SPECIAL ISSUE EDITORIAL



Introduction: Editorship and the editing of scientific journals, 1750–1950

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SPECIAL ISSUE

Editorship and the Editing of Scientific Journals, 1750-1950

GUEST EDITORS

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Abstract

The editors of scientific journals are key gatekeepers for building careers and communicating knowledge, but we know far less about them than about scientific authors and readers. Using a variety of methodological approaches, this issue of Centaurus investigates the motivations for editorship, and the practices, strategies and resources needed to carry it out successfully. It asks us to reflect on how editors, editing and editorship have differed across countries, and over two centuries.

KEYWORDS

academic publishing, editorship, science communication, scientific journals

Academic journals are widely recognised as central to the construction and circulation of knowledge and the building of academic reputations, yet it is not merely journals that matter, but also their editorial practices. Academic researchers absorb the distinction between the editorial practices of academic journals and those of other magazines, reviews, and periodicals at a very early stage in their careers: it is contributions to peer-reviewed academic journals that take pride of place on the CV, publication list, or grant application, with other forms of authorship relegated to an "other" category.

This special issue of Centaurus investigates scientific editors, editing, and editorship. We find the concept of "editorship" useful because it encompasses the roles and motivations of editors in addition to what Joanne Shattock characterised as the "mechanics" of doing editorial work. "Editorship" includes the activities of defining the remit and scope of a journal and ensuring that new issues keep coming out, but it also designates a role that carries meaning in the scientific community, and in academia more broadly. Editorship can be a mark of esteem for a successful

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¹Shattock (1983, p. 90).

researcher, and it can bring power and influence. Investigating editorship offers us new perspectives on the history of knowledge and of the scientific profession.

Editorship has received rather less scholarly attention to date than authorship or peer review. Historians have investigated how authorship (especially of research articles in journals) became central to the formation of scholarly identities and academic careers, while sociologists have used authorship to investigate research productivity and career structures.² A surge of interest in the reliability and fairness of contemporary peer review practices has drawn attention to this particular form of editorial practice, but the focus has been on how reviewers evaluate, and the consequent epistemological status of the published research.³ This has inspired historical studies of the processes for pre-publication review, which have shown that "peer review" was not widely used until the mid-20th century, and that the forms of scholarly review used in earlier periods operated in different ways and for different functions.⁴ Editors remain shadowy figures in this work, yet these findings should encourage us to ask more questions about how editorship worked in the past.

The names of a handful of editors are, indeed, familiar from the narratives told by historians of science investigating the emergence of certain scientific disciplines or institutions. Henry Oldenburg, Thomas Wakley, and Norman Lockyer are known as the founding editors of the *Philosophical Transactions*, the *Lancet*, and *Nature*, while the editorial activities of Lorenz Crell, Antoine Lavoisier, and Justus Liebig are familiar elements in the story of the formation of the discipline of chemistry. A closer look, however, reveals that in most cases, what we know is *that* someone founded a journal, rather than *how* they actually ran it, let alone how their editorial activities interfaced with their other scholarly pursuits. We are not seeking to add more semi-heroic names to a canon of deserving editors, but to investigate how and why certain people came to take on the role of journal editor, how they ran those journals, and what meaning their editorship had (either for themselves, or for their communities of contributors and readers).

This special issue has its origins in a workshop that took place at the University of St Andrews in January 2018, focusing on scientific editorship in a generously long 19th century. Among the aims we set for that workshop were the following: What personal goals or motives encouraged individuals to become editors? How did those goals inform their strategies for their periodical, for instance, in terms of disciplinary focus, format, periodicity, genre of content, or intended audience? What did "being an editor" actually involve, for instance, excerpting from other periodicals, soliciting contributions from correspondents, or writing original material? How (well) did editors interact with the print trades, in such matters as negotiating with publishers, printers, and distributors? How did editors interact with other organisations, such as scientific societies and academies, universities, and government institutions? We also sought to bring together scholars from different national contexts, and the resulting transnational discussions were enormously significant in shaping our thinking about scientific editorship. That workshop inspired us to curate this special issue, bringing together some of the workshop participants and other scholars who could, we hoped, answer some of the still unanswered questions.

In this special issue, we are interested in all sorts of editorial roles—in anyone who was involved in editorial work for something that may be called a scientific journal. Our scope therefore includes historical actors who used different words to describe their role. For instance, Henry Oldenburg referred to himself as the "author" of the *Philosophical Transactions* in the 1660s, and Lorenz Crell's use of "Schriftsteller" carried similar authorial connotations. Others used words relating to managing or organising: Johann Ernst Immanuel Walch described himself as "Direktor" of the *Naturforscher*, while Alexander Tilloch saw himself as a "conductor."

²Csiszar (2017); Fanelli & Larivière (2016); Fox (2005); Bentley (2012).

³The extent of contemporary interest can be seen in the proceedings of the International Congress on Peer Review in Biomedical (now, Scientific) Publication (since 1989) and the PEERE International Conference on Peer Review (since 2019).

⁴Biagioli (2002); Pontille & Torny (2015); Moxham & Fyfe (2018); Csiszar (2018, Ch. 3); Baldwin (2018); Newman (2019); Hooper (2019).

⁵On chemistry, see Hufbauer (1982, pp. 68-69); Crosland (1994). On medicine, see Bynum & Wilson (1992, p. 35).

⁶The role of journals and their editors in supporting communities with shared interests in the sciences is also explored in Dawson, Lightman, Shuttleworth, & Topham (2020).

