

## OBERWOLFACH IN THE FRENCH OCCUPATION ZONE: 1945 TO EARLY 1950s

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Abstract. — This paper is part of a larger research project dealing with the history of the *Oberwolfach Research Institute for Mathematics* between its foundation in 1944 and the early 1960s. While the history of its foundation is relatively well understood, the development of the institute after 1945 has scarcely been touched on by historians (of mathematics). After World War II the challenge faced by the institute was twofold. On the one hand, it had to virtually reinvent itself, i.e. to strip itself of the agenda of war-related mathematical research and find a new identity suited for the post-war situation. On the other hand, the institute was without a budget as it had completely relied on funds from Berlin, which permanently stopped flowing with the end of the war. To understand how the institute and its director, Wilhelm Süß, dealt with this twofold challenge, the consequences of the institute coincidentally being situated in the French occupation zone, and the potential implications of this political happenstance for the history of mathematics in post-war Germany, will be centre-stage in what follows. The history of the Oberwolfach Institute in the late 1940s and early 1950s cannot be understood without embedding it into the political and cultural context of the French occupation zone, which had a long-term impact on its institutional identity. Co-operation with French mathematicians and with

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the French authorities became crucial for developing a new vision for the institute's institutional identity.

Résumé (L'institut Oberwolfach dans la zone française d'occupation : de 1945 aux années 1950)

Cet article fait partie d'un projet de recherche de plus grande envergure sur l'histoire de l'*Institut de recherche mathématique d'Oberwolfach* de sa fondation en 1944 au début des années 1960. Tandis que le contexte de la fondation de cet institut est relativement bien connu, son développement après 1945 a peu été étudié par les historiens des mathématiques. La fin de la Seconde Guerre mondiale a placé l'institut face à un double défi. Contraint, d'une part, à se réinventer afin de se débarrasser du programme fixé par la guerre à la recherche mathématique, l'institut s'est cherché une nouvelle identité conforme au contexte d'après-guerre. Il s'est d'autre part trouvé dénué de tout budget suite à l'arrêt définitif des financements venus de Berlin et dont il avait été entièrement dépendant durant la guerre. L'objectif principal de cet article est d'étudier la manière dont cet institut, avec son directeur Wilhelm Süss, a relevé ce double défi en s'inscrivant dans la conjoncture, nouvelle, de la zone d'occupation française. Il s'agira ainsi de saisir les implications de cette conjoncture politique spécifique pour l'histoire des mathématiques dans l'Allemagne d'après-guerre. De la fin des années 1940 au début des années 1950, l'histoire de l'Institut d'Oberwolfach ne pourrait être comprise hors du contexte politique et culturel de la zone d'occupation française tant ce contexte a participé à une redéfinition de l'identité de l'institution sur le temps long. La coopération avec les mathématiciens français et les autorités françaises était désormais devenue essentielle au développement d'une nouvelle vision de l'Institut.

*This paper is dedicated to David E. Rowe on the occasion of his 70th birthday*

One of the first contacts the then *National Institute for Mathematics* (*Reichsinstitut für Mathematik*) in Oberwolfach had with French officials took place on Saturday, May 26, 1945. In his diary entry for that day, William Threlfall (1888–1949), deputy director of the Institute at the time, wrote:

Süss is back from Freiburg. Second lieutenant Prudhomme of the Institut Pasteur comes to inspect the Institute and takes a calculating machine away with him.<sup>1</sup>

John Todd (1911–2007) visited the Oberwolfach Institute in early July 1945 as a British Naval officer on behalf of the *Admiralty Computing Service* affiliated to the *Combined Intelligence Objectives Sub-Committee* (CIOS) while undertaking a survey of applied mathematical research in Germany [Todd

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<sup>1</sup> Diary of William Threlfall, May 26, 1945: "Süss aus Freiburg zurück. Vom Institut Pasteur kommt Prudhomme Souslieutenant, um das Institut zu besichtigen, nimmt eine Rechenmaschine mit." I am grateful to Klaus Volkert for a copy from the Threlfall diary; cf. [Volkert 2018].

1983, 19]. In 1946 he reported that “Süss had been interrogated on May 26 [1945] by Souslieutenant Prudhomme of Institut Pasteur” [Todd & al. 1946, 17].

While we know nothing about the interview or about the interviewer Prudhomme, these remarks indicate that the Oberwolfach Institute seemed to have somehow come to the attention of the French as well as the British in 1945. What did they find in Oberwolfach?

### 1. THE OBERWOLFACH INSTITUTE 1944/45

The *National Institute for Mathematics* in Oberwolfach had been founded in autumn 1944 as an institution geared towards organising and carrying out war-related mathematical research. The developments leading to the founding of the Oberwolfach Institute are well-known [Epple et al. 2005; Mehrrens 1996; Rimmert 1999]. The Freiburg mathematician Wilhelm Süss (1895–1958), as president of the *German Mathematicians Association (Deutsche Mathematiker-Vereinigung, DMV)*, had been the driving force behind the founding. He became the first director of the institute and stayed in office until his death. Süss, while not at all a first-rate mathematician, was a first-rate organiser and had a golden diplomatic touch [Rimmert 1999, 13f]. He had been president of the *DMV* since 1937 until the *DMV* petered out of existence after the war (to be newly founded without and against him by Erich Kamke in Tübingen in the French occupation zone in 1948) and rector of Freiburg University from 1940 to 1945. Thus, he was on rather good terms with the *Ministry of Education and Research* in Berlin as well as the *Reich Research Council* and the relevant Nazi officials in Berlin. I repeat my summary assessment of Süss’ political comportment, especially as president of the *DMV*, during the Nazi period as expressed in [Rimmert 1999, 37]:

[...] the *DMV*’s professional policies had become closely entangled with issues at the very core of the Nazi state: its anti-Semitism, its anti-internationalism and its striving for autarky. The *Ministry of Education and Research* pursued the objective to transmit these issues to the sphere of the sciences. The collaboration of the *DMV* board and especially of Süss in this program, which was beyond their control, was the basis of their influence and their successful professional activities during the war.

