

## Moscow, Oxford, or Princeton: Emmy Noether's Move from Göttingen (1933)\*

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### 3.1 Introduction

From 1933 onwards, the dismissal of Jewish civil servants by the Nazi regime in Germany created a large number of academic refugees. Emmy Noether (1882–1935) was in the first group of scholars at the University of Göttingen who were forced to leave their teaching positions. By this time, her fame was spread among advanced researchers in mathematics. She had received the prestigious Alfred Ackermann-Teubner Memorial Award for advancement of mathematical science, sharing it with another eminent mathematician, Emil Artin (1898–1962), in 1932. She was also a plenary speaker at the International Congress of Mathematicians (ICM) in Zurich in 1932; giving a plenary talk at ICM was considered prestigious, and she was the first woman to do so. By the age of 50, Noether had earned a solid reputation.

In Göttingen, she had been teaching mathematics as *Privatdozent* (a tutor who teaches students independently without having a chair) until 1922 and was given a professorial rank in 1923.<sup>1</sup> After she received the notification of dismissal in April 1933, she had to look outside of Germany for a university where she could continue her mathematical research. The arrangement had to be made quickly, as her dismissal was set to be on 1 October, 1933.

By the end of the year, she moved to Bryn Mawr College in Pennsylvania, the United States, which was a distinguished women's college. Based at Bryn Mawr, she could also visit the Institute for Advanced Study, Princeton, and give guest lectures. But going to Bryn Mawr was not the only option for her: Noether considered moving to Moscow and Oxford. She was enthusiastic about both options, and she in fact accepted an offer from Somerville College, Oxford first. Because she moved to the USA, without going to Oxford or Moscow, the story of the academics in the Soviet Union and the United Kingdom, who wished to support Noether's move out of Germany, has yet to be told in detail. Making an offer to a refugee scholar, especially to a female mathematician, was not easy, and the hosts put significant

\* I am grateful to the Principal and Fellows of Somerville College for the use of their archive. The research trip to Göttingen was supported by the British Society for the History of Mathematics. I am grateful for the help of Katarina Habermann (Georg-August-Universität Göttingen) and Kate O'Donnell (Somerville College Oxford) during my archival research. I also thank Bernard Lightman, Christopher Hollings, Keith Hannabuss, Brigitte Stenhouse, and Pieter Moree for their advice and feedback at various stages of this research.

<sup>1</sup> Her title in German was '*ausserplanmässige (nichtbeamtete ausserordentliche) Professorin*'. This position did not come with any remuneration, thus she was also given a teaching position (*Lehrauftrag*) to support herself financially.

effort into making arrangements for Noether. This chapter recovers the documents written by her supporters, who had a profound impact on Noether's life in the summer of 1933.

### 3.2 The Notifications of Dismissal

On 25 April 1933, a telegram announcing the discharge of some teaching staff arrived at the University of Göttingen (Figure 3.1). This was because the Civil Service Law came into effect on the 7 April 1933, following the Nazi Party's consolidation of power. The dictatorship of Adolf Hitler led to the removal of non-Aryan descendants from civil service and university posts, and it dismantled the strong intellectual community of mathematics in Göttingen. In essence, all who were of Jewish descent had to leave their jobs.

The telegram listed the names of dismissed teaching staff in mathematics: Richard Honig, Richard Courant, Max Born, Emmy Noether, Felix Bernstein, and Curt Bondi. It declared that they were no longer allowed to teach at the university, and they had to be notified about this decision immediately. This was the first time that the University of Göttingen received such a notice from the Nazi regime, but it was not the last. More than 50 professors and lecturers were to be removed from their positions in the next few years.

Hearing the news of Noether's dismissal, a great number of mathematicians and graduate students wrote petition letters. They testified to Noether's superb ability in maths research, and they commended her unusual commitment to teaching. Her doctoral students said that 'Professor Noether has founded a mathematical school [here in Göttingen]. Despite our

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Figure 3.1 Telegram from the Minister of Education to the University Curator Göttingen on 25 April 1933. This is a notification for the first group of professors to be expelled from their teaching positions. Stored at Lower Saxony State and University Library Göttingen. (Public domain)

divergent political views, the personal connections with her are in no way disturbed. . . . We would welcome it if Professor Noether would again be given the opportunity to work as a teacher' (*Dokumente zu Emmy Noether* n.d., 1.1, 7).<sup>2</sup> Noether's collaborator, Helmut Hasse (1898–1979), stated with confidence, 'I am convinced that Miss Noether is one of the leading mathematicians in Germany. Especially for the young generation, it would be a very heavy loss if Miss Noether is forced to move abroad' (*Dokumente zu Emmy Noether*, 1.2, 9).<sup>3</sup> More than a month later, Hasse wrote another letter, saying that 'German mathematics in general would suffer a major moral damage. . . . Noether has always felt like a German. . . . and her mathematics cannot be called "alien" in any way.'<sup>4</sup>

