

The End of Exchange

Science Policy and the Moral Economy of Scientific Publication in Sweden, 1960–1980

▼ **SPECIAL ISSUE** in *Scholarly Codes of Conduct in the Twentieth Century*

▼ **ABSTRACT** In the course of a few decades around 1970, the circulation of scientific publications changed from a system of exchange—between libraries, publishers, institutions—to one of commercial transactions. In this paper, I will discuss this fundamental change in terms of a shifting moral economy, where the roles, relations, and responsibilities of actors involved in scientific publication were redefined. I focus specifically on the Swedish Natural Sciences Research Council (NSRC) as a prime mover in this self-described “rationalization” process, and on the research libraries engaged in publication exchange. The powerful position of the NSRC as a funding agency in the precarious Swedish scientific publication market makes it a particularly illustrative example of changes in higher education and research that were taking place—although at different levels of speed, scale, and breadth—across many countries, languages, and disciplines. The case of the NSRC and publication exchange enables us to examine these changes not merely in terms of scale, but in terms of values.

▼ **KEYWORDS** History of scientific publication, history of science policy, library history

▼ **ISSUE** Volume 7 (2026)

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Cite this article: Jenny Beckman, 'The End of Exchange', *Journal for the History of Knowledge*, 7 (2026), xx–xx

<<https://dx.doi.org/10.55283/jhk.26268>>

DOI: 10.55283/jhk.26268

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BREPOLS

“From a purely idealistic perspective, the practice of exchange is highly justified. The Swedish research libraries are an important component in a worldwide system of connections for the exchange of scientific publications.”¹

In 1968, the Swedish Council of Research Libraries issued its first publication ever. It was a defense of the practice of publication exchange between libraries. Publication exchange was the time-honored system of acquiring and distributing publications through exchange with other libraries and institutions, rather than through subscription, sale, or purchase. In addition to representing a considerable percentage of all library acquisitions, the authors argued that publication exchange contributed to international goodwill and made it easier for the results of Swedish research to reach international audiences.

The background to this impassioned, if bureaucratic, pamphlet was the ongoing campaign by the Natural Sciences Research Council (NSRC) to “rationalize” scientific publication.² This self-described “rationalization” entailed streamlining editorial work, specializing and reducing the number of publications, and making the remaining ones commercially viable. In this endeavor, publication exchange was disparaged as ineffective, expensive, and old-fashioned. The project was ultimately successful: In 1967, research libraries acquired around half of their international publications through exchange, but by the turn of the century the practice was effectively extinct, and most publications were reorganized along more commercial lines.³

The elimination of publication exchange in the late twentieth century—to the extent that it has been discussed at all—has been ascribed to the rising costs of printing, postage, and administration, as well as the advent of the internet and digital media in the 1990s.⁴ However, the decline began long before these issues became critical, and was justified with different arguments. In this paper, I will examine the decline of the practice of publication exchange in Sweden between 1960 and 1980. Rather than focusing on costs and technological changes, I will discuss publication exchange in terms of a shifting “moral economy.” Social historian E. P. Thompson used the concept to discuss changes in economic activity around 1800.⁵ For Thompson, the economy of the early modern period was “moral” in that it entailed a shared understanding

¹ Hallberg and Hakulinen, *De svenska forskningsbibliotekens bytesverksamhet*, 29.

² “Rationalization” is mentioned at almost every meeting of the Publication Board from the late 1950s. An early example is Protokoll 42, November 26, 1959, AIIa, PN, RA, on the rationalization of geological publication.

³ Hallberg and Hakulinen, *De svenska forskningsbibliotekens bytesverksamhet*, 17. Percentages varied, but they were insignificant only at very new libraries, such as that of Umeå University, which was founded in 1965. *Ibid.*, 20; Carlberg, “Bytesverksamheten.”

⁴ Carlberg, “Bytesverksamheten,” 523.

⁵ Thompson, “Moral Economy.” See also Widmalm, “United in Separation,” 254. Daston, “Moral Economy of Science,” uses the term in a different way to describe “epistemic virtues” such as objectivity.

of social norms and mutual obligations between landowners, politicians, and the English crowd, which were dissolved by the classical economy of supply and demand.

The moral economy shaped the actions of the crowd, as well as the interpretation and justification of these actions by landowners and politicians.⁶ In this sense, a moral economy establishes roles and codes of conduct among the actors who share it. Similarly, publication exchange involved values beyond the market price of particular publications, and assigned particular roles to libraries, policymakers, and publishers. The rationalization efforts of the NSRC had consequences not only for the number and character of Swedish scientific journals, but for the shared understanding of the actors and values involved in scientific communication.

