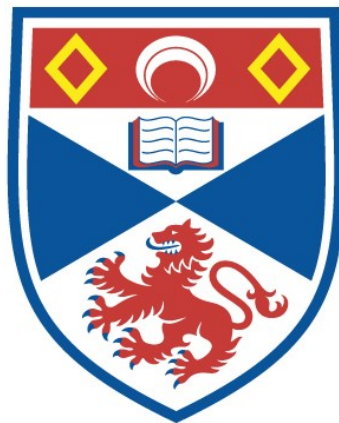


Early sole editorship of natural philosophical and scientific periodicals in the Holy Roman Empire and Britain, 1770s-1830s

Anna Maria Gielas

A thesis submitted for the degree of PhD
at the
University of St Andrews



2019

Full metadata for this item is available in
St Andrews Research Repository
at:

<https://research-repository.st-andrews.ac.uk/>

Identifier to use to cite or link to this thesis:

DOI: <https://doi.org/10.17630/10023-19702>

This item is protected by original copyright

TABLE OF CONTENTS

ACKNOWLEDGMENTS	3
INTRODUCTION	4
JOHANN ERNST IMMANUEL WALCH. LABOUR PAINS OF SOLE EDITORSHIP	20
LORENZ CRELL. INGREDIENTS OF EDITORIAL SUCCESS	49
WILLIAM NICHOLSON. A PROJECTOR'S IMPACT ON PHILOSOPHICAL INFRASTRUCTURE: THE ADVENT OF SOLE EDITORSHIP IN BRITAIN	75
ALEXANDER TILLOCH. JOURNALISTIC EXPERTISE AND PHILOSOPHICAL CURIOSITY - CRUCIAL ELEMENTS FOR SUCCESSFUL EARLY SOLE EDITORSHIP	102
LORENZ OKEN. ROLE OF MONEY AND POLITICS IN THIRD GENERATION SOLE EDITORSHIP	125
WILLIAM BRANDE. FACING IRRELEVANCE: SECOND GENERATION SOLE EDITORSHIP IN INSTITUTIONAL AND COMMERCIAL CONTEXT	153
CONCLUSION	178
BIBLIOGRAPHY	195
APPENDIX	234

ACKNOWLEDGMENTS

First of all, I wish to thank my supervisor, Professor Aileen Fyfe—particularly for her ceaseless patience with me (especially when I was doing the complete opposite of what I was supposed to do) and her extraordinary advisory help (easily returning me as many pages of comments as I had sent her drafts). Her abilities to solve bureaucratic issues in five minutes and to turn a five-minute chat on historical editorship into an hour of insight and novel questions have been a constant source of support and inspiration. I consider myself especially fortunate to have benefitted from her dedication to the subject and her students.

My gratitude also goes to Professor Frank James at the Royal Institution of Great Britain whose unparalleled knowledge on the RI's history has been a wonderful source of new information, important details and delightful insights for both my work and my intellectual curiosity. My special thanks go to Jane Harrison at the Royal Institution who helped me to navigate the archive. I wish to thank the Royal Institution of Great Britain and the University of St Andrews for the funding of my PhD. For the generous financial support of my research, I also thank the Staatsbibliothek zu Berlin, the Interdisziplinäre Zentrum für die Erforschung der Europäischen Aufklärung (IZEA) in Halle, the German Historical Institute in London, the German Historical Society, the Funds for Women Graduates, the Research Society for Victorian Periodicals, the Bibliographical Society and the Royal Historical Society.

I am particularly grateful to Claudia Taszus for sharing her work on Lorenz Oken with me. Furthermore, I wish to thank a number of scholars for sharing their written work with me, offering helpful comments and furnishing me with valuable bibliographical advice. These scholars are: Thomas Broman, Alex Csiszar, Martin Gierl, Roman Göbel, Dominik Hünninger, Anne Purschwitz, Hannah Robson, Jim Secord, Simon Shaffer, Jon Topham and Iain Watts. A special thank you is reserved for Noah Moxham, whose encouragement and feedback have been invaluable, and a true joy. Furthermore, I wish to thank the members of the Braunschweigischer Geschichtsverein and I appreciatively acknowledge Barbara Sommerschuh and the Sütterlinstube Hamburg.

To my Pappenheimer: Sandra MacPherson, throughout the last years you have become a wonderful part of my life—I am honoured and grateful to have met you. Anett Hartmann, you and your beautiful art have been a delight, thank you. Iza Moll, you have made me smile for all the right reasons in all the wrong moments; and have become a lovely friend. Katharina Katsigianni, sharing the love for ballet and yoga with you and our trainings together have been a 'supporting leg' for me. This thesis is in loving memory of the three we have lost— but it is dedicated to the one whom I appreciate, respect and love beyond words. 'Panowie, ...!' Per aspera ad astra.