By 31 July 1933, letters came in from all over the world: Copenhagen, Vienna, Cambridge, Bologna, Zurich, Osaka, and Tokyo. While many of her former students emphasised her commitment to teaching, another German mathematician, Oskar Perron (1880–1975), compared Emmy to the outstanding mathematician, the late Sofya Kovalevskaya (1850–91), and said that Noether was a much better mathematician than her because she is 'truly creative' (*Dokumente zu Emmy Noether* n.d., 1.7, 17). Hermann Weyl (1885–1955) also testified that Emmy was more original than the late Sophie Germain (1776–1831) and that she was as important as her contemporary, award-winning physicist Lise Meitner (1878–1968) (*Dokumente zu Emmy Noether* n.d., 1.17, 29). A Japanese mathematician, Teiji Takagi (1875–1960), who had previously studied in Göttingen, was prompt to respond and spread the news to his colleagues in Japan; Noether's former student, Kenjiro Shoda (1902–77), wrote a letter in the hope of saving Noether (*Dokumente zu Emmy Noether* n.d., 1.14, 26). A Danish mathematician, Harald Bohr of Copenhagen (1887–1951), together with G. H. Hardy of Cambridge (1877–1947), stated, 'The effect Emmy has exerted goes far beyond the borders of Germany' (*Dokumente zu Emmy Noether* n.d., 1.15, 27). They knew Noether's talent. They knew her character and commitment to teaching. And they knew the absurdity of this expulsion policy aimed at Jewish professors.

After the telegram, a written notification followed on the 2 September 1933.<sup>5</sup> The Prussian Minister for Science, Art and Popular Education formally deprived Noether of her teaching license. Fortunately, by this time, her move out of Göttingen had already been arranged. As early as the 4 August 1933, the Emergency Committee in Aid of Displaced Foreign Scholars (1933–45) and the Rockefeller Foundation were able to offer a salary of \$4,000 (Shen 2019, p. 55), which was the equivalent of over \$76,000 in 2019, and her host university was a woman's college, Bryn Mawr in Pennsylvania in the United States.

Noether made up her mind and wrote a letter from Göttingen on 18 August 1933, and sent it to the President of Bryn Mawr College, Marion Edwards Park:<sup>6</sup>

I would like to thank you and the College, and above all the Department of Mathematics, many times for the surprising offer of a stipendium. I was very pleased, and I accept it with pleasure.

<sup>2</sup> Noether was addressed as 'Frl. Prof. Noether', indicating she was a woman.

<sup>3</sup> From Helmut Hasse to the Curator of the University of Göttingen.

<sup>4</sup> Ihre Mathematik kann man in keiner Weise 'artfremd' nennen. *Dokumente zu Emmy Noether*, 1.5, 14. Here, she was addressed as 'Fräulein Noether'.

<sup>5</sup> The letter arrived at the Mathematical Institute on 21 September.

<sup>6</sup> 18.08.1933, Bryn Mawr Archive. A letter from E. Noether to President Park (English translation is provided by the archive).

I must, however, request a year's postponement, until the academic year 1934–35. But I hope and assume that this will not create any great difficulties. I have already accepted an invitation for this winter, for the Christmas-Easter term, to give lectures at Somerville College, Oxford, which will also be accessible to mathematicians of the other Colleges. By the end of these lectures the academic year will be almost over.

It is to me personally a very pleasant feeling to be able to make my plans two years in advance; I certainly hope that things will turn out well.

Noether planned to go to Oxford first, and then to Bryn Mawr. The actual move to Oxford did not happen, and the story of Oxford's invitation and Noether's initial acceptance of Somerville's offer has not been discussed in detail. In 'Emmy Noether and Her Influence', Clark Kimberling described the effort of Oxford and quoted a document written by an officer, Professor H. M. Miller, at the Paris Office of the Rockefeller Foundation (RF), saying that 'Miss D [Darbshire, Principal of Somerville College, Oxford] is a classicist and knows nothing about the field of mathematics. She had only recently returned from vacation and was not at all sure what action her College could take in finding funds to supplement the 24 pounds now available for N. [Noether]' (Kimberling 1981, p. 31).<sup>7</sup>

It was not true that Helen Darbshire (1881–1961) did not know what to do. The Paris Office of the RF may not have been informed fully of what she was doing in England.<sup>8</sup> Darbshire was busy contacting possible donors, communicating with the secretary of the Academic Assistance Council, the organisation set up to assist academics who were forced to flee the Nazi regime.<sup>9</sup> Darbshire also listened to what her colleague Dorothy Wrinch (1894–1976), a mathematician, had to say about Noether and her move.<sup>10</sup> The important fact is that Noether did accept Darbshire's offer to teach at Somerville. She ended up not going there as she wished, but this does not mean that the negotiation process, as well as Noether's interest in coming to England, was not important to her. On the contrary, the documents left in the Weston Library in Oxford and in Somerville College, Oxford show that both Noether and members of Somerville were enthusiastic about the possibility that Noether would join the college community.<sup>11</sup> Furthermore, there was one more attractive offer from her colleague in Moscow, which did not come through. Noether considered those two opportunities very seriously. Although she ended up going to the USA, the efforts of both Soviet and British scholars who worked on behalf of Noether to provide her a new academic home had a profound impact on her life during the time of forced expulsion and her subsequent emigration to America.