⁷We are particularly grateful for conversations with Martin Gierl, whose extensive work on the many journals edited by professors of the University of Göttingen in the late 18th century helped us to think about scientific editors in the wider context of professor-editors. We also acknowledge the intellectual stimulation provided by conversations with Jon Topham, Graeme Gooday, Matthew Wale, Sally Frampton, Frank James, Adam Dunn, Dominik Huenniger, Alrun Schmidtke, and Marco Segala.

We are also generous with our definition of "scientific journal," using it to mean any periodical carrying observations, discoveries, or reflections on the natural world. We personally have a greater interest in those periodicals that sought (at least in part) to communicate new knowledge among a community of scholars, rather than those that catered to other reading communities with interests in the sciences, but we fully acknowledge that—prior to the 20th century—the boundaries between those communities were not clearly demarcated, and that many periodicals had multiple aims and readerships. We have not included editors from the human or social sciences or the humanities, but this was for purely pragmatic reasons of scope, not because we believe their editorial activities are likely to raise fundamentally different questions. Indeed, we would argue that historians of science would do well to consider the history of editorship within the wider frame of scholarship or academia at large. We have also excluded editors of encyclopaedias and of the translations of contemporary or classical texts: for the purposes of this special issue, these editors are beyond our scope.

Our time frame begins in the mid-18th century. The earliest editors of the 1660s have been well-studied, and we wanted our contributors to consider what editorship meant, and what it involved, at a time when scholarly journals had become more numerous and familiar. Our notional end-point is the 1950s, when the boom in post-war funding for research enabled the development of the commercially successful, internationally oriented journal-publishing industry that would come to dominate late 20th-century science (and academia). There are undoubtedly questions to be asked about the role and practices of scientific journal editors in the years after 1950, ranging from the widespread adoption of peer review and efforts to lay down standard practices for journal editors, to the implications of the increased influence of commercial firms in journal publishing, and the relationship between those firms, learned institutions, and individual researchers.⁸ These issues are pertinent to current academic practice, but addressing them adequately would require a whole other special issue, or a new research project. Our focus here is on a world in which editors and their contributors were not necessarily university-based academics, when learned societies and academies were the dominant institutions in the sciences, when few people made much money from scientific journals, and when editorial practices were definitely not standardised.

In this Introduction, we survey what is currently known about the history of editorship, most of which is derived either from studies of particular individuals or organisations, or from studies focused on periodicals and their reading communities. It will become clear that there are obvious gaps in chronological, geographical, and disciplinary coverage. The investigations of German, Dutch, Belgian, Scottish, and Swedish editorship in this special issue extend that coverage, and also encourage us to think both comparatively and transnationally about editorship.

1 | STUDYING SCIENTIFIC JOURNALS AND THEIR EDITORS

Scientific journals are not the only sorts of periodicals that have editors, but even in periodical studies in general there has been relatively little attention to editors and editorship. Press historians and historians of journalism have studied the history of newspapers, and literature scholars have investigated the histories of literary reviews and popular magazines. In both Anglophone and German historiography, the 19th century is seen as a key period for the professionalisation of editorship: this was the period in which editorship is said to have become a reputable profession, in which the newspaper editor or the editor of a literary review could be regarded as a "distinguished functionary" rather than a mere "bookseller's drudge" (as Walter Bagehot expressed it in 1855). The word "editor" is certainly older, but it was differently valued when it referred to anyone who "revises or prepares any work for publication."

⁸Fyfe et al. (2017). On efforts to standardise editorial practice, note that the Council of Biology Editors was founded in 1957 and renamed the Council of Science Editors in 2000, while the European associations of Editors of Biological Periodicals and of Earth Science Editors were formed in 1967 and 1986, respectively, and merged as the European Association of Science Editors in 1982.

⁹Walter Bagehot (1855), quoted in Shattock (1983, p. 90). See also Wiener (1985); Demoor (2016); Shattock (2017); Requate (1995, esp. pp. 12, 192).

¹⁰See "Editor" in Sheridan (1790, [unpaginated]).

Modern academic scientific journals have developed distinctive editorial practices, but for earlier periods we should question the extent to which scientific editorship was different from any other type of editorship. There are many ways in which the practical and administrative elements are likely to be common to all types of editorship, such as the need to negotiate with printers, stick to deadlines, and to find copy, whether by selecting from submissions, commissioning new pieces, or reprinting and extracting. For 19th-century Britain, we already know how fruitful it can be for historians of science and literary scholars to collaborate on the study of scientific periodicals; a similarly interdisciplinary approach to scientific editorship is likely to be rewarding. For instance, might the literary "big-name editor," the "hands-on editor," and the publisher-proprietor-editor have their equivalents among scientific editors? 12

Scientific journals may be familiar elements in the history of science, but they have more often been used as a source than as a topic of scholarly study in their own right. For instance, in the 1950s and 1960s, Derek de Solla Price pioneered the use of "number of journal titles" as a quantitative measure for the growth of scientific research. ¹³ Subsequent generations of bibliometrics and scientometrics scholars have developed increasingly sophisticated techniques for analysing patterns of authorship, collaboration, and specialisation, as well as the sheer scale of science. ¹⁴ In this type of scholarship, journals are a tool for answering research questions in the sociology of science, rather than a subject of study in their own right. Similarly, scholars in linguistics have used the texts of long-running journals to help them answer questions about changes in scientific language, terminology, and discourse, and about the evolution of the genre of "the scientific research article." ¹⁵ And historians of science have routinely used the articles published in journals as a way of studying the development of scientific ideas, tracking controversies, or estimating the degree of attention paid to particular topics. ¹⁶ Again, such research uses journals as a source, and the questions are not about the phenomenon of "the scientific journal," let alone about editorship.