INTRODUCTION

In early 1777, the then unknown German professor Lorenz Crell wrote a letter to the famous Swiss physician Albrecht von Haller, revealing his intense desire for renown as a natural philosopher.¹ Crell believed that editorship would advance his wish and therefore had ‘a *Chemisches Magazin* in the works’.² This *Chemisches Magazin* would become the first learned periodical on chemistry ever—and was rooted in an individual’s wish of natural philosophical self-fashioning.

In the second half of the eighteenth century, when there was no such a thing as a ‘scientist’, and neither natural philosophical education nor professional careers in natural philosophy had formalized yet, how did one become a natural philosopher (henceforth: philosopher)? How did one fashion oneself to signal to others ‘I am an experimenter, I am a man-of-science’? As Jan Golinski rightly observes: philosophers ‘did not share any ready-made identity. A ‘scientist’ as such was not a recognized entity; so, becoming one was not an option that was available to individuals working in [...] diverse settings. Instead, we find them patching together identities with the cultural resources that each location provided’.³ Practitioners of all descriptions carved out their own philosophical identities, by manipulating established conventions with whatever instruments were given to them—in order to gain, demonstrate and maintain philosophical expertise, credibility and authority.⁴

Nuanced recent studies demonstrate the ways in which philosophical practitioners sought to shape their own identities.⁵ Scholars of the second half of the eighteenth and early decades of the nineteenth centuries philosophy have revealed diverse identities, including poetic physicists such as Erasmus Darwin, chemical-wielding showmen like Humphry Davy and romantic geologists

¹ Karl Hufbauer, *The Formation of the German Chemical Community (1720-1795)*, Berkeley: University of California Press, 1982, 68/9. For a short but illuminating study of Crell’s editorial ambitions see: Hans Toftlund, ‘Lorenz Crell und das erste chemische Periodicum 1778’, *Chemie in unserer Zeit*, 12(1978), pp. 199-200. Dietrich von Engelhardt, ‘Die chemischen Zeitschriften des Lorenz von Crell’, *Indices naturwissenschaftlich-medizinischer Periodica bis 1850*, Vol. 2, Stuttgart: Hiersemann, 1974.

² Hufbauer, 68/9.

³ Jan Golinski, *Making natural knowledge. Constructivism and the History of Science*, Chicago, London: University of Chicago Press, 1998, 60.

⁴ Travelling, collecting, classifying, authoring and other means of philosophical self-fashioning in the German lands are discussed in: Ulrich Johannes Schneider, ed., *Kulturen des Wissens im 18. Jahrhundert*, Berlin, New York: De Gruyter, 2008. Iwan-M. D’Aprile, Winfried Siebers, *Das 18. Jahrhundert: Zeitalter der Aufklärung*, Berlin: Akademie Verlag, 2008 (particularly pages 74-77). Winfried Siebers, ‘Darstellungsstrategien empirischen Wissens in der Apodemik und im Reisebericht des 18. Jahrhunderts’, *Cardanus*, 3(2003), pp. 29–49. Peter Brenner, *Reisen in die Neue Welt*, Tübingen: Niemeyer Verlag, 1991 (particularly Chapter III).

⁵ German and British examples: Anne Mariss, ‘“A world of new things”. Praktiken der Naturgeschichte bei Johann Reinhold Forster’, *Campus Historische Studien*, vol. 72, Frankfurt, New York: Campus Verlag, 2015. William Ashworth, ‘The calculating eye: Baily, Herschel, Babbage and the business of astronomy’, *British Journal for the History of Science*, 27(1994), pp. 409-441. Joan Kenworthy, Margaret McCollum, ‘A contribution to meteorology by Spencer Cowper, Dean of Durham 1746–74’, *Notes and Records*, 63(2009), pp. 57–80. Rebekah Higgitt, ‘Why I Don’t FRS My Tail: Augustus De Morgan and the Royal Society’, *Notes and Records*, 60(2006), pp. 253-259. For discussions of the biographic methodology see, for example: Christian v. Zimmermann, ‘(Auto)Biographik in der Wissenschafts- und Technikgeschichte’, *Cardanus*, Vol 4(2004).

including George Bellas Greenough.⁶ The lack of a formalized way to become a man-of-science was not only a challenge but also an invitation to individuals to create a philosophical identity for themselves—and, as this thesis will show, the editorship of philosophical journals was an instrument through which they sought to achieve this.