During this summer, Emmy Noether, her brother Fritz and his wife Regine made a trip to Dierhagen, the beach in northern Germany. The photo is available in Oberwolfach Photo Collection, ID 3116.

<sup>7</sup> The letter was written on 25 September 1933.

<sup>8</sup> The RF had started to support the refugee scholars since 1933, and they had European offices, including one in Paris.

<sup>9</sup> The AAC was founded in 1933, and it was renamed the Society for the Protection of Science and Learning (SPSL) in 1936. It was renamed again in 1999 as the Council for Assisting Refugee Academics, and in 2014 as the Council for At-Risk Academics (Cara). For more about the Academic Assistance Council, see Nossum and Kotúlek (2015).

<sup>10</sup> For more about Dorothy Wrinch, see her biography by Senechal (2013).

<sup>11</sup> For general information about the series of archives at the Bodleian Library in Oxford, see Nossum (2012).



Figure 3.2 Photo of mathematicians in Nikolausberg (near Göttingen) in July 1933. This was the time when Helen Darbishire approached Noether and offered an invitation to come to Somerville College. From left to right: Ernst Witt; Paul Bernays; Helene Weyl; Hermann Weyl; Joachim Weyl, Emil Artin; Emmy Noether; Ernst Knauf; unidentified person; Chiuntze Tsen, and Erna Bannow (future wife of Ernst Witt). Oberwolfach Photo Collection, Photo ID 9268. Author: Natascha Artin.

Source: Archives of P. Roquette, Heidelberg and C. Kimberling, Evansville and archives of the Mathematisches Forschungsinstitut Oberwolfach.

### 3.3 Alexandroff in Moscow

The invitation to Moscow was organized by her long-time colleague, Pavel Sergejevich Alexandroff (1896–1982), at Moscow State University and the Steklov Institute of Mathematics. In the summers of 1926 and 1927, Noether attended the courses on topology given by Alexandroff and Heinz Hopf (1894–1971) in Göttingen. A specialist in abstract algebra, Noether was new to the field of topology. Yet she joined the discussion and made at least one significant contribution, which was mentioned in Hopf's paper *Eine Verallgemeinerung der Euler-Poincaréschen Formel* (1928) Hopf (1964).<sup>12</sup>

Subsequently, Noether visited Moscow and spent the winter of 1928–9 there. Giving a lecture on abstract algebra at Moscow University, she lived in a dormitory. Noether was interested in the lifestyle of the USSR, in particular that of students, and she was very active in making contacts with many Moscow mathematicians (Alexandroff 1981, p. 109). She was influenced by Marxism, and she did not hide it. Upon her return to Germany in 1932, she was condemned by her neighbour as a 'Marxist Jewess' and evicted from her apartment.

<sup>12</sup> In short, she made an expansion of a Betti number by introducing the concept of a Betti group.



According to Alexandroff, when Noether learned that she would be driven out of Germany, she 'seriously considered coming to Moscow for good', as she believed that 'nowhere else would she find the same opportunities to create a splendid new mathematical school that would replace the one that had been taken away from her in Göttingen' (Alexandroff 1981, p. 109). Hearing her desire to live in Moscow for good, Alexandroff negotiated with the Commissariat of Education.

By this time, Alexandroff owed her professionally: Noether had given Alexandroff an opportunity to visit the USA. Recognising his talent, Noether asked her colleague Hermann Weyl to recommend him and Hopf for a Rockefeller scholarship so that they could spend the year 1927–8 working with the leading topologists of their time, Oswald Veblen (1880–1960) and Solomon Lefschetz (1884–1972) at the Institute for Advanced Study (Kimberling 1981, p. 25). Weyl made a recommendation, and they did go to Princeton. Thankful, Alexandroff wished to repay the intellectual debt that he owed to Noether. Alexandroff tried hard to create a chair for Noether at Moscow University. To his disappointment, however, the Commissariat delayed its decision for months and did not respond quickly enough. Time had run out, and Noether had to give up on the idea of going to Moscow to be a part of the mathematical community.