Thompson's concept is specific to a particular time and place, before the advent of industrial capitalism. The decline of publication exchange also marks a pivotal moment in the material and ideological dimensions of the circulation of knowledge in the twentieth century.⁷ The means as well as the motivations for knowledge circulation were challenged, and the roles and relationships of the actors involved were renegotiated. The story fits into a broader narrative of the commodification of science in the postwar period and the rise of the market as the final arbiter of scientific quality.⁸ But it is also part of a longer history of information management, where authors, readers, and publishers have struggled to find their way in an ever-growing mass of publications.⁹

The NSRC described this change as "rationalization," tying it to a broad range of contemporary reform projects in Swedish government agencies and businesses. In his study of Swedish intellectuals in the interwar and immediate postwar period, Ron Eyerman highlights their use of "rationalization" as a "slogan" or "cover term" for bringing order, reason, and efficiency to society via centralization, an interventionist state, and science.¹⁰ As in industrial contexts, where it was known as "Fordism" or "Taylorism," it aimed for efficiency in time, organization, and economy. Ideologically, it entailed replacing custom with reason, and tradition with efficiency.¹¹ In Eyerman's account, "rationalization," in the parlance of Swedish politicians, scholars, and industrialists, maps onto the analytical term used by Max Weber to characterize modernity, but as a practical program rather than an interpretative framework. Recent scholarship on postwar Swedish society has highlighted how the increasing emphasis on markets in the 1970s and 1980s fitted into the predominant

⁶ Thompson, "Moral Economy."

⁷ Secord, "Knowledge in Transit"; Östling et al., "The History of Knowledge."

⁸ Radder, *Commodification*.

⁹ Blair, *Too Much to Know*; Wright, *Informatica*.

¹⁰ Eyerman, "Rationalizing Intellectuals." The most comprehensive study of rationalization in Swedish society, with a focus on business and administration, is De Geer, *Rationaliseringsrörelsen i Sverige*.

¹¹ Eyerman, "Rationalizing Intellectuals"; De Geer, *Rationaliseringsrörelsen i Sverige*.

Social Democratic ideology of the welfare state.¹² The concept and practice of “rationalization” took on an increasingly explicit market character in the 1960s.

By focusing on changes in the practices of publication, I aim to highlight libraries as actors in science, and as custodians of scientific norms and codes of conduct. In addition to their work collecting and cataloguing knowledge, they have also played important roles in other forms of scientific communication, not least as publishers in their own right.¹³ Their routines for sorting, evaluating, and culling scientific publications did not primarily align with transactional evaluations, but embodied norms of how scientific institutions should conduct themselves in relation to each other, and to scientific authors, publishers, and funders.¹⁴

After presenting the protagonists of the episode—the NSRC, the Council of Research Libraries (CRL), and the Royal Swedish Academy of Sciences (RSAS)—I will outline the history of publication exchange and the role of libraries in scientific publication. I will chart the disputes over rationalization between the NSRC and the CRL and highlight the particular position of the RSAS as a library, publisher, and policy actor. Finally, I will discuss the rationalization efforts and the end of exchange as a shift in the moral economy of scientific publication.

Scientific Publication, Libraries, and Research Policy

In Sweden, and many other countries with relatively small publication markets, public funding has always been crucial to scientific publication. Government actors such as universities and research councils have distributed funding for dissertations and periodicals, often channeled through non-governmental institutions such as academies and scientific societies.¹⁵ Yet scholarship on the history of scientific publication has predominantly focused on the earlier history of English and American publications, which benefited from a highly developed book market and a large readership.¹⁶ But even those markets were severely impacted by changes in scientific publication in the postwar period. The rising costs of printing and editorial work were acutely felt by both publishers and subscribers, and the tremendous increase in the volume of publication and research activity accentuated problems of relevance and visibility.¹⁷ Nevertheless, there are few historical studies of scientific publication

¹² Andersson et al., *Marknadens tid*.

¹³ Shaw, *Libraries*.

¹⁴ On the culling of information as an inescapable aspect of science, see Fredrikzon and Haffenden, “Towards Erasure Studies.”

¹⁵ Kärnfelt et al., *Knowledge in Motion*; Beckman, “Editors, Librarians.”

¹⁶ For example, Baldwin, *Making Nature*; and Topham, “Anthologizing the Book of Nature.” Csiszar, *The Scientific Journal*, also discusses French periodicals in the nineteenth century.

