Libraries & Culture

a Journal of library history
Volume 26 / Number 2 / Spring 1991

Reading & Libraries II

LIBRARY HISTORY SEMINAR VIII

Indiana University, Bloomington

9-11 May 1990 **Editor:** Donald G.

Davis, Jr.

University of Texas Press

Scientific Journals under National Socialism

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In their dealings with scientific Journals the Nazis did not act so much from an ideological viewpoint as from economic considerations. Usually more than 50 percent of the circulation of German science Journals was exported, bringing needed fbreign exchange into the Reich. Thus the German publishers could use the relatively strong position they gained to ward off attacks on their entrepreneurial autonomy, to retain international authors' contacts as long as possible, and to maintain the scientific Standard of their Journals to the extent possible.

Introduction

An observer of the library shelves Holding German scientific Journals of the 1930s will notice at first glance that the volumes decrease sharply in size as the decade progresses. In 1932, for example, the *Zeitschrift für mikroskopisch-anatomische Forschung* consisted of 2,624 pages in four volumes. Six years later it had only 1,247 pages in two volumes. In general, the size of the German scientific and medical Journals diminished between 30 and 45 percent in the period from 1932 to 1938.

It is easy to explain this phenomenon as a disastrous effect of the Nazi science policy. However, this explanation is not really valid. Before 1933 international pressure was already put on the German publishers of scientific literature to limit the size of their Journals and to reduce the selling price. Publishers could only accept this demand because the Nazi government backed them by granting subsidies. One could say that, in this respect, the same National Socialists who already had jeopardized the reputation of German science made it possible for the leading German science Journals to maintain their international credit a few extra years.

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Librariei and Culture, Vol. 26, No. 2, Spring 1991

The explanation for the government's subsidy policy was that usually more than 50 percent of the circulation of German science Journals was ex-ported, bringing needed foreign exchange into the Reich. The relatively free rein given the publishers was a direct result of their revenues' economic importance to the government.

International Pressure on German Journal Publishers

By the middle of the 1920s American librarians had begun to complain about the high prices of German medical and science Journals, which were especially voluminous and costly. The libraries had difficulties in paying the steadily rising subscription costs. According to Charles Harvey Brown, chairman of the ALA subcommittee on German periodicals, the price per page of a 1930 German scientific Journal was 3.8 cents as compared with 0.8 cents for an American Journal. The German price was thus four and a half times as high as the American. Brown demonstrated, moreover, that it had doubled since 1924, whereas that of American and English periodicals has decreased.[1]

There were additional complaints that German research Journals did not have a fixed price but fluctuated with the rhythm of scientific productivity and were invoiced volume per volume. The subscription rate could become unexpectedly high when proceedings, *Festschriften,* or other forms of sup-plementary material were added to the normal volume.

German publishers defended the high prices of their products with the following arguments[2]

1. they paid authors honoraria instead of getting page charges;
2. they got no support from scientific societies;
3. the format of their Journals (texts and pictures) was better and richer;
4. they had smaller runs due to decreased circulation (in contrast to the growing market for English-language Journals);
5. the German book trade demanded a greater wholesale discount;
6. the German taxes and benefit deductions were higher; and
7. important foreign currency had lost value in relation to the Reichsmark.

The frantic international activities to solve this conflict from 1932 on have been described by others (e.g., Astle and Hamaker 1988).[3] Here we will only recall that at the 1933 ALA Conference in Chicago the German publishers consented to reduce price and size from year to year. The political Situation in Germany indirectly assisted them: they received fewer manuscripts than in the previous years. Turmoil at the universities and the laboratories distracted many from scientifically productive work, especially those Jews and socialists who had lost their Jobs in April 1933.

But the price reductions of over 30 percent by the German publishers

were neutralized by the devaluation of the dollar by more than 60 percent in 1933 and 1934, and by the dramatic reduction of U.S. library budgets due to the Depression. As a result, the subscriptions of German Journals fail off precipitously, and the overall export rate of the German book trade dropped more than 27 percent within two years,[4] a development in which foreign dismay about Nazi policies also played a role.