While Emmy Noether did not move to the USSR, Fritz Noether (1884–1941), Emmy's younger brother, did. In response to his dismissal from the University of Breslau, he emigrated and was appointed as mathematics professor at the Institute of Mathematics and Mechanics at the University of Tomsk. He and his family had a difficult time, however. His wife, Regine, went back to Germany and died soon after, and their two sons were sent to Sweden to take asylum. Within five years of his move to the Soviet Union, on 23 October 1938, he was 'found guilty of allegedly spying for Germany and committing acts of sabotage' and sentenced to death 'on the accusation of engaging in anti-Soviet agitation'. He was shot on 10 September 1941.<sup>13</sup>

### 3.4 Darbshire in Oxford

Although Noether had never visited Oxford, a more concrete offer came from Somerville College, Oxford. There were five women's colleges in Oxford in 1933 – Somerville, Lady Margaret Hall, Society of Home Students (now St Anne's), St. Hugh's, and St Hilda's. Somerville College's Principal was a scholar of English literature, Helen Darbshire. Somerville College was hiring new fellows regularly. The Lady Carlisle Research Fellowship, for example, was the College's most prestigious fellowship that was open 'to unmarried European women, British women, and Jewesses'.<sup>14</sup>

In the letter sent from Darbshire to Sir William Beveridge at the Academic Assistance Council, Darbshire expressed an interest in hosting Noether at Somerville. On 24 June 1933, she wrote, 'we should like to find the person who has the greatest claim by her

<sup>13</sup> Letter from Andrei Parastaev, First Secretary at the USSR Embassy in Washington DC, to Fritz Noether's sons. Dated 12 May 1989. Cited in O'Connor and Robertson (2000).

<sup>14</sup> The 1913 fellowship guidelines are stored in the archives of Somerville College, Oxford.

intellectual qualifications'. She was ready to arrange board in the College, to have Noether elected as a member of the Senior Common Room (SCR), and to provide a room outside the College. One thing that Darbshire added was that she was not expecting Noether to teach: 'we should not expect to use her as a teacher'.<sup>15</sup> In the subsequent letter, sent from Darbshire to Beveridge on 1 July, Darbshire was ready to contact Noether.<sup>16</sup>

It was not Noether who initiated the conversation. Darbshire wrote that Noether had not written to the AAC to receive help. She had learned of Noether's need for assistance from the press, and from Dr. Francis Sowerby Macaulay FRS (1862–1937), one of the donors to Somerville College, who resided in Cambridge. Although he had never met her, he had corresponded with Noether and was worried about her future (Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3; 3 July 1933 from Darbshire).<sup>17</sup>

Darbshire decided to get in touch with Noether through Dr. Marie-Elisabeth Lüders. She was the founder and former president of the German Federation of University Women, who was visiting Darbshire in Oxford. She mentioned Noether to Lüders, and asked her to make enquiries upon her return to Germany.<sup>18</sup> On 4 July, Darbshire wrote to the secretary of the AAC, stating that she was prepared to write to Noether.<sup>19</sup> And her attempt to contact Noether continued at least till 11 July.<sup>20</sup> However, either the message through Lüder or the letter to Noether had come through; Darbshire received a letter back from Noether on either 11 or 12 July. She wrote to the Secretary at the Academic Assistance Council, stating that she had a letter from Noether herself 'in answer to an offer which I [Darbshire] made'. She continued to explain what Noether wrote:<sup>21</sup>

It appears from her letter that she would like to accept the offer of hospitality, provided she had some invitation from the Mathematical profession.

I am trying to find out now whether we could offer her anything in the way of lecturing or teaching in Oxford. I am afraid it would in any case amount to very little. I shall make efforts also in relation with the Women's Colleges in London, where it would be quite easy for her to go up to lecture once a week, supposing she were living with us in Oxford.

Dorothy Wrinch was a mathematics tutor at Somerville, but she was going to take a leave of absence in the 1933–4 academic year. Both Noether and Wrinch attended the International Congress of Mathematicians in Zurich in 1932. At that occasion, they also went on a boat tour together (see Pólya 1987, pp. 82–3, 85). Wrinch must have talked to Noether and knew her well; Darbshire continued in the same letter, explaining what she had heard about Noether from Wrinch:

Her [Noether's] letter tells nothing about her financial position, but I understand from Dr Wrinch that she was always in poor circumstances. Another point about which I am not clear is whether she is a

<sup>15</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3.

<sup>16</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3.

<sup>17</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (3 July 1933, from Darbshire). He was supportive of Darbshire's plan to call Noether; he wrote a letter back. A letter he wrote to an unidentified person on 26 July mentions this. The letter is in the same collection at the Bodleian.

<sup>18</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (3 July 1933, from Darbshire).

<sup>19</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (4 July 1933, from Darbshire).

<sup>20</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (11 July 1933, from Darbshire).

<sup>21</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (12 July 1933, from Darbshire).

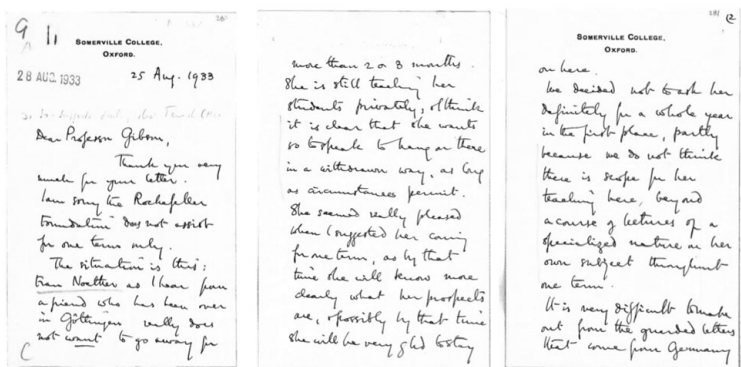


Figure 3.3 A handwritten letter from Helen Darbishire to Gibson at the AAC, explaining what she knows about Noether's situation. Written on 25 August 1933. The material has been reproduced by kind permission of Cara (the Council for At-Risk Academics).