A SHORT HISTORY OF SCIENTIFIC JOURNALS AND THE TOPIC OF THIS THESIS

The history of scientific journals is usually dated to 1665, when Henry Oldenburg founded the *Philosophical Transactions* at the Royal Society of London. While the number of transactions of philosophical academies and societies rose across European countries during the early- and mid-eighteenth century, it was not until the late eighteenth and early nineteenth centuries that the philosophical periodical gained notable significance as a philosophical and scientific instrument, particularly to enable the speedy dissemination of new observations and priority claims as well as to broaden the access to philosophical discourse.⁷

This development goes back to the establishment of editor-run rather than society-based journals, such as Crell's *Chemisches Journal* in 1778. Individuals within and without the Heiliges Römisches Reich founded and conducted their journals without the backing of a clearly delineated community such as a philosophical society. In so doing, they altered the philosophical infrastructures as well as the processes of knowledge production of their home-countries—which is somewhat surprising considering the idea of the individual that permeated philosophy.

Since the advent of the philosophical periodical in the 1660s, philosophers believed that the individual was not to be trusted with establishing philosophical knowledge—this was only possible in the group, where the individual's experimental activities would be witnessed and confirmed by his peers.⁸ In the first half of the eighteenth century, it was still considered 'perfectly mad to leave the examination of [philosophical] truth up to the individual'.⁹ Distrust and skepticism towards the individual dominated the conceptual and organizing principles of philosophical editorship in

⁶ Jan Golinski, *The Experimental Self: Humphry Davy and the Making of a Man of Science*, Chicago, London: University of Chicago Press, 2016. John Ryan, 'A Poetry of Science or a Science of Poetry? The Speculative Method of Erasmus Darwin (1731-1802)', *The International Journal of Literary Humanities*, 10(2012), pp. 45-57. John Wyatt, 'George Bellas Greenough: a romantic geologist', *Archives of Natural History*, 22(1995), pp. 61-71.

⁷ Alex Csiszar, *The Scientific Journal. Authorship and the Politics of Knowledge in the Nineteenth Century*, Chicago, London: University of Chicago Press, 2018. For speedy dissemination of new observations and priority claims see Chapter Four ('Discovery, Publication, and Property'). For the broader access to philosophical discourse see Chapter Three and Chapter Five ('The Author and the Referee' and 'What is a Scientific Paper?')

⁸ Steven Shapin, Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*, Princeton, New Jersey: Princeton University Press, 1985, 25.

⁹ Martin Gierl, 'Compilation and the Production of Knowledge in Early German Enlightenment', in: *Wissenschaft als kulturelle Praxis 1750-1900*, Göttingen: Vandenhoeck & Ruprecht, 1999, 69-103, 95.

Britain and the German lands: sole editors were considered prone to prejudice and bias—while group editorship could curb and contain the individual’s weaknesses. In 1752, the Royal Society indirectly expressed its doubts about the ability of the individual to conduct a philosophical periodical yet once again, by taking responsibility for the *Philosophical Transactions* which previously had been under the care of individual editors, usually the Society’s Secretaries.¹⁰ Despite this skepticism, the number of people who curated sole editorship rose significantly after 1770, particularly in the German lands.¹¹ But today scholars know surprisingly little about the sole editor. To gain a deeper understanding of early sole editors and early sole editorship, this thesis undertakes individual case studies of three German and three British individuals who founded and conducted philosophical periodicals between 1770 and 1830, including Crell.

PERIODICAL PRESS IN THE SECOND HALF OF THE EIGHTEENTH CENTURY

Scholars have studied the development of newspapers, journals and magazines in eighteenth-century Europe quantitatively as well as qualitatively and have commonly linked the flourishing of these print artefacts to the Enlightenment as well as geographical factors.¹² Before becoming geographically more prevalent in the nineteenth century¹³, print media in the eighteenth century burgeoned primarily in geographical centers like London and Leipzig. The boom of periodicals in both the Germanies and Britain included review periodicals, moral weeklies and upper-class magazines such as the London-based *Gentleman’s Magazine*. Comparing the German lands and Britain, it appears that due to the fragmented political and cultural situation of the Heiliges Römisches Reich more periodicals (newspapers, reviews and magazines) were available to buy in the Germanies: Joachim Kirchner identified Leipzig as the German centre of periodical publishing in the second half of the eighteenth century with 438 reviews and magazines appearing here during the period, while scholars counted thirty magazines and reviews in London in 1790.¹⁴ Journals addressing academics were available, notably numerable in the Germanies: periodicals

¹⁰ Aileen Fyfe, Noah Moxham, ‘Making public ahead of print: meetings and publications at the Royal Society, 1752-1892’, *Notes & Records*, 70(2016), pp. 361–379, 362.