¹⁷ A classic account is that of Derek de Solla Price, who discussed the implications of the “information explosion” of the 1960s in *Little Science, Big Science*. See also Beckman, “Under Vernacular Bushels.”

in this period. Notable exceptions are Aileen Fyfe's work on the struggle for economic viability among British scientific journals in the 1950s, and David Dellstig's examination of how two Swedish journals in the humanities and social sciences experienced and managed the transformations in the 1980s.¹⁸ Histories of individual journals also touch on the period.¹⁹

The shift from private to public actors in science policy in the postwar period, and the expanding domain of government policy institutions has been thoroughly investigated, even though their role in funding scientific publication specifically is less well documented.²⁰ However, the role of libraries as policy actors structuring scientific publication over time has received little attention. The field of library history has traditionally focused on public libraries, alongside histories of individual libraries, private, public, and institutional.²¹ Like many others, Swedish academic libraries have typically been chronicled at anniversaries and jubilees.²² In the postwar period, academic libraries increased their collaboration, both nationally and internationally. Library cooperation was an important part of United Nations Educational, Scientific and Cultural Organization (UNESCO) efforts to rebuild scholarly and cultural communication after the war, and the International Federation of Library Associations, founded in 1927, was revitalized.²³ In the United Kingdom, the British Library was founded in 1973 by uniting several different collections and endowing it with new powers of coordination.²⁴ In the 1950s, the Nordic research libraries joined in the so-called "Scandia Plan" to contend with the growing rate of publication.²⁵

Wayne Wiegand ascribes the changes in library practices and self-understanding in the late twentieth century in large part to the advent of computers.²⁶ I argue that fundamental changes in the role of libraries in the acquisition and distribution of scientific information pre-date digitalization and can be tied to changes in science policy and a shift in the moral economy of scientific publication. Swedish policymakers played a vigorous role in

18 Fyfe, "Self-Help"; Fyfe et al., *History of Scientific Journals*; Dellstig, *Den efterfrågade vetenskapen*. See also Scheiding, "Paying for Knowledge."

19 Two illustrative examples of histories of individual journals are Tunlid et al., "A Century of Hereditas" and Baldwin, *Making Nature*.

20 See Kohler, *Partners in Science*; and Krige and Rausche, *American Foundations*, on the importance of American foundations for twentieth-century science. Kevles, "The National Science Foundation," provides an account of the prehistory of the NSF; a more comprehensive account is Kleinman, *Politics*. On the history of Swedish research policy, see Premfors, *Svensk forskningspolitik*; and Nybom, *Kunskap, politik, samhälle*. See also Bragesjö, *Bilda eller samverka*.

21 Wiegand, "Libraries." Wiegand—echoing the library profession—divides libraries into public, academic, school, and special, excluding private libraries.

22 Östlund and Blom, *Uppsala Universitetsbibliotek*; Gerle, *Lunds universitetsbiblioteks historia*. See also Burius, *Kungl. Biblioteket*, on the Royal Library.

23 Intrator, *Books Across Borders*; Koops and Wieder, *IFLA's First Fifty Years*.

24 (*The*) *British Library Act* (1972).

25 Akatsu, "Det svenska vetenskapliga"; Hannesdóttir, *The Scandia Plan*.

26 Wiegand, "Libraries."

implementing and disseminating the ideal of rationalization by taking the lead in Nordic and European collaboration on publication reform and publishing their analyses in English for a wider audience.²⁷

I will focus on two Swedish government institutions: the NSRC and the CRL. While both were government institutions, they were unequal in power and influence. The NSRC allocated funding for Swedish research and publication and had considerable economic powers of persuasion, while the CRL was primarily an advisory and coordinating body.

In addition, I will highlight a non-governmental institution that was profoundly affected by the rationalization efforts. The RSAS maintained the largest science library in the country, and it was also the publisher of ten of the most venerable scientific journals in Sweden. Thus, it participated in publication exchange for the purpose of acquiring material for its collection, as well as for distributing its own journals. Significantly, before the establishment of the NSRC in 1946, the RSAS had performed many of the roles of the future research council, such as distributing government funds for research and publication.²⁸ The rationalization of scientific publications was part of a more fundamental transformation of science policy that sidelined actors such as the RSAS. The archives of both the NSRC and the CRL have been culled of most supplementary material, but the archives of the RSAS provide an opening into the unofficial deliberations and coordination of research libraries. While I discuss the NSRC, the CRL, and the RSAS as institutional actors, I have used some personal archives to complement the official paper trail.²⁹ The NSRC also initiated and participated in several government inquiries into government information policies.³⁰

A Short History of Publication Exchange

Historically, the distribution and acquisition of scientific publications between individuals and institutions have been characterized by an intricate combination of exchange, donations, and commercial transactions, often with blurred boundaries.³¹ Publication exchanges between scientific institutions were common at least from the early eighteenth century but were increasingly formalized and regulated from the mid-nineteenth century. Sweden is credited with one of the earliest formal exchange networks, ensuring the circulation

27 Protokoll 81, April 24, 1974, AIIa, PN, RA; Kylin, "Economics and Organization"; Beckman, "Under Vernacular Bushels"; Statens naturvetenskapliga forskningsråd, *Botanical Publication in Sweden*.