Jewess, or whether she only lost her post owing to the general pressure under which I believe women in the professions are suffering badly.

On 25 July, Darbishire received a letter from the AAC, notifying her that the grant application to cover Noether's maintenance would be sent to Professor Lauder W. Jones, Associate Director of the Rockefeller Foundation in Paris. Professor Gibson at the AAC had already informed Jones about this.<sup>22</sup> By 26 July, Darbishire had contacted Professor Jones to 'put in a tentative plea for a grant towards her [Noether's] maintenance if she comes'.<sup>23</sup> On the same day, the donor, Macauley, had also decided to write to Darbishire regarding the financial assistance he could provide, if she came to Oxford.<sup>24</sup>

During the month of July, Darbishire was active in searching for the grant that could cover the cost of living. After a month had passed, Darbishire wrote to Gibson, stating that she was sorry to hear that 'the Rockefeller Foundation does not assist for one term only'.<sup>25</sup> She explained why Noether could not come to Oxford for more than a term.

The situation is this: Frau Noether as I learn from a friend who has been over in Göttingen really does not want to go away for more than 2 or 3 months. She is still teaching her students privately, and I think it is clear that she wants so to speak to hang on there in a withdrawn way, as long as circumstances permit. She seemed really pleased when I suggested her coming for one term, as by that time she will know more clearly what her prospects are, and possibly by that time, she will be very glad to stay on here.

I've decided not to ask her definitely for a whole year in the first place, partly because we do not think there is scope for her teaching here, beyond a course of lectures of a specialized nature in her own subject throughout one term.

<sup>22</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (25 July 1933, to Darbishire).

<sup>23</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (26 July 1933, from Darbishire).

<sup>24</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (26 July 1933, from Macauley, possibly to Gibson).

<sup>25</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (25 August 1933, from Darbishire to Gibson).



Darbshire learned that Noether would not be paid after Christmas. More precisely, the final dismissal was expected to be on 1 October 1933. Time was running out, and the arrangement had to be made quickly.

Noether's wish was to stay longer in Göttingen for her students. One of the students who Noether was looking after in Göttingen was from China, Chiungtze Tsen (1898–1940).<sup>26</sup> Noether wrote a letter from Göttingen on 18 August 1933, introduced earlier in this chapter, which was sent to the President of Bryn Mawr College, Marion Edwards Park. She had accepted the offer from Darbshire to come to Oxford for the Christmas-Easter term (i.e., Hilary Term in Oxford). Even in September, her decision had not changed. H. M. Bryant, Principal Darbshire's secretary, wrote that 'she [Noether] is coming to Oxford for the Hilary Term, i.e. about the first three months of next year, and is hoping that Bryn Mawr will postpone their appointment until academic year 1934–35'.<sup>27</sup>

The Academic Assistance Council was also helpful, suggesting a strategy to Darbshire that accommodated Noether's uncertain situation. General Secretary Walter Adams shared his idea:

I think it would be safer to invite her for a whole year and not merely for one term and then definitely to ask this Council for one of its usual maintenance grants extending over one year. That does not preclude raising the matter again with the Rockefeller Foundation and indeed might facilitate such an approach, since they do not make grants for one term. Then if Professor Noether decided at Christmas that she would prefer to return to Germany, she could do so by formally relinquishing any maintenance grant which she was receiving. It would be far easier to relinquish a grant half way through its duration than to apply for an extension of a grant which had been made on the understanding that it was to extend for only one term.

The Academic Assistant Council tried to be helpful, thus Darbshire replied six days later:<sup>28</sup>

It was by her [Noether's] own choice that she arranged to come for *one* term, the Hilary Term, 1934. I am not able on my own responsibility to extend an invitation to her for a whole academic year; that would have to wait until our Council meets, but in any case I do not think that this is the best proposition to make, for, as I explained to Professor Gibson, I think that there is little scope for her highly specialised teaching here beyond one course of advanced lectures; frankly, I do not think that we could get an audience for her.

On 13 September 1933, Noether wrote to Richard Brauer (1901–77) who had also looked for a temporary position so he could leave Germany. He himself took up an offer from the University of Kentucky, but Noether told him about her option:

As for myself, I have been invited to lecture in Oxford for one term, I have chosen the one between Christmas and Easter. Subsequently, I was also offered a research professorship in Bryn-Mawr for 1933/34. I have asked to have postponed for 1934/35 as I have already accepted the Oxford offer. I have no answer yet, but I think it should be alright. . . . Bryn Mawr is a women's college, but Mitchell [Howard Mitchell, professor of mathematics at the University of Pennsylvania] and others are there

<sup>26</sup> On 6 December 1933, he defended his dissertation, titled, 'Algebren über Funktionenkörpern' (Algebra over Function Fields), and returned to China in 1935.