And, indeed, Süss’s efforts were rewarded with the foundation of the Oberwolfach Institute in the Black Forest in 1944, funded by the *Reich Research Council*, with a clear agenda to undertake and organize war-related

mathematical research. To be fair, Süss was not exclusively interested in founding an institute for war-related mathematical research, but at the same time strove for “an institution that would dedicate itself, even beyond the (victorious) end of the war, to a wide spectrum of pure and applied mathematical research” [Epple et al. 2005, 151], in a model combination of the Italian institutes of Mauro Picone, the *Istituto Nazionale per le Applicazioni del Calcolo* (INAC), founded in 1933, and of Francesco Severi, the *Istituto Nazionale di Alta Matematica* (INDAM), founded in 1939.<sup>2</sup>

The official application for the Oberwolfach Institute, written by Süss in the summer and submitted in early August 1944, defined three essential tasks: (a) “Promotion of the mathematical sciences and their applications in the broadest possible sense,” (b) “expansion of departments into *calculation institutes* and *mathematical production institutes* with specific mathematical and technical equipment” and, finally, (c) “general tasks” including “a central office for mathematical reports,” “the drawing-up of a card-index on mathematicians for the tracing and optimum use of workers,” as well as “the establishment of a central information and inspection office for mathematical problems.”<sup>3</sup> These tasks were not aimed at actual mathematical work, but rather at the organization and consolidation of resources. The staff Süss envisioned consisted of a director (Süss), his deputy, three heads of department at the rank of professor, ten scientific and five technical assistants, and two draughtswomen, as well as librarians and further support staff. Such extensive plans could, of course, not be carried out in autumn 1944 as there was no way to secure the intended number of staff. However, the Oberwolfach Institute slowly started work under its director Süss. He appointed Emanuel Sperner, one of his colleagues on the board of the DMV, deputy director (to be replaced by William Threlfall, who knew French, in April 1945, as Sperner had been a member of the Nazi party since 1933). Sperner had done war-related mathematical research with the meteorological research group in Hamburg and brought his assistant Walter Stakowski to Oberwolfach.<sup>4</sup> The Dutch mathematician Gerrit Bol, who had taught in Greifswald from 1942 to 1945, and Herbert Seifert, who had worked at Adolf Busemann’s

<sup>2</sup> On Picone and the INAC see [Epple et al. 2005, 141–148]; [Remmert 2017]; on Severi and the INDAM see [Goodstein & Babbitt 2012]; cf. [Guerraggio & Nastasi 2005, passim]; [Remmert 2017].

<sup>3</sup> Walter Gerlach’s application to the *Reich Research Council*, August 2, 1944 (University Archives Freiburg (UAF), C 89/4). On this and the following see [Epple et al. 2005, 152–154], paraphrased and quoted here.

<sup>4</sup> Mentioned by Threlfall in his diary, Sept. 14, 1944.

*Institute for the Dynamics of Gases* in Braunschweig were appointed heads of department. Moreover, Hermann Boerner, who had formerly worked with the *Reich Meteorological Service* (*Reichswetterdienst*), and Wilhelm Maak, from the University of Hamburg, joined the institute as assistant scientists. All of them had experience in war-related mathematical research.

These staff members were joined by mathematicians who were granted guest status having taken refuge in Oberwolfach from throughout the German Reich: Heinrich Behnke who had been bombed out in Münster; William Threlfall, like Seifert, had come to Oberwolfach from Braunschweig; and Henry Görtler, one of the leading mathematicians at Prandtl's *Institute for Fluid Dynamics* in Göttingen who was designated for a professorship of applied mathematics in Freiburg, stayed in Oberwolfach from late 1944 and made a formal request to establish a "unit for mathematical fluid dynamics";<sup>5</sup> George Lorentz, Wilhelm Magnus, Theodor Schneider and Leopold Vietoris spent time in Oberwolfach between October 1944 and May 1945.<sup>6</sup> Moreover, mathematicians from Freiburg, which had been massively bombed in late November 1944, came to Oberwolfach as well—not only Süss and his family, along with his assistants Hans Schubart and Hermann ter Hell, but also the Freiburg-based French mathematicians Frédéric Roger and Charles (Karl) Pisot. Hellmuth Kneser, Süss's long-time friend and main mathematical advisor, visited from Tübingen frequently with his wife.

Given that the war was nearing its end, the war research agenda of the Oberwolfach Institute could not be realized. Thus what the French and the British intelligence units found in Oberwolfach in May 1945 was the nucleus of an institute furnished with a library (mostly taken from Strasbourg and soon to be returned by Pisot) and a few calculating machines, but devoid of a mission and with its funding from Berlin cut off [Remmert 2019].

For Süss as director of the institute the challenge this posed was twofold. On the one hand, he had to virtually reinvent the institute, i.e. to strip it of its agenda of war-related mathematical research and find a new identity suited for the post-war situation. On the other hand, the institute was without a budget as it had completely relied on funds from Berlin, which per-

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<sup>5</sup> Görtler to Süss, April 9, 1945 (UAF, E6/1): "Anerkennung der Arbeitsgruppe für mathematische Strömungsforschung als eigene Abteilung des Mathematischen Reichsinstituts".

<sup>6</sup> Cf. the abstracts in the first abstract book (Vortragsbuch), starting in September 1944 with a talk by Pisot, accessible online via the Oberwolfach Digital Archive (<https://oda.mfo.de/>).