28 Kärnfelt et al., *Knowledge in Motion*; Premfors, *Svensk forskningspolitik*.

29 PN, FBR, both RA; KVA, CFVH. Notably the archives of Wilhelm Odelberg, the RSAS librarian, Lamek Hulthén of the RSAS publication committee, and Per Brinck, the prime mover on the NSRC publication board. Odelberg, CFVH; Hulthén, CFVH (uncatalogued); Brinck, LUB.

30 Statskontoret, *Statlig publicering*; Forskningsrådets samarbetsdelegation, *Medieutredningen*; Statens naturvetenskapliga forskningsråd, *Botanical Publication in Sweden*.

31 Fyfe et al., *History of Scientific Journals*; Fyfe, "The Royal Society"; Fyfe, "Journals, Learned Societies."

of knowledge between the far-flung universities of the Swedish empire in the eighteenth century. In the early nineteenth century, German universities formed the Akademischer Tauschverein, which soon attracted universities outside the German territories. They exchanged dissertations and annuals, as well as other publications produced almost solely for the purpose of exchange.³² The position of libraries was reinforced through the system of legal deposits, which boosted collections and provided material for exchange.³³ Academies and learned societies also exchanged periodical publications with each other and with libraries. The reciprocal relationships in this economy were formalized through intricate calculations of the relative value of the institutions, authors, languages, and genres. As the bulk of exchange material increased, relationships were maintained on the level of institutions rather than individual publications, and while they remained reciprocal, the volume and prominence of the publications exchanged were rarely equal.

Exchange expanded in the twentieth century, as the volume of scientific publications grew. While the First World War resulted in the breakdown of international academic relations, international library exchange peaked in the decades after the Second World War.³⁴ Determined not to replicate the isolationism of the 1920s, organizations such as UNESCO stepped in to aid the exchange of publications. Initially intended to rebuild libraries destroyed or decimated in the war, its efforts were extended to include support for new libraries in developing countries after decolonization, and scientific exchange with institutions in the Eastern Bloc. In 1958, UNESCO adopted a "Convention concerning the International Exchange of Publications," to promote the practice as "essential to the free exchange of ideas and knowledge among the peoples of the world."³⁵ In UNESCO's vision, the moral economy of publication exchange included both symbolic and economic dimensions.

The convention harbored a potential tension in international scientific relations, that between states and individual institutions. A previous attempt to formulate an international convention on exchange of literary, scientific, and official publications, in 1886, had failed because governments deemed it too inclusive and burdensome.³⁶ In fact, Sweden initially declined to sign the UNESCO convention, fearing that the governmental part of the exchange might be too onerous, and trusting libraries to maintain their scientific network.³⁷ The "Scandia Plan" launched in 1956 by Nordic libraries highlights

32 Gwinn, "The Library of Congress"; Gibson, "Scientific Societies and Exchange"; Lilja, "International Exchange of Publications." For earlier accounts, see Bring, "Uppsala universitetsbiblioteks bytesförbindelser"; Bring, "The International Exchange Relations."

33 Larsson, "Från censurinstrument."

34 Somsen, "A History of Universalism"; Widmalm, "A Superior Type"; Intrator, *Books Across Borders*. A contemporary account is Schmidt-Phiseldeck, "The International Exchange."

35 UNESCO, *Convention*.

36 Metz, "International Exchange"; Lilja, "International Exchange of Publications."

37 Forskningsbiblioteksrådet, "Ang svensk ratificering av Unescos internationella byteskonventioner," skrivelse till regeringen May 9, 1978, F1:4, FBR, RA.

the central role, partly self-imposed, of libraries in a wider system of scientific publication. It was a scheme to divide the acquisition of “peripheral” publications between Nordic libraries and accomplish accessibility across the region through inter-library loans.³⁸ “Peripheral” publications were identified on the basis of language and geography, and, to a lesser extent, discipline. As mediators between authors, readers, and publishers, libraries were deeply involved in determining value, status, and access among producers and consumers of scientific publications.

Rather than a simple mode of distributing existing publications, the exchange system was a factor in shaping publications to serve as currency, and participation in exchange relationships was an important means for institutions to establish their scientific status and build international networks in science. Moreover, it made libraries instrumental in these international relations, not merely as depositories of scientific literature but as active participants in networks, as vehicles of international scientific relations, and as arbiters of scientific status.³⁹ Libraries upheld the values and practices of the moral economy of scientific publication.

