorrect to express at that time. Such distinguished mathematicians as Max Dehn and André Weil were condemned to positions at Black Mountain College and Lehigh University, respectively (see [7]). The country was described as "a land of intellectual cannibals" by Oscar Zariski (see [4]), also an immigrant—not a German-speaking one, but one on whom the influence of the German immigrant Emmy Noether is indisputable.

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[2] *Sentences between quotation marks are quotations from the book.*

[3] *There are, indeed, fifteen women in this list.*

[4] *To use an easy measurement, the first Fields Medals were given, in 1936 in Oslo, to both a European, Lars Ahlfors, and an American, Jesse Douglas.*

While Noether had an impact on pure mathematics, others contributed to the creation of the American school of applied mathematics, notably Richard Courant, but also Theodore von Kármán, Richard von Mises, and others. The roles they played are described and investigated in the book.

Mathematicians Fleeing from Nazi Germany

Chapter 1: The Terms "German-Speaking Mathematician", "Forced", and "Voluntary Emigration"

Chapter 2: The Notion of "Mathematician" Plus Quantitative Figures on Persecution

Chapter 3: Early Emigration

Chapter 4: Pretexts, Forms, and the Extent of Emigration and Persecution

Chapter 5: Obstacles to Emigration out of Germany after 1933, Failed Escape, and Death

Chapter 6: Alternative (Non-American) Host Countries

Chapter 7: Diminishing Ties with Germany and Self-Image of the Refugees

Chapter 8: The American Reaction to Immigration: Help and Xenophobia

Chapter 9: Acculturation, Political Adaptation, and the American Entrance into the War

Chapter 10: The Impact of Immigration on American Mathematics

Chapter 11: Epilogue: The Postwar Relationship of German and American Mathematicians

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Contents of the Book

This is a very rich book, as one can tell from the list of chapter titles given above. A historical work of synthesis of this kind finds its foundations in the study of quite a lot of documents. Some of them are presented in the book and are especially relevant to the author's analysis, in particular the diary notes of Richard von Mises and Peter Thullen.

Among these moving documents is a letter Max Dehn wrote to the Deutsche Mathematiker-Vereinigung in 1948 (what follows is an English translation by the author of the book):

> But *I cannot rejoin the Deutsche Mathematiker-Vereinigung.* I have lost the confidence that such an association would act differently in the future than in 1935. I fear it would, once again, not resist an unjust demand coming from outside. The DMV did not have to take care of very important values. That it did not voluntarily dissolve itself

in 1935, and that not even a considerable number of members left the association, leads me to this negative attitude. I am not afraid that the new DMV will again expel Jews, but maybe next time it will be so-called communists, anarchists, or "colored people".

This is the responsibility of the community we are dealing with. In addition to a "desperate and intermittent protest of memory" (as the French philosopher Jankelevitch wrote), in addition to "the responsibility of the living to keep the memory of these historical events alive" (from the Preface), this book is a testimony of the willing, for a part of our community (and in particular, for some German mathematicians[5]), to take their part in this responsibility. I leave the last word to the author, himself a researcher from the former DDR, now working in Norway:

> Motives for dealing with the particular social and historical problems of scientific emigration in this book are manifold, recent political events being among them.

References

[1] M. Audin, Publier sous l'Occupation I. Autour du cas de Jacques Feldbau et de l'Académie des sciences, *Rev. Hist. Math.* **15** (2009), 5–57.

[2] J.-P. Kahane, K. Krickeberg, and L. Lee, Concerns about obituaries published in JDMV, *Notices of the AMS* **41** (1994), 571–572.

[3] J. Olff-Nathan, editor, *La Science sous le Troisième Reich*, Seuil, Paris, 1993.

[4] C. Parikh, *The Unreal Life of Oscar Zariski*, Academic Press, Boston, MA, 1991.

[5] S. Segal, *Mathematicians under the Nazis*, Princeton University Press, Princeton, 2003.

[6] R. Siegmund-Schultze, *Mathematiker auf der Flucht vor Hitler*, Dokumente zur Geschichte der Mathematik [Documents on the History of Mathematics], vol. 10, Friedr. Vieweg & Sohn, Braunschweig, 1998, Quellen und Studien zur Emigration einer Wissenschaft. [Sources and studies on the emigration of a science].

[7] A. Weil, *The Apprenticeship of a Mathematician*, Birkhäuser, Basel, 1992. Translated from the French by Jennifer Gage.

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[5] *The author writes that this book is a sign that "German mathematicians are prepared to face the problems and responsibilities of the past." Indeed we hope that the time when the* Notices *received letters such as* [2] *is over. But there is no evidence that the same is true of other communities. I was very surprised, when I started to investigate the way Jewish French mathematicians disappeared from the scientific journals during the Vichy period* (see [1]), *to see that* nothing *at all had been done on this topic.*