Much of what we know about editorship is currently buried in studies of individuals or organisations, where it is examined as one of the activities that enabled those entities to build their careers, carry out their missions, or enhance their reputations. Thus, we know about the editorship undertaken by particular individuals or at particular institutions. Antoine Lavoisier's involvement in the *Annales de chimie* is a familiar element in histories of the "chemical revolution," while Lorenz Oken and his editorship of *Isis* have attracted the attention of scholars interested in the connections between natural knowledge, Enlightenment, and Romanticism. Scholarly interest in the histories of institutions such as the Royal Society, the *Académie royale des sciences*, and the Leopoldina have generated studies of the periodicals associated with them, particularly in their early years.

Historical attention to scientific journals in their own right originated with scholars trained in library science. A. J. Meadows wrote both about contemporary changes in scientific communication and about the history of scientific publishing, with a particular focus on 19th-century Britain.¹⁹ His biography of Norman Lockyer, first editor of *Nature*, and his history of the publishing firm Taylor & Francis (co-authored with W. H. Brock), were full of the complex practicalities of editing and publishing scientific journals.²⁰ David Kronick, on the other hand, was fascinated by the early scientific journals, and his *History of Scientific and Technical Periodicals* analysed the numbers, longevity, and topics of British, German, and French periodicals from 1665 to 1790.²¹ In subsequent articles, he investigated issues

¹¹See, in particular, the collaborations between Sally Shuttleworth, Jon Topham, Gowan Dawson, and Graeme Gooday, on "Science in the Nineteenth-Century Periodical" (Leeds/Sheffield) and "Constructing Scientific Communities" (Oxford/Sheffield/Leeds).

¹²Finkelstein & Patten (2006).

¹³Price (1963; 1975).

¹⁴For instance, Archambault, Vignola-Gagné, Côté, Larivière, & Gingras (2006); Bornmann & Mutz (2015); Fanelli & Larivière (2016).

¹⁵Atkinson (1998); Gross, Harmon & Reidy (2002); Kermes, Degaetano, Khamis, Knappen, & Teich (2016).

¹⁶For instance, Sorrenson (2013); Watts (2015).

¹⁷On Lavoisier, see Crosland (1994). On Oken, see Stiefel (2003); Taszus (2008a; 2008b); Göbel (2012); Gielas (2019, Ch. 5).

¹⁸Johns (2000); Fyfe, McDougall-Waters, & Moxham (2015); McClellan (2003); Mayer (2013).

¹⁹For instance, Meadows (1979) and Meadows and Buckle (1992) focused on the contemporary, while Meadows (1980) and Meadows (2000) were historical. See also Watkinson (2017).

²⁰Meadows (1972); Brock & Meadows (1998).

²¹Kronick (1976).

of authorship, editorial policy, and peer review.²² In the work of these scholars, scientific journals became subjects of study in their own right. W. H. Brock took this forward in the 1980s with a series of important articles on what he termed "commercial journals" in 19th-century Britain. His work looked both at the function of journals and at editors, most notably, David Brewster and William Crookes.²³

Interest in scientific journals received a new boost from the emergence of "book history" or "publishing history" in the 1990s. Oldenburg's *Philosophical Transactions* was one of the forms of late 17th-century natural philosophical publishing studied by Adrian Johns in his *Nature of the Book* (1998), while Jeanne Peiffer and her colleagues investigated 18th-century learned journals in a pan-European context.²⁴ It was, however, the scholarship of 19th-century science that became particularly rich in studies of books, magazines, and journals, thanks to the work of James Secord, Jon Topham, Aileen Fyfe, Bernard Lightman, and others.²⁵ Much of this scholarship was focused on the forms of print that communicated natural knowledge to audiences beyond the traditional scholarly circles, though in so doing, it demonstrated that printed forms that might be labelled "popular science" cannot easily be demarcated from the forms of print used by scholars to communicate new findings until far into the 19th century, if not even later.

Among the studies of scientific content in general periodicals of the 19th century, and of books and magazines aimed at "popular" audiences, little attention was paid to the academic scientific journal until the 2010s. Melinda Baldwin's study of *Nature* followed its gradual transformation into a prestigious venue for publishing new results, a series of papers by Aileen Fyfe and her team investigated the reviewing practices and the financial model of the *Philosophical Transactions* in the 18th to 20th centuries, and Alex Csiszar's *The Scientific Journal* explored how certain types of authorship (that is, in certain journals) took on new meaning and significance for men of science during the 19th century.²⁶ For 19th-century Britain, at least, we now know significantly more about the roles of journals in forming scientific communities, and we are accumulating case studies of the scholarly review and evaluation processes used by different scientific societies.²⁷ But none of this work has focused specifically on editors and editorship.

Overall, our current understanding of the history of scientific editorship is based on fragments that can be extracted from case studies of specific journals or specific individuals. A rare exception is the work of Anna Gielas, whose comparison of editors based in London and in German university towns in the late 18th and early 19th centuries showed how editorship functioned differently in those different contexts, both in terms of the mechanics of putting together issues and in the motivations and outcomes of the editors. She also showed that the tendency in Anglophone historiography to label journals not issued by learned societies or academies as "commercial" journals is not helpful for understanding editorship in different national contexts.²⁸

The conversations we had with international participants at our workshop, and with contributors to this special issue, led us to think closely about how to analyse editorship. We suggest four lines of inquiry: Who edited? Why did they edit? What institutional support did they have? And how did they edit? All of these inquiries should be considered as questions to be asked not just about individual cases, but as a way of developing a big picture of how the practice and meaning of "editorship" have differed across times, places, and disciplines.