<sup>27</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (11 September 1933, from Bryant).

<sup>28</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3. (19 September 1933, from Darbshire to Adams); emphasis in original.

as professors; besides, Veblen has written to me that it is so close to Princeton that they hope I will come over frequently. If through my postponement some funds became available, it could be perhaps somewhere else! By the way, I will live in a women's college in Oxford as well, but I shall lecture to the whole university, which is composed of the different colleges.<sup>29</sup>

At the Meeting of the Education Committee held at Somerville College on 5 October, Darbishire reported the situation to the members. There, Darbishire was in touch not only with Noether, but also with archeologist Margaret Bieber (1879–1978), a Jew. The educational committee minutes recorded the following:

Exiled German Professors.

The Principal reported that she had heard of two eminent German women scholars who had been dismissed from their appointments in Germany owing to their Jewish nationality. It had already been agreed by herself and the Fellows that if possible an endeavour should be made to offer them temporary appointments here.

The Academic Assistance Council was prepared to help in such cases by a grant equal to the amount offered by the College. The Principal hoped to open a fund for subscriptions to augment College payments.

Resolved to recommend to Council:

- (1) That Fraulein Noether, formerly Professor of Mathematics in the University of Göttingen should be asked to give a course of 16 lectures in the Hilary Term 1934 with a payment of 25 pounds, on the understanding that this would be made up to 50 pounds from other sources.<sup>30</sup>
- (2) That Fraulein Bieber, a distinguished Archaeologist, be offered an Honorary Research Fellowship for the academic year 1933–1934, in the hope that the Women's Colleges in Oxford would help to finance a course of eight lectures in each term.<sup>31</sup>

In the same meeting, they also discussed the status of Dorothy Wrinch. The minutes have a subheading, 'Mathematics', and recorded the resolution that 'Dr. Wrinch should receive the special fee of 30 pounds for the academic year which was paid to her in consideration of special tutorial control'.<sup>32</sup> Wrinch's replacement tutor had already been assigned in June 1933: Miss Margaret Grimshaw of Newnham College, Cambridge.<sup>33</sup> She had worked as a tutor at the University of Göttingen prior to this appointment, and she was going to be paid a salary of 300 pounds for the academic year 1933–4 (*Somerville College Education Committee Meetings Minutes*, 6 June, p. 312).

Three days prior to the education committee meeting at Somerville, on 2 October, Noether had made a decision. President Park at Bryn Mawr received a telegram from Noether, confirming her move there. Delighted, President Park announced her impending arrival at the convocation, held on 3 October. Her term was to be for 2 years, not for 1 year.

<sup>29</sup> Letter from Noether to Brauer, Bryn Mawr Special Collections.

<sup>30</sup> For a comparison, a student's tuition for mathematics that year was about 32 pounds.

<sup>31</sup> Darbishire reported Bieber's work in Oxford, and announced the fund she had created for German refugee scholars (*Somerville College 1934*, pp. 24–5).

<sup>32</sup> The 'tutorial control' meant that Wrinch was taking on consultation from students and other administrative duties while on leave.

<sup>33</sup> A tribute to Margaret Eleanor Grimshaw appeared in *Newnham College Roll Letter* 17, 1991.

Financially, Bryn Mawr was able to offer Noether the sum of 2,000 dollars to cover the academic year 1934–5 thanks to the support from the RF (Shen 2019, pp. 59–60).

Oxford's offer to raise the amount to 50 pounds, as stated in the Somerville minutes on 6 October, may not have been delivered to Noether at this point. Subsequently, in the letter, written on 11 October, the College was informed that Emmy Noether 'has accepted the invitation for this year to go to Bryn Mawr in America. This information comes from the Rockefeller Foundation in Paris'.<sup>34</sup> At the Meeting of the Education Committee held at Somerville College on 14 October, Darbshire reported Noether's decision. She said, 'owing to the financial stringency Fraulein Noether had been obliged to accept an offer to lecture in America, and would therefore not come to Oxford during the present academic year'.