In the summer of 1935 the German government decided to intervene. The export prices for products of the book trade were essentially subsidized, so the publishers were able to cut the subscription rate of their exported Journals by 25 percent. This, combined with a reduction of size, made the Journals noticeably cheaper for foreign subscribers; an increase of sales during the following years was the direct result.[5]

The motive of the Nazi government in influencing these developments is not to be sought in a sudden understanding of the importance of cultural and scientific relations to foreign countries. It is due rather to the necessity of strengthening a sector of trade yielding foreign exchange. In the autumn of 1934 the Deutsches Reich had hardly any foreign currency reserves, a Situation that imperiled the import of raw materials upon which the Nazi armament program depended. All possibilities that might enhance foreign revenues were eagerly pursued.[6] The book trade was a relatively small but dependable source of foreign earnings, with good prospects. German books and Journals were classified with a "l" for preferential import merchandise by the U.S. Tariff Commission.[7]

Journals Acquisitions by German Libraries

The future of the German scientific Journals depended not only on export sales but also on the spending power of the German libraries as well. How did the domestic market for scientific Journals develop? The National Socialists impeded the import of foreign literature by rigorous exchange restrictions after 1934. From 1937 on every library order had to be licensed by the Geheimes Staatspolizeiamt in Berlin,[8] and later by the Wirtschaftsstelle des Deutschen Buchhandels (Minstry of Propaganda), as well.[9] These measures led to a constant decline in foreign Journals subscriptions. At the university library of Tübingen, for instance, purchases from fascist Italy grew disproportionately, and acquisitions from France went on until 1945, but the import from the largest purchaser, the United States, diminished rapidly: it dropped first in 1937, then in 1939 with the beginning of the war, and ended totally in 1943, when not a single U.S. publication came into the library. Acquisitions from Great Britain had been totally im-possible since 1940.[10]

This acquisitions policy jeopardized research in Germany by cutting off German scholars from international scientific communication. [11] But, on

the other hand, it had positive results for German scientific Journal publishers. The fewer foreign Journals libraries in Germany could buy, the more means they had for domestic ones. One can see this trend in the development of the Journals budgets of some big German libraries during the Nazi period (flg. 1). The funds did not dramatically drop. The decrease of the years 1933 and 1934 was compensated for by an increase from 1936 on.

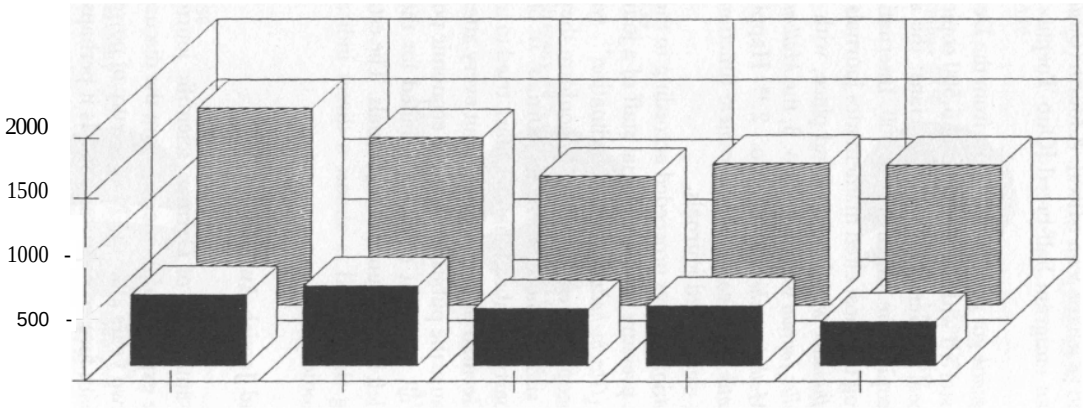
The economic position of the Journal Publishing houses was stabilized, however paradoxical this may sound: access to the foreign markets was guaranteed by the governmental subsidies and the domestic market was secured by the elimination of foreign periodicals from the libraries. The question is whether publishers and editors took advantage of this Situation and used their strong position to defend their autonomy.