2 | WHO WERE THE SCIENTIFIC EDITORS?

In one sense, we know who many editors were: from Denis de Sallo and Henry Oldenburg in 1665, to François Rozier and Lorenz Crell in the 1770s and 1780s, to William Crookes and Norman Lockyer in the 1860s and 1870s.²⁹

²²Kronick (1978; 1988; 1990).

²³Brock (1980; 1984; 2004; 2008).

²⁴Johns (1998); also Johns (2000). Peiffer, Conforti, & Delpiano (2013).

²⁵Secord (2000; 2004; 2015); Topham (2000; 2005; 2013); Fyfe (2004a; 2004b; 2007; 2008; 2011); Lightman (2004; 2007; 2010).

²⁶Baldwin (2015); Moxham & Fyfe (2018); Fyfe (2015); Røstvik & Fyfe (2018); Csiszar (2018); also Csiszar (2017).

²⁷Dawson, Lightman, Shuttleworth, & Topham (2020); Csiszar (2018, Ch. 3); Newman (2019). See also Moxham (2020); Beckman (2020); Fyfe (2020b).

²⁸Gielas (2019)

²⁹On Rozier and Crell, see McClellan (1979); Gielas (2019, Ch. 2).

But what is the bigger picture? How did the sort of people who undertook scientific editorship differ between places and change over time? For instance, only one of those editors just named built a career as a university professor (Crell), yet the editorship of academic scientific journals is now almost exclusively undertaken by university academics.

In the 17th and 18th centuries, the range of people involved in editorship was as wide (or not) as the range of people with the time and leisure to pursue scholarship. For instance, the *Philosophical Transactions* had several physician-editors in the early 18th century, including James Jurin and Cromwell Mortimer as well as their wealthy colleague Hans Sloane. In the German lands, physician-editors included Johann Daniel Taube (*Beiträge zur Naturkunde des Herzogthums Zelle*, 1766) and Jakob Andreas Weber (*Physikalisch-chemisches Magazin*, 1780). The clergy were another group involved in editing: François Rozier may not have continued with clerical duties after his ordination, but Johann Samuel Schröter combined his parish duties with his fascination for conchology and mineralogy, and edited the *Journal für Liebhaber des Steinreichs und der Konchyliologie* (1774). Among the other editors of the late 18th century were newspaper proprietors (Alexander Tilloch, *Philosophical Magazine*, 1798), painters (Johann Kaspar Fuessli, *Magazin für die Liebhaber der Entomologie*, 1778), apothecaries (William Curtis, the *Botanical Magazine*, 1787), and numerous professors in the German universities. In the German universities specifically, the value placed on publishing as a means of building an academic career encouraged professors to undertake editorship as well as authorship.³⁰ Robert Jameson was a rare instance of an editor among the British university professors of the early 19th century, and his Scottish context is surely significant.³¹

In the 19th century, the number of periodicals—including scientific periodicals—expanded, driven by the industrialization of the press, the expansion of literacy and education, and the professionalisation and specialisation of science. In Britain alone, the number of periodicals grew around tenfold, and the number of scientific and medical periodicals increased at broadly the same rate.³² Scientific periodicals (and their editors and editorial practices) became increasingly diverse, with gardening magazines and medical newspapers appearing alongside learned society *Transactions* and abstract journals.³³ Yet, at the same time, the editing of research journals (as distinct from other periodicals with scientific content) was coming to be closely linked to a particular group of people: university academics.

The emergence of the salaried academic researcher in the 19th century meant that a professional "academic community" became more clearly defined, and by the 20th century, the journals read, authored, and edited by that community came to be largely distinct from those intended for other communities interested in the sciences. Alex Csiszar has investigated the changing meaning and significance attached to being an author in certain types of journals, but the equivalent study into the changing meaning and significance of editing an academic journal has yet to be written.³⁴ How did editing a scholarly scientific journal come to be regarded as an appropriate and admirable element of an academic career? What were the career rewards (or costs) of doing so? And how did editing fit along-side the other responsibilities of the university academic?

3 | WHY DID THEY EDIT?

If the editorial prefaces to first issues of new journals are to be believed, editors have lofty motivations for their editorship. They proclaim their desire to provide a service to readers swamped by the flood of new scientific print, or to help fellow scholars collaborate in gathering and organising natural knowledge, or to campaign for change, or to create a community between like-minded but geographically distant enthusiasts. But there were also pragmatic reasons

 $^{^{30}\}mbox{Clark}$ (2008). See also Gierl (1999; 2005; 2013).

³¹On Jameson, see Topham (2016); Jenkins (2020).

³² Dawson & Topham (2020, pp. 36-38).

³³ Dawson et al. (2020).

³⁴Csiszar (2017: 2018).

why particular individuals, in certain times or places, or at certain points in their lives, felt that taking up editorship might be a good idea. Editors' reasons for editing partially determined their editorial strategies and practices (but resources and support also mattered).