Darbshire may not have been aware of the extension of Noether's term at Bryn Mawr. She was willing to help Noether, if she decided to come to Oxford after her appointment at Bryn Mawr for one academic year. Darbshire continued to give assistance to the refugee scholars from European countries. In the *Eighth Annual Supplement to the Report of the College, 1932–1933* (Somerville College 1933), she wrote a paragraph regarding Professor Bieber and the new fund. 'In consultation with the Fellows of the College, I have opened the Fund for the assistance of dismissed German women scholars whom the College resolved, on the ground of the value of their contribution to learning, to invite to work or teach for a period in Oxford' (Somerville College 1934, p. 21). She added, 'I am not making an appeal outside, but if any old students are interested and would like to contribute, I shall be very glad' (Somerville College 1934, p. 21).<sup>35</sup> Noether, however, did not have a chance to use the fund; on 2 February 1935, the college was notified that Bryn Mawr had been gathering funds 'locally' so that Noether could stay there for longer.<sup>36</sup>

### 3.5 Lecturing at IAS, Princeton

At Bryn Mawr, the department of mathematics was headed by Anna Johnson Pell Wheeler (1883–1966) and the college's president was a classist, President Marion Edward Park (1875–1960). Wheeler, a mathematician, once visited Göttingen to study under Hilbert's guidance as a graduate student. Wheeler chose to conduct research in the field of 'integral equations', on which David Hilbert was a leading scholar; thus she travelled all the way from the USA to Germany. During her study in Göttingen, however, Wheeler had a difficult time; she wrote to Mary Coes (1861–1913), Dean at Radcliffe College, 'In Göttingen I had some trouble with Professor Hilbert and came back to America without a degree' (Grinstein and Campbell 1982, p. 41).<sup>37</sup>

In the USA, she reunited with her husband, Alexander Pell (1857–1921), who had moved to Chicago for his job. (Her husband's real name was Sergei Degaev, an escaped Russian double agent, a fact that would not be revealed during his lifetime; Grinstein and Campbell

<sup>34</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (11 October 1933, Assistant Secretary to Darbshire). The underline is in the original.

<sup>35</sup> This fund was successful, and it helped out many refugee scholars up to 1939.

<sup>36</sup> Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3 (2 February 1935).

<sup>37</sup> This letter was written in 1910.

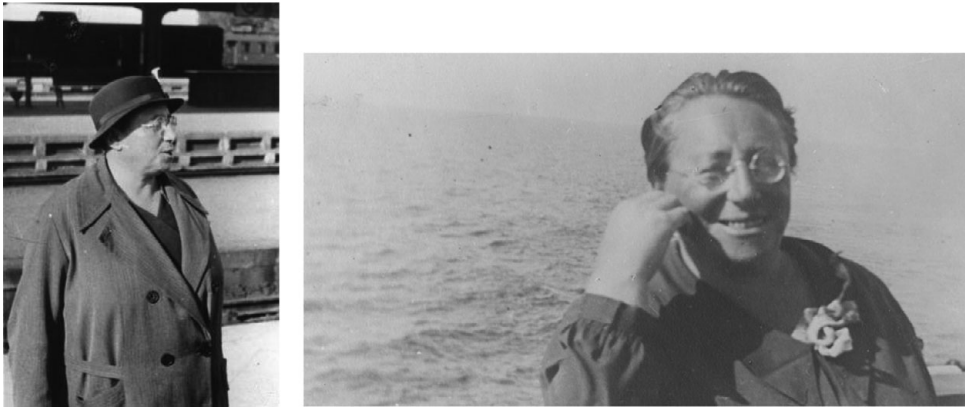


Figure 3.4 (left) Noether leaving for the USA. Oberwolfach Photo Collection, photo ID 9265. Author: Natascha Artin.

Source: Archives of P. Roquette, Heidelberg and C. Kimberling, Evansville and archives of the Mathematisches Forschungsinstitut Oberwolfach.

Figure 3.5 (right) The reverse side of this photo states that the photo was taken in Germany. It was shortly before Noether's departure to the USA, or during the summer of 1934 when she made a short return to Germany.

Source: The Bryn Mawr College Archive. (The Archive estimated the year. An inquiry was made to the College Archivist, Ms. Mills.)

1982). Wheeler herself would have known of Noether, through Hilbert. Despite their bitter relationship during her doctoral student year, she kept in touch with Hilbert; she even contributed her portrait to be placed in 1922, for his 60th birthday book, where Noether also put one for herself.<sup>38</sup>

President Park was informed of a possibility of inviting a refugee scholar from the Emergency Committee to Aid Displaced German Scholars. On 11 July 1933, she wrote to the RF in New York, and stated that Bryn Mawr could choose a displaced scholar and invite her with the support of 2,000 dollars. But because the salary she wished to pay was 4,000 dollars, she asked the RF to put in an additional 2,000 dollars. As for the choice of a scholar, she wrote:

Earlier in the spring Professor Anna Pell Wheeler of our Department of Mathematics was approached by Professor Lefschetz of Princeton with the suggestion that Dr. Emmy Nothe [*sic*] of Göttingen whose resignation from the University had been demanded should be invited to Bryn Mawr College for 1933–34.

Solomon Lefschetz, a mathematics professor at Princeton University, was a keen supporter of Noether. Together with the founder of the IAS, Abraham Flexner (1866–1959), his colleague and the first permanent maths faculty at IAS, Oswald Veblen, and Noether's former colleague at Göttingen, Herman Weyl, they helped to raise funds for Wheeler to extend

<sup>38</sup> The birthday book is stored at the University of Göttingen Archive.