Attempts at Reorganization

In the beginning the Nazis had far-reaching plans for the reorganization of the field of scientific Publishing. The first stumbling block was the sheer quantity of scientific Journal titles (about 1,500),[12] which seemed to them an unnecessary "fragmentation." They planned to reduce the number of Journals. In 1936 the Beauftragter des Reichsärzteführers für die medizinische Fachpresse (Commissioner of the Reich's Leader of Physicians for the Medical Press) publicly complained: "Medicine is unfortunately surfeited with periodicals. But whatever tremendous effort I made to stop publication of one or another, I always met with Opposition from the publishers."[13]

Other disciplines than medicine were affected by ambitious reorganization plans as well: in such fields as mathematics, physics, chemistry, or history,[14] ardent Nazis were also anxious to adapt the Journals to the "national revolution." However, these efforts remained remarkably ineffectual. A good example for that is the field of mathematics: Ludwig Bieberbach, member of the influential Prussian Academy of Science and of the N.S. party, tried to merge the two leading mathematical abstracts Journals, *the Jahrbuch über die Fortschritte der Mathematik* (Berlin, de Gruyter-Verlag) and the *Zentralblatt für Mathematik* (Berlin, Vienna, Springer-Verlag). The fusion was a failure because there was an evident difference in the philosophy of the two Journals, but above all because the publishers vetoed it.[15] Bieberbach was apparently more successful with another project: in 1936 he launched a new Journal, *Deutsche Mathematik*[16] with the editorial comment: "We are devoted to the German manner in mathematics and want to cultivate it." This organ was intended to form a counterweight to the other mathematical Journals, which he characterized as follows: "One *(Mathematische Annalen)* is edited by a Jew [allusion to Otto Blumenthal]. In

FIGURE l
PURCHASING BUDGETS OF TWELVE LARGE GERMAN LIBRARIES, 1927-1941
(in thousand Reichsmark)



another *(Mathematische Zeitschrift)* there appear papers dedicated to female Jewish communists [allusion to Emmy Noether]. In a third *(Grelle's Journal)* papers of emigrants are printed [Richard Von Mises]. A fourth *(Quellen und Studien)* is led by a Jew and an emigrant half-breed [Otto Toeplitz, Otto Neugebauer]."[17]

Bieberbach's *Deutsche Mathematik* got generous support from the Deutsche Forschungsgemeinschaft and started with a circulation of 6,500 copies. But the new Journal did not appeal to German mathematicians: the second volume was printed in 1,000 copies, the fourth only in 500. Internationally it found no recognition. Among the most cited mathematics Journals of the years 1942/1944, *Deutsche Mathematik* was listed in 92nd place, with 4 cita-tions. Such rival organs as *Grelles Journal was* ranked no. 8, *the Mathematische Zeitschrift* no. 6, and the *Mathematische Annalen* no. 2.[18] Happily for mathematics, *Deutsche Mathematik* never came anywhere near functioning as a counterweight for the other established Journals.

The attempts at reorganization always proceeded according to the same pattern: at first the Nazis put pressure on the editorial staff of a Journal to bring themselves into line *(Gleichschaltung* or "coordination" was the euphemism for this). If the people were not willing to conform they were threatened with a fusion with similar, more amenable Journals. In physics, the Nobel laureate and N.S. party member Johannes Stark tried to install a central editorial office for all German physics Journals, but every attempt of this kind came to nothing because the publishers had the economic power to impede such fusions. When all means at co-optation failed for the Nazi ideologists, there was no way left but to launch new Journals. The establish-ment of new Journals during this period is almost a direct indicator of failure to co-opt existing periodicals.