Some editors hoped for money. It might come as payment for copy from a publisher, or as an honorarium from an organisation in need of an editor, or as a share of sales income. Those with an interest in sales income had to react to what readers were willing to buy, and this focus on the marketplace inspired many editors to create journals carrying news, reviews, extracts, and translations, marketed as a way for readers to keep up to date with events from around the scholarly world. Editors paid by a publisher or sponsor had to be alert to their employer's or patron's interests, whether that meant the efficient dissemination of an organisation's research output or good sales figures. But we should also remember that some editors worked without any expectation of direct financial benefit, either because they were independently wealthy themselves, or regarded editorship as a worthy form of service to the scholarly community. The willingness of universities to recognise this "service" as part of the duties of their academic staff deserves further attention.

Another motivation for editing is reputation. For university professors in the late 18th-century German lands, becoming a journal editor could be, like authorship, a way of creating a public reputation in a particular scholarly field. For many university academics since then, being appointed as journal editor (by a learned institution, or a publisher) may be a mark of esteem or an indicator of a certain level of scholarly reputation, which may then be further enhanced by acting as editor. The question of how editorship might shape or enhance an editor's public persona clearly depends on the editor's personal situation and wider context. There is still much we need to understand about how the motivations and practices of scientific editorship changed as a result of the transition from scholars to professional academics.

There may be many other reasons for becoming an editor or other benefits from being an editor. For Johann Ernst Immanuel Walch, in 1770s Jena, editing a journal allowed him to develop a reputation in the study of fossils and mineralogy, despite holding a professorship of rhetoric, but running a journal also proved to be a convenient route to publishing his own articles.³⁶ For the Swiss painter and entomologist Johann Kaspar Fuessli, editorship was a means to create a platform for the collaborative gathering and sharing of entomological knowledge.³⁷ For Jöns Jacob Berzelius, in early 19th-century Stockholm, becoming an editor meant becoming part of a transnational network of editors who exchanged copies of their periodicals: it proved to be a useful way to improve his own access to scholarly information.³⁸

We should also consider that there may be different motivations for taking on the editorship of an existing journal, compared to those for creating a new journal. Many of our existing studies (including most of those in this issue) are of founder-editors, and while it is true that many early (and short-lived) journals only ever had a founder-editor, by the 19th and 20th centuries, being a successor-editor was more common. There is still much to investigate about how the rewards of that sort of editorship differed from those that arose from founding a new journal.

And we should consider the possible risks of becoming an editor: the financial and reputational risks, not to mention overwork and exhaustion, and strains on previously good friendships. We know too little about how editorship ended, although Stoeger and Jenkins provide some examples in this issue.³⁹ Some editors ended their editorships by passing on the baton to a chosen successor, but many did not. Editorship that did not end with handover or retirement (or death) has usually been taken as an indicator of failure—either of the journal economically, or of the editor's ability to manage the operation. But some of the cases from the late 18th-century German lands suggest that even a short-lived editorship could end positively, if it had allowed the editor to achieve certain goals. Closer attention to

³⁵See, for instance, Topham (2013); Gielas (2019, Ch. 3–4); Vandendriessche (2020).

³⁶Gielas (2019, Ch. 1).

³⁷Huenniger (2018).

³⁸Beckman (2016; 2020).

³⁹Stoeger (2020); Jenkins (2020).

the wider context of the editor's activities would help us to understand the ends of editorship in more than just commercial terms.

4 | WHAT SUPPORT, IF ANY, DID EDITORS HAVE?

Editorship is rarely a completely solo activity. At the very least, editors draw upon their networks of friends, colleagues, students, and correspondents. Some also have the support of a patron, community, institution, or publisher. The nature and value of that support was highly variable: it could be essential to keeping a journal going, but it might come with strings attached, placing constraints or obligations on the editor.

Support might be financial: for instance, a patron paying for illustrations (as Joseph Banks did), an institution paying the costs of distributing copies to selected individuals or institutions, or a publisher paying for editorial assistants. Support might be intellectual: for instance, the other members of a network or staff of an institution might provide a supply of copy or help make decisions about what should be published. Support could be reputational: an institutional affiliation might grant credibility to a new journal or its editor. Or it might take some other form, such as, in the early modern world, managing the licensing or censorship of a journal.

For an editor, having the moral, practical or financial support of an institution and its members could make it easier to run a journal than doing so independently—but on the other hand, it could come with constraints, as the institution's sense of its mission or its history might reduce the editor's scope for independent action. For instance, the *Philosophical Transactions* was Henry Oldenburg's personal idea, but he undoubtedly benefitted from the moral support and networks of his friends in the Royal Society. After Oldenburg's death in 1677, it was the Society that ensured another editor was found, and when the Society formally took over the *Transactions* in 1752, it provided financial support as well as a new mechanism for intellectual input on decision-making. ⁴² By the 19th century, the Royal Society had established complex editorial processes that gave the figure of the editor significantly less independence of action than Oldenburg had once had; Fyfe discusses the ramifications of these policies in this issue. ⁴³ The differences between being an independent editor and editing for an institution (or research school, or scholarly network) are among the things we seek to understand.

We should also consider why patrons, sponsors, and institutions have supported editorship. For scientific societies, academies, and universities, the aims may well be related to their identity and mission as learned institutions. But how have those missions changed over the years? And how does a desire to disseminate excellent scholarship interact with a desire to enhance the global reputation of a particular organisation? What happens if those aims conflict? This has become particularly pressing in the early 21st century, as the possibility of making money from publishing journals has come into conflict with the open access aims of disseminating knowledge. Are there earlier examples of conflicting aims for journal editorship, and how were they resolved?