The “Rationalization” of Scientific Publication as a Threat to Exchange

When the NSRC was founded in 1946, it was tasked with allocating funding for Swedish research publications, in addition to its role in funding scientific research at Swedish universities. The Publication Board of the NSRC immediately began its efforts to “rationalize” Swedish scientific publication. Its mission was initially described as economic, to ensure that NSRC funding could cover the needs of an ever-growing number of publications. Over time, the Board expanded its activities to restructure publication in the natural sciences in its entirety, to make it more efficient: more visible, more economically viable, and of better quality.⁴⁰

Reforms were initiated gradually, discipline by discipline, beginning with geology. In 1959, the Board concluded that library acquisition requirements were partly to blame for “unrational” geological periodicals.⁴¹ That is, periodicals were kept going because of their value as exchange currency between libraries, rather than because of their scientific merits. By 1962, the Board

³⁸ Hannesdóttir, *The Scandia Plan*.

³⁹ Beckman, “Editors, Librarians.”

⁴⁰ An account of the Board’s activities is given in its minutes for June 6, 1975. “Publiceringsnämndens organisation och verksamhet,” Protokoll nr 84, June 6, 1975, AIIa, PN, RA. See Beckman, “Under Vernacular Bushels,” on the NSRC’s efforts to make publications more visible by publishing them in English.

⁴¹ Protokoll 22, November 26, 1959, AIIa, PN, RA.

listed exchange as one of several publication problems to be addressed.⁴² The practice of providing libraries with free copies of publications to use in exchange was “not rational” and should be replaced by a yearly grant for publication purchases.⁴³ Librarians co-opted to the Board meetings protested that money was not the issue: Exchange was in fact the only way to acquire certain valuable publications.⁴⁴ In 1964, the Board agreed to a sort of compromise: It refrained from completely severing the connection between publication subsidies and library acquisition, but the number of exchange copies allotted to libraries could not be allowed to affect commercial distribution, and library copies should not be free.⁴⁵ The problem resurfaced repeatedly in the following years, as the rationalization efforts proceeded in other disciplines. Rationalizing botanical publication in 1967, the Board restated its position: “The function of periodicals as exchange objects for the organizations and institutions concerned is a big problem, and must be solved comprehensively.”⁴⁶

In parallel with the NSRC projects, a government inquiry was investigating ways to reform government publication in general, to improve quality, economy, uniformity, and organization.⁴⁷ The main focus of the inquiry was how to organize and fund the government printing and publishing offices, but one section was devoted to scientific publication. It was based primarily on material from the research councils of natural sciences and medical research, and reflected their view that exchange was not an appropriate form of distribution.⁴⁸ This time, the market was explicitly invoked as an instrument of quality control: Exchange obscured an important means of measuring the justification and attractiveness of publications via their sales.⁴⁹

The measures of the NSRC, compounded by the 1967 inquiry, alarmed the CRL. It instituted its first publication series to present the case for publication exchange, on practical, economic, and moral grounds.⁵⁰ From a practical viewpoint, exchange constituted a large, often dominant, proportion of library acquisitions, and a change of practice would be cumbersome, expensive, and time-consuming, and risk the loss of information. Certain publications were in fact only available through exchange. This was particularly true of publications from developing countries and the Eastern Bloc, where the lack of currency made exchange the only effective means of distribution and acquisition. In fact, the CRL claimed, compared to commercial transactions, exchange was the

42 Protokoll 49, March 15, 1962, AIIa, PN, RA.

43 Protokoll 51, October 2, 1962, AIIa, PN, RA.

44 Protokoll 51, October 2, 1962, AIIa, PN, RA.

45 Protokoll 51, October 2, 1962; Protokoll 58, November 26, 1964.

46 Protokoll 66, November 16, 1967, AIIa, PN, RA; Protokoll 67, April 22, 1968; Protokoll 70, October 22, 1969.

47 Statskontoret, *Statlig publicering*, 87.

48 Ibid., 79.

49 Ibid., 79.

50 Hallberg and Hakulinen, *De svenska forskningsbibliotekens bytesverksamhet*.

better way to achieve a quick and broad international dissemination of Swedish research, which was one of the NSRC's main goals.

Moreover, and contrary to the economizing ideas of the NSRC, exchange ensured a well-established, quick, and efficient way of disseminating publications, given the limited manpower and resources of libraries.⁵¹ A strict commercial policy would result in high prices for many publications, which would restrict dissemination to rich institutions in the West, and thus curtail the "universal benefits" of science. From the point of view of dissemination, exchange was thus more economical.⁵² The constraints that commercial evaluation imposed on the dissemination of science were in conflict with both the avowed aims of the NSRC—the support for and distribution of Swedish science—and the principles of free research—the universal application of science.⁵³

More fundamentally, the CRL cautioned against seeing exchange exclusively from the point of view of profit, and argued that the abolition of publication exchange would eliminate "immaterial gains" from the international relations forged via exchange. "Much of the goodwill which our country enjoys in the world of science, and which... has been built out of long and successful collaboration with institutions around the world, would be at risk."⁵⁴ Exchange was a fundamental component of the moral economy of publication.