Participation of Foreign and Jewish Authors

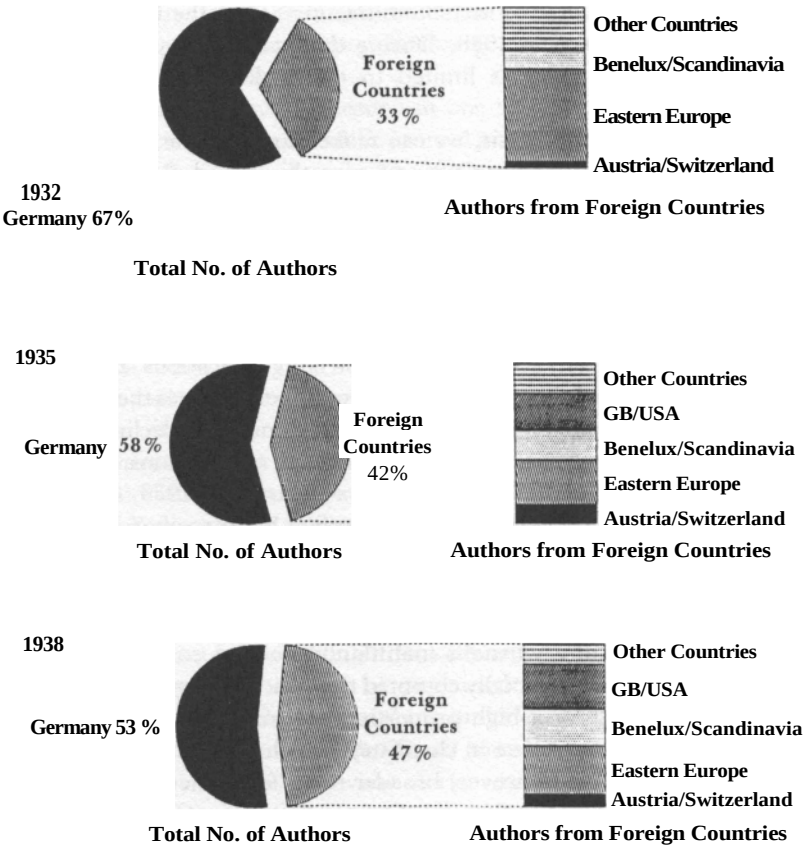
Another indication of the autonomy of German scientific Journals (at least of those important in the export trade) emerges from the discussion of a question raised in the first two years after the Nazi seizure of power. Are German Journals infiltrated with foreign contributions? Is it perhaps possible to meet the request of librarians and cut down the size of the German Journals by limiting the space for articles by foreigners?

It would not be astonishing if such a chauvinistic debate discouraged many foreign scholars from continuing their frequently long-Standing work with German Journals. In fact, the proportion of contributions by foreign authors to some Journals, such as the reputable *Zeitschrift für physikalische Chemie,* diminished, the latter seeing its foreign contributions decrease from 61 percent in 1927 to 33 percent in 1937.[19]

But there are striking examples demonstrating an opposite trend. The in-

FIGURE 2

***MATHEMATISCHE** ANNALEN:* **COUNTRY OF ORIGIN OF AUTHORS,** 1932-1938



ternationally oriented *Archiv für experimentelle Zellforschung* continued to publish articles by German authors only as a small proportion of each issue. In 1932 as well as in 1938, 85 percent of the articles came from abroad. In the *Zeitschrift für mikroskopisch-analytische Forschung* we find a rising number of

foreign authors (from 49 to 56 percent) between 1932 and 1938. With the *Mathematische Annalen* the increase is still more impressive (see flg. 2): in 1932, 33 percent of the contributions came from abroad; in 1938, 47 percent. Examining the countries of origin we find a shift from Soviet mathematicians still dominating in 1935 to scientists from the United States and the United Kingdom in 1938. During the war the proportion of foreign authors declined and was limited to those of countries dependent on Germany.

Later, on a broader basis, we can make more specific Statements about changes in scientific communication during this period. But there can be no doubt about the fact that the participation of foreign authors in German research Journals did not decrease. In 1941 Joseph Needham studied this phenomenon in the *Biochemische Zeitschrift* and interpreted it as a sign of the decline of German science. Needham inferred that the German Journals could not have maintained their Standards if their editors had not included contributions regularly from Scandinavia, Switzerland, the Netherlands, Russia, Portugal, and even Palestine. (Striking indications, he added, that the Nazis can forget about racial differences when it serves their purposes to do so.)[20] This explanation seems plausible to me. The decline of German science did not run parallel to that of German publications. After the exodus of such a large number of eminent scholars after 1933, German journals sought to maintain their former Standing by intensifying the relationships with foreign, and even with emigrated German, authors.