We might also consider the ways in which printers and publishing companies function as institutions that support journals when they provide support above and beyond printing and distribution. In the 18th and 19th centuries, printers and publishers often used their privileged access to book-trade channels to acquire books for their editors (to review, or for reference). Their literary networks might also be useful to an editor in search of copy. Printer-publishers who actually owned the journal in question (such as Taylor & Francis and the *Philosophical Magazine*, or Macmillan and *Nature*) were likely to provide the most support, from copy-editing or clerical assistance, to funds to pay contributors, or even a salary or honorarium for the editor.⁴⁴ Particularly in the 20th century, editors working for large publishing companies benefitted from the practical, financial, and administrative resources of that company.

⁴⁰Rose (2020). Fyfe (2020a); and Beckman (2020).

⁴¹Biagioli (2002); Moxham (2019).

⁴²Fyfe et al. (2015), but see Moxham (2020).

⁴³Fvfe (2020b).

⁴⁴Brock & Meadows (1998); Baldwin (2015).

The extent of editorial independence in such a situation is coming to be significant in early 21st century debates about the future of academic publishing. We need to know more about how or whether editing for a publishing company differs from editing for a learned institution—in its rewards and risks, as well as in its practical aspects.

5 | HOW DID EDITORSHIP HAPPEN IN PRACTICE?

As well as these questions about the "who" and "why" of editorship, we encouraged our contributors to think about "how": how did editors edit? Editorship involves the selection and curation of content. This is how editorial choices determine which scientific knowledge claims circulate and whose scholarly reputations advance. This means that understanding editorial practices is crucial for understanding how knowledge claims have been evaluated and how researchers have been assessed. Who was involved in making the choices? What criteria were used, explicitly and implicitly? What gave credibility to those decisions? And, for collective editorial processes, how was consensus (or the appearance of consensus) created?

The first key aspect of editorial practice concerns the number of people involved. The distinguished literary or journalistic editor who emerged in the 19th century was stereotypically an individual, but many scholarly journals have been edited by groups of some sort. Group editorship can take many forms: two or three co-editors can make decisions jointly, or take sole charge of separate departments of work; some organisations ran editorial committees instead of having an editor; in other contexts, editors were assisted by committee members, board members, associate editors, or advisors. The number of people involved, and the power-relations between them, have implications for efficiency, but also for expertise and credibility. An editor in sole charge has significant independence and the ability to take swift action, but an editorial team can share the workload and responsibility, provide wider subject expertise (for evaluating potential content) and more extensive personal networks (for soliciting contributions, choosing referees, or promoting the journal), and generate an impression of collective responsibility and/or credibility. This was why Pergamon Press was careful to recruit impressive international editorial boards to support its new scientific journals in the 1950s and 1960s. 45 We need more analyses of the ways in which solo or group editorship relates to the credibility of a journal and its contents.

Group-based, collective editorial practices are best-known among the journals of learned institutions, where the key feature appears to be editorship by committee; although, as Moxham and Beckman show in this issue, that committee might be under the strong influence of an individual such as a president or secretary.⁴⁶ Editorial committees provided a mechanism that enabled an institution to take corporate responsibility for a journal. The production of the Histoires et memoires of the Académie royale des science in Paris, for instance, was managed by a comité de librairie from 1700, and when the Royal Society took over the Philosophical Transactions in 1752, it created a "committee of papers" to manage it. Committees can work in different ways, however: they may be advisory or decision-making; they may decide by consensus or by vote. For instance, the committees in Paris and London in the second half of the 18th century operated quite differently: the Paris committee focused its attention on contributions from non-members of the academy, whereas the London committee examined all papers proposed for publication; the Paris committee relied on the reports made by selected members who read the papers in full, whereas the London committee relied on the secretary's summary of the oral presentation of the paper; and the Paris committee recognised that its imprimatur was seen as a validation of a knowledge claim, whereas the London committee explicitly disowned any such epistemological role by insisting that all responsibility for the "certainty of the facts, or propriety of the reasonings" rested with authors, not the committee. 47 A detailed investigation of the changing mechanisms underpinning editorship by committee needs further investigation, speaking as it does to the social processes involved in the construction of knowledge and scholarly reputations.

⁴⁵Haines (1988, Ch. 5).

⁴⁶Moxham (2020); Beckman (2020).

⁴⁷Compare McClellan (2003) and Moxham & Fyfe (2018). The quotation is from the "Advertisement" prefaced to the *Philosophical Transactions* in 1752, and in every issue thereafter until the 1950s.

Group editorship was not unique to learned institutions, however. From 1701, the new editor of the *Journal des scavans* established an editorial board whose members met weekly at his house to put the journal together. Kronick links this approach to the desire to have appropriate expertise in a range of fields, and quotes Denis Diderot, some decades later, arguing that, for a journal covering "a large variety of matters ... it is impossible for a single editor to issue even a mediocre journal A journal must be the work of a society of scholars." Specialist or discipline-specific journals might more realistically be edited by a solo editor, as instances from Crell's *Chemische Journal* (1778) to Michael Foster's *Physiological Journal* (1878) demonstrate. But for journals covering a wide subject area—especially as individual expertise became more specialised—co-editorship could be an attractive option.

The second key aspect of editorial practice concerns the way in which copy was sourced: was it reprinted from existing publications, or sourced new? If it was reprinted, did it need to be translated or summarised, and if so, by whom? If it was sourced new, was it written by the editors themselves, by their close collaborators or co-editors, or by distant correspondents? What type of material was sought: reviews of books, short observations or case studies, or fully-detailed accounts of new experiments? These approaches required different editorial strategies and practices.