Noether's term at Bryn Mawr. Veblen requested a 'small grant-in-aid' for the academic year 1935–36, and he secured 1,500 dollars and continued fundraising for a 'permanent commitment on the part of the Institute' (Institute for Advanced Study 2017, p. 8). He in fact invited Noether to give weekly lectures at the Institute as a Visitor in the School of Mathematics. This invitation was made at the early stage; recall the letter Noether sent to Brauer. She wrote on 13 September 1933, that 'Veblen has written to me that it [Bryn Mawr] is so close to Princeton that they hope I will come over frequently.'

Noether had sailed to the USA by mid-November Kimberling (1955, 31). She was welcomed by the female academic community at Bryn Mawr. She started to give guest lectures at IAS Princeton in February 1934. Noether had a brand-new start. Professors at many places, near and remote, (such as Swarthmore College, Princeton, Massachusetts Institute of Technology, and Brown University) were willing to help to extend her term in the USA. Wheeler asked the members of the IAS about bringing Noether to Princeton: Solomon Lefschetz responded quickly to the matter, 'she [Noether] is the outstanding refugee German mathematician brought to these shores and if nothing is done for her, it will be a true scandal' (*Dokumente zu Emmy Noether* n.d. 3.2, 80).

## References

### Archival Documents

- 18.08.1933, Bryn Mawr Archive.  
 Birthday Book (photo collection) for David Hilbert at His 60th Birthday. University of Göttingen Archive, 1922.  
*Dokumente zu Emmy Noether*. (n.d.). Compiled by Peter J. Roquette. [www.mathi.uni-heidelberg.de/~roquette/Transkriptionen/DOKNOE\\_070228.pdf](http://www.mathi.uni-heidelberg.de/~roquette/Transkriptionen/DOKNOE_070228.pdf).  
 Emmy Noether, c1935, photograph, Bryn Mawr College Photo Archives, PA\_Noether\_Emma\_002.  
 Letter from Noether to Brauer, Bryn Mawr Special Collections.  
*Newnham College Roll Letter* 17, 1991.  
 Oxford, Bodleian Libraries, MS. S.P.S.L. 53 2/3.  
*Somerville College Education Committee Meetings Minutes*.  
 Somerville College. (1933). *Eighth Annual Supplement to the Report of the College, 1932–1933*. Oxford: Baxtor Press.  
 Somerville College. (1934). *Ninth Annual Supplement to the Report of the College, 1933–1934*. Oxford: Baxtor Press.

### Secondary Sources

- Alexandroff, P. S. (1981). In memory of Emmy Noether. In J. W. Brewer and M. K. Smith, eds., *Emmy Noether: A Tribute to Her Life and Work*. New York: Marcel Dekker, 99–111.  
 Adams, Pauline. *Somerville for Women: An Oxford College, 1879–1993*. Oxford: Oxford University Press, 1996.  
 Grinstein, L. S. and Campbell, P. J. (1982). Anna Johnson Pell Wheeler: Her life and work. *Historia Mathematica*, **9**, 37–53.  
 Hopf H. (1964). Eine Verallgemeinerung der Euler-Poincaréschen Formel. In *Selecta Heinz Hopf*. Berlin, Heidelberg: Springer. [https://doi.org/10.1007/978-3-662-25046-4\\_2](https://doi.org/10.1007/978-3-662-25046-4_2)  
 Institute for Advanced Study. (2017). *The Institute Letter*. Spring.

- Kimberling, C. (1981). Emmy Noether and her influence. In J. W. Brewer and M. K. Smith, eds., *Emmy Noether: A Tribute to Her Life and Work*. New York: Marcel Dekker, 3–61.
- Nossum, R. (2012). Emigration of mathematicians from outside German-speaking academia, 1933–1963, supported by the Society for the Protection of Science and Learning. *Historia Mathematica* **39**(1), 84–104.
- Nossum, R. and Kotúlek, J. (2015). The Society for the Protection of Science and Learning as a patron of refugee mathematicians. *BSHM Bulletin: Journal of the British Society for the History of Mathematics* **30**, 153–67.
- O'Connor, J. J. and Robertson, E. F. (2000). *MacTutor History of Mathematics*. St Andrews: The University of St Andrews. [www-history.mcs.st-and.ac.uk/Biographies/Noether\\_Fritz.html](http://www-history.mcs.st-and.ac.uk/Biographies/Noether_Fritz.html)
- Pólya, George. (1987). *The Pólya Picture Album: Encounters of a Mathematician*. Boston: Birkhäuser, 1987.
- Senechal, M. (2013). *I Died for Beauty: Dorothy Wrinch and the Cultures of Science*. Oxford: Oxford University Press.
- Shen, Q. (2019). A refugee scholar from Nazi Germany: Emmy Noether and Bryn Mawr College. *The Mathematical Intelligencer*, **41**(3), 52–65.