The publishers had the freedom to act in this way because the N.S. government had accepted the international integration of scientific Publishing in consideration of economic advantage. Furthermore, we must take into account global changes in the scientific world that could not be stopped by the Nazis: the internationalization of communication, for example, could also be seen in the proliferation of international congresses, which became increasingly characteristic of many flelds.[21]

The possibility of a Journal's maintaining foreign contacts only existed when the Nazis had not totally co-opted the topic ideologically. In such sensitive fields as history a high proportion of foreign authors was not conceivable; the same was true in chemistry, which had assumed a position of national importance. However, broader room for maneuver was conceded to mathematics. A political emigrant from Germany (Otto Neugebauer), living in Copenhagen, could act as managing editor of the *Zentralblatt* and other Springer publications. In late 1938 he himself retired from the Job, protesting against the increased pressure on Jews. Together with him, four more internationally known mathematicians (of a total of twelve on the editorial board) left the *Zentralblatt.* R. Courant (formerly in Göttingen), G. H. Hardy, J. D. Tamarkin, and O. Veblen. All of the m took part in a

rival project, *Mathematical Reviews*, which the American Mathematical Society decided to found in May 1939.[22]

This reveals an additional reason why German publishers had a strong self-interest in dodging the N.S. isolation policy: they wanted to avoid letting rival companies from the United States and other European countries gain ground and possibly win important foreign markets forever. This was indeed the case from 1939 on.

The Nazi ideologists only succeeded in one crucial point in their campaign to reorganize German scientific Journal publishing: in the question of Jewish editors and authors. A quite desperate picture is to be drawn here, as everywhere under the Nazi rule. In many cases in 1933 Jewish editors suddenly disappeared from title pages of Journals that they had managed for years. For the most part no explanation was given. David Katz, for ex-ample, had to leave the *Zeitschrift für Psychologie* and William Stern, both the *Zeitschrift für pädagogische Psychologie und Jugendkunde* and the *Zeitschrift für angewandte Psychologie und Charakterkunde.*[23] A list with hundreds of names could easily be compiled.

Neither the replacement of Jews by "Aryan" successors nor the gradual absence of contributions from Jewish authors could be concealed from the readers. However, the fact that their research work was no longer debated and their names disappeared from the bibliographies was more difficult to notice. The following letter from a Journal editor is an inglorious example of this: "Yesterday I spent the whole day struggling with Hennig or rather with his manuscript. We were ultimately able to shorten it by simply deleting a dozen references to books, which were mostly old things by publishers no longer in existence or books of Jewish authors whose absence would not give cause for complaint anyway, etc."[24]

Here it becomes evident that not only party officials or coordinated professional organizations were responsible for the exclusion of Jews from scientific communication, but that a role was also played by their colleagues, who without further thought took advantage of the prevalent anti-Semitism. This behavior cannot be explained by the fear of sanctions because the Nazis did not have everything under control. Thus an international abstract Journal like *Zentralblattfür die gesamte Neurologie and Psychiatrie* (Springer-Verlag) managed to review works written by Jewish authors in nearly every issue until 1944. In volume 102 (1942), for instance, the names of Maurice H. Pincus, Albert Salmon, David J. Cohn, B. Berliner, Leo Spiegel, and at least sixteen more scientists are to be found.

The last Jewish editors were compelled to retire after the pogroms of November 1938. The few positive observations do not allow the generalized inference that the ousting of Jewish scientists was effectively prevented by the Journal publishers.

Conclusion

In their dealings with scientific Journals the Nazis did not act so much from an ideological viewpoint as from economic considerations. The export subsidy of 1935 indicated how much they wanted foreign exchange revenues. Simultaneously, the German libraries' Import of foreign literature was throttled—due not simply to the regime's xenophobia but mainly to currency shortage. In 1936, in combination with a reduction of size and price, these factors resulted in a consolidation of the weakened scientific Journals. The publishers used the relatively strong position they gained to ward off attacks on their entrepreneurial autonomy, to retain international authors' contacts as long as possible, and to maintain the scientific Standard of their Journals to the extent possible.

Only after 9 November 1938 was the Nazi attitude to the Journals definitely determined by ideological motives, above all anti-Semitism. At exactly this moment foreign authors left German scientific Journals. Ultimately Germany's scientific Journals fail victim to the same forces that had already brought German science into international discredit.