Nevertheless, the NSRC continued its rationalization efforts, and increasingly reformulated exchange relations in commercial terms. If, as libraries claimed, publications were only available via exchange, libraries should not rely on free exchange copies, but should apply for special funding to purchase journals that they could use for the purpose of exchange.⁵⁵ Similarly, the issue of exchange with developing countries was recast as one of development aid, which should be funded and administered by the Swedish International Development Cooperation Agency (SIDA), which should purchase the publications used for exchange and donations at market prices.⁵⁶ The role of libraries as goodwill ambassadors was transferred to other institutions.

The NSRC also wanted to ensure that libraries were not supporting inferior publications solely for the sake of exchange, and that the publications received in return were scientifically worthwhile. After several years of discussions with the CRL, it demanded that libraries prove the usefulness of exchange by submitting lists of which journals were used for exchange, which journals were received in return, and whether any of them were used.⁵⁷

⁵¹ Ibid.; Willers, February 26, 1970, F1:4, FBR, RA.

⁵² Hallberg and Hakulinen, *De svenska forskningsbibliotekens bytesverksamhet*; Martinsson, "Utredning om den geologiska publiceringen i Sverige," 4B3:3, Odelberg, CFVH.

⁵³ Hallberg and Hakulinen, *De svenska forskningsbibliotekens bytesverksamhet*.

⁵⁴ Ibid., 24, 29–30.

⁵⁵ Protokoll 67, April 22, 1968, AIIa, PN, RA.

⁵⁶ Protokoll 69, April 23, 1969, AIIa, PN, RA.

⁵⁷ Letter from Wilhelm Odelberg to library directors around Scandinavia, February 23, 1976, 4B3:2, Odelberg, CFVH.

Librarians acquiesced under protest.⁵⁸ They argued that eliminating all journals that were not economically viable would threaten the scientific community as a whole. It would create “holes” in research material that would not be filled.⁵⁹ Younger scholars would have a harder time reaching international audiences, since they would have to publish in the most prestigious journals right from the start. As the head of Uppsala University’s library put it: “Is their cynical reasoning that only the works of Swedish Nobel laureates should be published, and everything else may go to hell?”⁶⁰

The RSAS and Conflicting Interests of Publishers and Libraries

As publisher of several of the most venerable and prestigious Swedish scientific periodicals, the RSAS was severely affected by the NSRC reforms, not only by the elimination of publication exchange. Exchange was only one of the targets of the NSRC’s rationalization project from the late 1950s to the mid-1970s. It made its economic support for publications conditional, forcing journals to charge more for subscriptions, institute editorial reforms, and increase marketing. Its demands concerned publication language, thematic and geographical focus, and targeting journals to more specific audiences. Most drastically, rationalization meant reducing the number of journals altogether, to increase the quality and visibility of those remaining.⁶¹

The original *Transactions of the Royal Swedish Academy of Sciences*, founded, as was the Academy itself, in 1739, had expanded to eight specialized scientific journals by the middle of the twentieth century. The journals were funded by the Academy, which was in turn subsidized by an almanac privilege granted by the Swedish crown in 1747 and supplying the economic backbone of the RSAS.⁶² The RSAS library also dated from the foundation of the Academy, and grew steadily to become the largest science library in the country. From its earliest days, it established relations with prestigious institutions such as the Royal Society, and publication exchange expanded more quickly from the 1840s, as the practice was widely established in Europe and the United States. Between 1812 and 1865, the RSAS was included among the libraries receiving legal deposits, and these were important currency which the RSAS could use for exchange nationally and internationally as it developed its networks and its collections.⁶³

⁵⁸ Ibid.

⁵⁹ Letter from Mogens Boman (head of the University Library at Copenhagen) to Wilhelm Odelberg, February 27, 1976, 4B3:2, Odelberg, CFVH.

⁶⁰ Letter from Gert Hornwall to Wilhelm Odelberg, March 19, 1976, 4B3:2, Odelberg, CFVH.

⁶¹ Beckman, “Under Vernacular Bushels.”

⁶² Lindroth, *Kungl. Svenska vetenskapsakademiens historia*; Kärnfelt et al., *Knowledge in Motion*.

⁶³ Beckman, “Editors, Librarians.”