For original material, it was helpful to have an editorial team, or a good network of correspondents, or an affiliation to an institution whose members or staff might supply content. The committee editing the *Philosophical Transactions*, for instance, found its material in the steady flow of papers submitted for reading at the meetings of the Royal Society. Editors in the late 18th-century German universities seem to have relied on a core group of close collaborators, and to have written a lot of articles themselves. An editor without a good network would find it a significant burden to find sufficient copy to fill the pages of each new issue of the journal. Some 18th- and early 19th-century scientific editors paid for contributions, just as editors of literary magazines did, but the journals issued by learned institutions usually got their papers for free, gifted (or "presented") to the institution as part of the voluntary, gentlemanly culture of scholarship of the time. When and how did the culture of gifting research papers to journals without expectation of payment become common for all research papers, not just those of learned institutions?

Reprinting, summarising, extracting, or translating from existing printed works was an attractive option for many editors, as Vandendriessche shows in this issue.⁴⁹ Until international copyright agreements were signed (in the decades leading up to the Berne Convention of 1886), there were no legal restrictions on reprinting material originally published in another jurisdiction, and in some jurisdictions, periodicals were even outside the scope of domestic copyright.⁵⁰ Reprinting could thus be an attractive and cheap way of generating content. For editors who hoped to make money from their journals, a curated anthology of the expanding print culture of 19th-century science could be marketed as a genuinely valuable service for readers. But it nonetheless required resources: access to the latest periodicals, essays, and books from across the scholarly world and, if necessary, access to people who could translate them.⁵¹

Editors could, and did, combine these approaches (for instance, in the front and back sections of *Nature*), or move between them (as Gielas shows, in this issue, that William Nicholson was able to do once his journal was sufficiently well-established to generate a steady stream of contributions).⁵² The choice of editorial strategy was a compromise between editors' ambitions for their journals and the resources available to them.

As well as these intellectual aspects of editorship, many editors had some involvement in arranging or supervising their journals' production, dissemination, and financing. Nowadays, this work is often divided between an "academic editor" and a "managing editor" or "publishing editor" employed by the publisher or supporting institution, but historically, there was no clear demarcation between editing the content of a journal and managing it. As Fyfe notes

⁴⁸Kronick (1978, p. 269), quoting Denis Diderot in the *Encyclopédie* (1752, Vol. 2).

⁴⁹Vandendriessche (2020).

⁵⁰Slauter (2018); Nowell-Smith (1968).

⁵¹Olohan (2013).

⁵²Gielas (2020).

in this issue, the increasing use of paid support staff—from one or two clerical assistants in the late 19th century, to staffs of several dozen at large journals a century later—must have changed the nature of the academic editor's role, at the very least by removing much of the administrative burden.⁵³

6 | OUR SPECIAL ISSUE

The papers in this special issue proceed broadly chronologically, from the late 18th century to the early 20th century. We begin by examining institution-based editorship in the late 18th century. Noah Moxham focuses on the Royal Society of London, and shows that the formal bureaucratic structures that were supposed to ensure collective decision-making and responsibility did not prevent powerful members of the Society, such as its autocratic president Joseph Banks, from exercising significant influence over the *Transactions*. Moxham reveals the social structures underpinning the Royal Society's editorial practices and the ways in which Banks was able to control them.⁵⁴

Our next four essays examine the motives and practices of some of the independent editors whose journals were such a feature of the decades after 1780. Together, these essays reveal not only that motives varied just as much as personal circumstances and ambitions, but also demonstrate a range of different approaches to the practical issues of sourcing copy. It is clear that, in some cases, the editors' available resources determined the type of journals they issued, rather than the other way around.

Anna Gielas offers us a different perspective on late 18th-century London, with a closer look at William Nicholson. Nicholson is familiar as the editor of the *Journal of Natural Philosophy* (1797), one of the first independently-edited scientific journals in Britain, and for having annoyed Joseph Banks in 1802.⁵⁵ Gielas shows that Nicholson's relationship with Banks was longer and more complex than is usually realised, and that the 1802 episode has been over-stated. She uses an analysis of Nicholson's varied philosophical activities in the 1780s to explain his editorship as an effort to maintain a role for himself within a community of like-minded natural philosophers, and shows that his earlier roles in natural philosophical organisations gave him administrative skills and networks that would later be key to his ability to run his journal. She discusses Nicholson's editorial strategies, and argues that he created a journal that offered experimenters a useful day-to-day instrument of research, occupying a different niche from the established society *Transactions*. ⁵⁶

Alexander Stoeger takes us to Weimar and Gotha, and uses the collaboration between the German astronomer Franz Xaver von Zach and the publisher Friedrich Justin Bertuch in the years around 1800 to show how tricky the relationship between scholarly editor and publisher can be. He shows that, together, they had a rich combination of resources that enabled them to establish the first German astronomical-geographical periodical. Yet, despite the success of that journal, Stoeger shows that the divergent and seemingly incompatible interests between a scholar and a commercial publisher ultimately led to the end of their cooperation.⁵⁷

Bill Jenkins focuses on Edinburgh in the 1820s, where he examines the editors of three journals that co-existed in that university town. The breakdown in relations between David Brewster and Robert Jameson, sometime co-editors of the *Edinburgh Philosophical Journal*, is well-known, but Jenkins looks at what happened afterwards, when both men were running their own independent journals.⁵⁸ He shows that the rupture affected the two editors differently, in terms of the loyalties of contributors and, consequently, the types of material that their journals contained. He also examines a third journal that (briefly) attempted to challenge Jameson's position. The fact that Jameson was, in the long-run, the only editor to keep control of his journal appears to be more a consequence of his institutional security—as professor in the university—than his particular skills as an editor.⁵⁹

⁵³Fyfe (2020b).