Notes

Another version of this paper in German will appear in Manfred Komorowski and Peter Vodosek (eds.), *Bibliotheken unter dem Nationalsozialismus,* vol. 2 (Wiesbaden: Harrassowitz, 1991).

1. Charles H. Brown, "A Hazard to Research," *Library Journal* 57 (1932): 261-265, esp. 263f.

2. See, for example: Herman Degener, "Die heutigen Preise wissenschaftlicher Bücher und Zeitschriften in Deutschland," *Angewandte Chemie* 48/162 (1935): 1-9.

3. Deana Astle and Charles Hamaker, "Journal Publishing—Pricing and Structural Issues in the 1930s and the 1980s," *Advances in Serials Management* 2 (1988): 1-36. On the contemporary international debate, see Georg Leyh, "Die deutschen Zeitschriftenpreise und die amerikanischen Bibliotheken," *Zentralblatt für Bibliothekswesen* 50 (1933): 377-388; and Georg Leyh, "Die Zeitschriftenreform und das Abkommen von Chicago vom 18. Oktober 1933," *Zentralblatt für Bibliothekswesen* 51 (1934): 81-97.

4. Murray G. Hall, *Österreichische Verlagsgeschichte 1918-1938,* 2 vols. (Vienna: Böhlau, 1985), vol. l, p. 147. Hall refers to a report in the *Neue Zürcher Zeitung* of 28 October 1935.

5. "Jahresbericht 1936/37," *Vertrauliche Mitteilungen der Fachschaft Verlag* 22 (1937): 3-8.

6. Hans Erich Volkmann, "Außenhandel und Aufrüstung in Deutschland 1933 bis 1939," in Friedrich Forstmeier und Hans-Erich Volkmann (eds.), *Wirtschaft und Rüstung am Vorabend des Zweiten Weltkriegs* (Düsseldorf: Droste, 1975), pp. 81-131.

7. Astle and Hamaker, "Journal Publishing," p. 12.

8. Pamela Spence Richards, "German Libraries and Scientific and Technical Information in Nazi Germany," *Library Quarterly* 55/2 (1985): 151-173, esp. 159.

9. Ingo Toussaint, *Die Universitätsbibliothek Freiburg im Dritten Reich,* 2nd ed.

(Munich: Säur, 1984) p. 105; Hans-Gerd Happel, *Das wissenschaftliche Bibliothekswesen im Nationalsozialismus, Unter besonderer Berücksichtigung der Universitätsbibliotheken,* Beiträge zur Bibliotheksgeschichte und Bibliothekstheorie, vol. l (Munich: Säur, 1989), p. 69.

10. Hartmut Zillmann, "Bibliothekar im totalitären Staat: Die Erwerbungen ausländischer Literatur der Universitätsbibliothek Tübingen im Dritten Reich," Hausarbeit für den höheren Bibliotheksdienst (Cologne: Fachhochschule für Bibliotheks- und Dokumentationswesen, 1983, typewritten manuscript).

11. Pamela Spence Richards, "Der Einfluß des Nationalsozialismus auf Deutschlands wissenschaftliche Beziehungen zum Ausland," in Monika Estermann and Michael Knoche (eds.), *Von Göschen bis Rowohlt: Beiträge zur Geschichte des deutschen Verlagswesens* (Wiesbaden: Harrassowitz, 1990), pp. 233-259.