By the 1960s, the RSAS library, the leading natural sciences collection in Sweden, made two-thirds of its acquisitions via exchange.⁶⁴ Faced with the NSRC's proposed measures, it argued, like other libraries, that a large proportion of its acquisitions were only available via exchange, and consequently the funding reforms would affect not only the volume but the specific content of library collections. The situation of the RSAS changed dramatically in 1969, when the Swedish government announced the end of the almanac privilege. The ability of the RSAS to fund its own publications, and through them its library, was radically reduced.⁶⁵

The RSAS faced a double dilemma as a library, interested in cheap acquisitions, and as a publisher, interested in profitable distribution.⁶⁶ While it needed control of its own publications to use them as exchange currency, it also needed support from outside agencies to cover the increasing costs of publication. The RSAS was not optimistic about having its own publications make a profit, since previous attempts to follow the tightening guidelines of the NSRC Publication Board by terminating exchange agreements had failed to generate new subscriptions.⁶⁷

From the Publication Board's point of view, the RSAS journals were of particular interest, since they played such a significant role in Swedish scientific publication in general.⁶⁸ It acknowledged that the issue of library acquisitions was of particular importance to the RSAS, but was nevertheless reluctant to continue funding exchange.⁶⁹ In 1969, the Publication Board and the RSAS entered into negotiations about the fate of the Academy's journals.⁷⁰ According to the resulting agreement, all the Academy's journals were to "fade away."⁷¹ In their place, three English-language journals for zoology, physics, and chemistry would be founded with the approval of the NSRC, to fill specific lacunae in Swedish scientific publication. With the old journals, all the RSAS library's exchange relationships were terminated, and new ones could only be forged according to the strict stipulations of the NSRC.⁷² The decision amounted to a change to the fundamental principles of scientific communication. "[T]he earlier dominant ambition of disseminating Academy publications without services in return, has been changed to a reasonable

64 Odelberg, "PM angående Vetenskapsakademiens publikationsverksamhet", May 22, 1967, 4A1:4, Odelberg, CFVH.

65 Kärnfelt et al., *Knowledge in Motion*; Beckman, "'Tarzan of the Sciences'."

66 Odelberg, "Underlag," April 16, 1969, KVA A1AB:222, CFVH.

67 Ibid.; Hulthén, "PM angående KVA:s publiceringsverksamhet," May 21, 1969, Hulthén 1, CFVH.

68 Protokoll 69, April 23, 1969, AIIa, PN, RA.

69 Protokoll 70, October 22, 1969; Protokoll 74, February 8, 1971, AIIa, PN, RA.

70 "Minnesanteckningar," July 17, 1969, Hulthén 2, CFVH; "Vetenskapsakademiens publiceringsfråga," n.d. [1969], Brinck, LUB.

71 "Sammanträde 11.12.1970 ang akademiens tidskrifter," Hulthén 1, CFVH.

72 "Minnesanteckningar," July 17, 1969, Hulthén 2, CFVH.

exchange of scientific publications.”⁷³ In the new economy of publication, the words “reasonable exchange” referred to economically equivalent transactions. What was once framed as moral relationships had been rationalized.

Stripping the Moral from the Publication Economy

The NSRC’s rationalization efforts continued through the 1970s, but the Publication Board lamented that publication remained locked in “traditional” forms.⁷⁴ The rate of citation was not increasing at the same explosive rate as the volume of publication, which suggested—and here the Board cited the Organisation for Economic Co-operation and Development (OECD)—that publications were printed “for the bin” rather than being read.⁷⁵ At the same time, the economic means of the Board itself to influence publication were diminishing with rising costs, as was the funding for scientific libraries.

In 1974, the Board presented its views on rationalizing scientific publication to an international audience, choosing to publish its investigation of botanical publication in English to reach “circles outside the national bodies most immediately concerned.”⁷⁶ It was explicit about the problems with exchange, and the virtues of the market:

“It may perhaps be thought that scientific information should be above the mechanism of a capitalistic market function and that other variables ought to be decisive for this activity. In the Committee’s view, however, this is not the case.”⁷⁷

“Distribution of the publications should be based on commercial sales,” and the market would help eliminate journals that were not viable, making room for better and more efficient publications.⁷⁸ The exchange of publications threatened both the quality and the efficiency of scientific publication, and would only be allowed if there were no other options. Exchange encouraged maintaining publications purely for the sake of exchange rather than for their scientific quality, and it bypassed the quality control and economic mechanisms of the market. Furthermore, it hampered the dissemination of scientific results by making the distribution and the acquisition of publications dependent on each other.

73 Odelberg, “Vetenskapsakademiens publiceringsfråga: Underlag för en diskussion med publiceringsnämnden hos Statens naturvetenskapliga forskningsråd,” April 16, 1969, KVA:s sekretariat och kansli, Bilagor till protokoll från KVA:s ordinarie sammankomster, A1AB:222, KVA, CFVH.

74 “Publiceringsnämndens verksamhet,” Protokoll 83, February 4, 1975, AIIa, PN, RA.

75 “P.M. betr programområdet publicering och information,” attachment to Protokoll 83, February 4, 1975, AIIa, PN, RA; Anderla, *Information in 1985*.