⁵⁴Moxham (2020).

⁵⁵Watts (2014).

⁵⁶Gielas (2020).

⁵⁷Stoeger (2020).

⁵⁸Brock (1984); Topham (2016).

⁵⁹Jenkins (2020).

Joris Vandendriessche's analysis of the editors of medical journals in the Low Countries in the mid-19th century forces us to think about the practicalities of sourcing copy. Both Belgian and Dutch editors reused material that had been printed in periodicals elsewhere, and argued that their selection, summarisation, and reorganisation of that material was a more valuable service to their readers than acquiring original material would have been. This vision, he argues, was more akin to that of an encyclopaedia than to, say, a newspaper with its emphasis on novelty. Vandendriessche's paper demonstrates how knowledge moved transnationally, and how editors and publishers could take advantage of the lack of international copyright treaties to repackage and reformulate it.⁶⁰

Our next two papers continue this focus on editorship as the creation of a tangible and valuable commodity, though in two very different contexts. Jenny Beckman studies the Royal Swedish Academy of Sciences in the 19th century. Its editorial processes were committee-based, under the influence of a powerful individual—in this case, the permanent secretary of the Academy. The scholarly mission to publicise and circulate research was more important than any ambition to sell its journals in the commercial marketplace, but as Beckman demonstrates, the Academy was very alert to the value of its journals. The exchange of its journals for others of similar value was a means both of spreading the reputation of Swedish research and of building up library holdings in Stockholm. Consequently, the Swedish journals were designed to function efficiently in this non-commercial network of inter-institutional exchanges, and library and finance committee members became part of the editorial process.⁶¹

In contrast to the editorial committees of the Swedish Academy or the Royal Society, Melinda Baldwin emphasises that the editor of *Nature* aimed to produce a product to be sold in the marketplace. The distinctive editorial practices of *Nature* were shaped both by Norman Lockyer's vision for the magazine and by the publisher Macmillan's desire for a commercial success. Baldwin considers what skills such an editor needed, and, through an examination of the transition to Lockyer's successor, Richard Gregory, asks what place a semi-professional editor could or should hold in the early 20th-century scientific community.⁶²

Aileen Fyfe's closing article seeks to close the gap between the group-based committee editing described by Moxham and Beckman and the individual editors described by our other contributors. She notes that modern academic journals combine elements of both approaches, with a named editor-in-chief as well as referees and editorial boards. She returns us to the Royal Society, and investigates why the extreme form of distributed editorship that the Society had developed by the late 19th century was critiqued for being unduly slow and cumbersome (in contrast to certain contemporaries, such as *Nature*). Fyfe takes her story into the 20th century to investigate when and why the Royal Society journals came, eventually, to combine editors with referees and board members.⁶³

7 | CONCLUSION

There are, of course, many more editors and editorial teams who remain unstudied and other national contexts about which little is yet known. Until we have more case studies, it will remain challenging to identify and explain the transnational trends in editorial motivations and practice. The professionalisation, academicisation, and internationalisation of scientific editorship during the later 19th and 20th centuries have meant that the national differences in editorship have declined, though they have not (yet) disappeared. In most of the period covered by this special issue, academic and scholarly infrastructures differed significantly across Europe. This meant that the rewards of editorship have differed, as have the strategies and resources needed to carry it out successfully. We hope that the papers in this issue will stimulate closer attention to those strategies, to their local differences, and to the ways they have changed over time.

⁶⁰Vandendriessche (2020).

⁶¹Beckman (2020).

⁶²Baldwin (2020).

⁶³Fvfe (2020b).

A final set of reflections must be on the meanings, significance, or implications of editorship. We have already considered what editorship did, or might do, for the editors themselves and their supporters, but what does it mean for the history of science and knowledge? Closer attention to editorial practices will help us to understand how scientific communities are formed and maintained (especially at a distance), and to understand the social processes underpinning the construction of scholarly prestige and scientific knowledge. Solo editorship appears to have been more effective at communicating new discoveries rapidly, whereas group-based editorship, especially (but not only) when backed by a scholarly institution, appears to be conducive to the creation of credibility, prestige, and knowledge. But how far can this generalisation be stretched? And how should it be adapted to take account of the growing role of commercial publishing companies in the post-1950 period?

Addressing these questions about the practice and meaning of editorship will require scholars to study not only the artefacts that editors produced—the journals themselves—but also to investigate what was happening behind the printed page. On the printed page, we may read the editor's public assertion of the purpose or vision for the journal, and we can analyse the topics, genres, and sources of the material that was selected for publication. But if we want to look for the private, unvoiced motivations, or to consider the material that did not get selected, or to examine the extent of editorial intervention and modification on what was published, then we need to look beyond and behind the printed page. The kinds of study we would most like to see depend on the survival of archives, correspondence, or other commentary relating to the editor, the journal, the publisher, or other people or organisations involved in the editorship. It is only by putting together the insights from the journal itself and from these wider sources that we can hope to understand the motivations, practices, significance, and evolution of editorship.

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