12. About 1,500 scientific Journals are listed in the 1931 and 1935 edition of *Kürschner's Gelehrten Kalender.*

13. Kurt Klare, "Die medizinische Fachpresse: Rückblick und Ausblick," *Deutsches Ärzteblatt* 43 (1936): 7.

14. Medicine: Here the actions of the Beauftragter des Reichsärzteführers für die medizinische Fachpresse, Kurt Klare, are referred to. See also Robert Proctor, *Racial Hygiene: Medicine under the Nazis* (Cambridge, Mass.: Harvard University Press 1988), esp. pp. 74-79 and 315-326. Physics: See Johannes Stark, "Die Organisation der physikalischen Forschung," *Zeitschrift für technische Physik* 14 (1933): 433-435; Max von Laue, "Bemerkungen zu der vorstehenden Veröffentlichung von J. Stark" [Stark: "Zu den Kämpfen in der Physik während der Hitler-Zeit"] *Physikalische Blätter* 3 (1947): 272f.; see also Alan D. Beyerchen, *Scientists under Hitler: Politics and the Physics Community in the Third Reich* (New Haven, London: Yale University Press, 1977), pp. 115ff. Chemistry: See, for example, Walter Ruske, *100 Jahre Deutsche Chemische Gesellschaft (*Weinheim: Verlag Chemie, 1967), pp. 169-173. History: Helmut Heiber, *Walter Frank und sein Reichsinstitut für Geschichte des neuen Deutschlands,* Quellen und Darstellungen zur Zeitgeschichte, vol. 13 (Stuttgart: DVA, 1966), pp. 278-313; Margaret F. Stieg, *The Origin and Development of Scholarly Historical Periodicals* (Tuscaloosa: University of Alabama Press, 1986), pp. 161-165.

15. Reinhard Siegmund-Schultze, "Beiträge zur Analyse der Entwicklungsbedingungen der Mathematik im faschistischen Deutschland unter besonderer Berücksichtigung des Referatewesens" (Phil. Diss. [B], Humboldt-Universität, Berlin, 1986; typewritten manuscript), p. 164.

16. On the role of Bieberbach and of *Deutsche Mathematik,* see Erich Julius Gumbel, "Arische Naturwissenschaft?" in E. J. Gumbel (ed.), *Freie Wissenschaft: Ein Sammelbuch aus der deutschen Emigration* (Strassburg: Seb. Brant-Verlag, 1938), pp. 246-262, in particular pp. 259-262; Herbert Mehrtens, "Ludwig Bieberbach and 'Deutsche Mathematik,'" in Esther R. Phillips (ed.), *Studies in the History of Mathematics,* Studies in Mathematics, vol. 26 (Washington, D.C.: Mathematical Association of Amerika, 1987), pp. 195-241.

17. Letter of 17 February 1937, Bundesarchiv Koblenz, R 73, vol. 15.934; quoted in Mehrtens, "Ludwig Bieberbach," p. 223.

18. Charles Harvey Brown, *Scientific Serials: Characteristics and Lists of Most Cited Publications in Mathematics, Physics, Chemistry, Geology, Physiology, Botany, Zoology, and Entomology,* ACRL Monograph 16 (Chicago: ACRL, 1956), pp. 171-174.

19. Thomas Hapke, "Die, 'Zeitschrift für physikalische Chemie, Stöchiometrie und Verwandtschaftslehre' und ihre Nachfolger (1887-1987)," Hausarbeit zur Prüfung für den höheren Bibliotheksdienst (Cologne: Fachhochschule für Bibliotheks- und Dokumentationswesen, 1987; typewritten manuscript), p. 52.

20. Joseph Needham, *The Nazi Attack on International Science* (London: Watts, 1941), esp. pp. 28-31.

21. This thesis in regard to communication in mathematics is illustrated by Siegmund-Schultz, "Beiträge," pp. 58f. See also Herbert Mehrtens, "The Gleichschaltung of Mathematical Societies in Nazi Germany," *Mathematical Intelligencer* 11/3 (1989): 48-60, esp. 59.

22. Nathan Reingold, "Refugee Mathematicians in the U.S.A. 1933-1941: Reception and Reaction," *Annals of Science* 30 (1981): 313-338, esp. 333.

23. Joachim F. Wohlwill, "German Psychological Journals under National Socialism: A History of Contrasting Paths," *Journal of the History of the Behavioral Sciences* 23 (1987): 169-185. See also Mitchell G. Ash, "Ein Institut und eine Zeitschrift: Zur Geschichte des Berliner Psychologischen Instituts und der Zeitschrift 'Psychologische Forschung' vor und nach 1933," in Carl Friedrich Graumann (ed.), *Psychologie im Nationalsozialismus* (Berlin, Heidelberg, New York: Springer-Verlag, 1985), pp. 113-137.

24. Letter from Erich Rothacker to Paul Kluckhohn, 30 August 1937, Deutsches Literaturachiv Marbach, Germany, Bestand Deutsche Vierteljahrsschrift.