76 Statens naturvetenskapliga forskningsråd, *Botanical Publication in Sweden*, 5.

77 Ibid., 19.

78 Ibid., 23.

However, the market was a means for making the publication process more efficient, rather than an end in itself. While advocating for commercial mechanisms, the Board was blunt about the shortcomings of the Swedish market for scientific publication: "The dissemination of scientific results can never 'pay its way'," and the work of publication must always be paid for with research money, whether in production or acquisition.⁷⁹ But the Board wanted to pay *only* for scientific information. The "rationalization" of publication envisioned by the NSRC was a step toward distilling pure scientific communication from its moral and social features, such as building scholarly careers and contributing to international relations.⁸⁰ Thus, the deconstruction of the moral economy of publication was not collateral damage, but the point of the project.

In contrast, libraries considered dissemination to be successful precisely *because* it was reciprocal and encouraged a wide range of publications, bolstering goodwill and scientific careers. Libraries took responsibility not only for the acquisition but for the distribution and visibility of publications and scholars. Since dissemination was as important as acquisition, it was relatively unproblematic if all the publications received in exchange were not widely used.⁸¹ The problem of the increasing volume of publications could be tackled by collaboration between libraries, such as that offered by the Scandia Plan, not by the elimination of publications and the networks they sustained. Exchange was a central component of a system of publication with specific norms, values, and codes of conduct, and it depended on a diversity of publications. Libraries saw themselves as custodians of these scientific norms of universality and collaboration.

In many ways, the elimination of publication exchange mirrors the shift in moral economy described by E. P. Thompson. The exchange economy was built on reciprocal relations between libraries, funders, publishers, and authors, and a shared understanding of the multiple functions of publication exchange. More than a transactional arrangement, it was regarded as a foundational element of science. The information economy promoted by the NSRC rested on a commercial rationale, eliminating considerations other than supply and demand and erasing mutual obligations. The multiple roles of libraries as producers, distributors, and depositories of scientific information obscured what the NSRC considered to be the essential function of scientific publication.

79 Forskningsrådets samarbetsdelegation, *Medieutredningen*, 5.

80 "P.M. betr programområdet publicering och information," attachment to Protokoll 83, February 4, 1975, AIIa, PN, RA.

81 For example, Letter from Gert Hornwall to Wilhelm Odelberg, March 19, 1976, 4B3:2, Odelberg, CFVH.

Conclusion: The End of Exchange

The mid-1970s was a period of extensive reorganization of research and higher education in Sweden. A massive expansion of higher education and research funding was implemented, as in many other countries.⁸² The NSRC was also reorganized, increasing the representation of universities and the government on the Council, and completely eliminating the role of academies and other non-governmental institutions such as the RSAS.⁸³

Thus, the change in moral economy entailed a change of actors. By eliminating exchange, the NSRC devalued the role of libraries as foundational institutions in the scientific community, shifting the focus to policymakers and, eventually, commercial publishers. While librarians may not have rioted, they expressed their concern in severe terms but ultimately acquiesced. Similarly, with the loss of its main source of income and most of its publications, the RSAS was forced to redefine its role in the scientific community.⁸⁴

To use the NSRC's favorite term, the end of exchange constituted a "rationalization" of science in Weberian terms, where "traditional" forms of publication were replaced by structures governed by economic rationality, and the "idealistic" concerns of the CRL were disregarded.

Publication exchange was not completely eradicated, in Sweden or elsewhere, in the 1970s. The fifth, and so far the latest, edition of the UNESCO *Handbook on the international exchange of publications* was published in 2006. It was the first since 1978, and it noted that publication exchange had declined substantially since the 1980s.⁸⁵ Exchange is still used for specific kinds of publications, such as dissertations, and remains a common practice in parts of the world. Yet it has long since lost its role as the primary means of acquisition for academic libraries. These are now depositories at the mercy of commercial publishers and university funding, rather than independent nodes in a network of producers and consumers of scientific publication. When the Swedish government belatedly ratified the UNESCO convention on publication exchange in 1980, it was described as "demonstrating solidarity" rather than shouldering a burden of responsibility.⁸⁶ Token solidarity was all that remained of a shared moral economy of scientific publication.

82 This is a recurring theme in Rüegg, *History of the University*. For an overview of the "massification" narrative in higher education, see Trow et al., "Reflections."

83 Premfors, *Svensk forskningspolitik*, 25–45.

84 Beckman, "Tarzan of the Sciences."

85 Södergård, "International Exchange of Publications."

86 Excerpt of minutes of cabinet meeting, March 20, 1980, F1:4 FBR, RA; Forskningsbiblioteksrådet, "Ang svensk ratificering av Unescos internationella byteskonventioner," skrivelse till regeringen May 9, 1978, F1:4 FBR, RA.

Acknowledgements

I am very grateful for the comments of three anonymous reviewers, and from my editors and collaborators in this special issue.

Funding Information

The research was made possible by a grant from the Ridderstad Foundation.

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