¹¹ David Kronick, *A History of Scientific and Technical Periodicals: The Origins and Development of the Scientific and Technical Press, 1665-1790*, New York: Scarecrow Press, 1962, 88.

¹² James Van Horn Melton, *The Rise of the Public in Enlightenment Europe*, Cambridge University Press, 2001. Sabine Doering-Manteuffel, Josef Mancal, Wolfgang Wüst, eds., *Pressewesen der Aufklärung: Periodische Schriften im Alten Reich*, Berlin: Akademie Verlag, 2001. Heinz Thoma, ed., *Handbuch Europäische Aufklärung: Begriffe, Konzepte, Wirkung*, Stuttgart, Weimar: Metzler, 2015. Other forms of periodical print such as encyclopedias were notably popular, too.

¹³ Between 1800 and 1900, for example, 125,000 periodicals including newspapers appeared in British metropolises and the countryside. See: Andrew King, Alexis Easley, John Morton, eds., *The Routledge Handbook to Nineteenth-Century British Periodicals and Newspapers*, London and New York: Routledge, 2016, Introduction. For the German development of the print media, see, for example: Bernd Blöbaum, *Journalismus als soziales System. Geschichte, Ausdifferenzierung und Verselbständigung*, Opladen: Westdeutscher Verlag.

¹⁴ Joachim Kirchner, *Die Grundlagen des deutschen Zeitschriftenwesens*, Wiesbaden: Harrassowitz, 1958, 330. Leipzig was followed by Vienna with 238 and Hamburg with 226 periodicals. James Raven, *The Business of Books: Booksellers and the English Book Trade 1450-1850*, New Haven and London: Yale University Press, 2007, 246.

by and for professors as well as lecturers focused primarily on law, history and theology in the first half of the century and, in the second half, opened up to various topics including music and medicine.¹⁵ Their popularity likely invited both potential editors and publishers to contemplate other niches to which periodicals could be devoted—and indirectly encouraged the publishing of philosophical periodicals in the German lands. In Britain, in turn, it was the popularity of the middling and upper ranks-magazines such as the aforementioned *Gentleman's Magazine* and the *London Magazine* that encouraged the niche finding in the later decades of the eighteenth and the early nineteenth centuries, too. These magazines offered readers philosophical news—but here, they encountered philosophy as one of many topics. Individuals not merely superficially interested but truly invested in philosophy (for example experimenters) consulted a number of general-interest magazines for most of the eighteenth century, as a way to keep abreast of philosophy's developments, before the first philosophical journal appeared in Britain.¹⁶

WHAT WE CURRENTLY KNOW ABOUT EDITORSHIP IN GENERAL

The role and identity of the author have garnered a notable amount of scholarly attention in linguistics, history, sociology and philosophy. The many different concepts of authorship cover a broad spectrum: from theorizing a unique, strong and intentional authorial agent, as was the case with the Expressive Theory of Authorship in the nineteenth century,¹⁷ to ignoring or outright denying an intentional Self behind texts and even pronouncing the author dead.¹⁸

The editor has met a similar yet much quieter fate: a few studies paint him as either a strong influence and authority or, at the other end of the spectrum, researchers of historical periodicals ignore him altogether. The British press historian Joel Wiener portrayed editorship as a crucial socio-cultural force of nineteenth-century Britain: 'Editing is at the core of the Victorian experience. In an age characterized by the proliferation of print, the editor acted as a conduit between text and audience [...] In brief, the editor was situated at the nucleus of the Victorian

¹⁵ See Chapter 'Auf dem Wege zur Fachzeitschrift' in Joachim Kirchner, *Das deutsche Zeitschriftenwesen. Seine Geschichte und Probleme*, Leipzig: Otto Harrassowitz, 1942.

¹⁶ Another way to keep abreast of philosophical news was epistolary correspondence with men-of-science scattered across Europe. See, for example: Charles Withers, *Placing the Enlightenment: Thinking Geographically about the Age of Reason*, Chicago and London: University of Chicago Press, 2007, 44.

¹⁷ Andrew Bennett, 'Expressivity: The Romantic theory of authorship', in: Patricia Waugh, ed., *Literary Theory and Criticism: An Oxford Guide*, Oxford: Oxford University Press, 2006, 48-58.

¹⁸ Michel Foucault, 'What is an author? 1969', in: J. Marsh, J.D. Caputo, M. Westphal, eds., *Modernity and its discontents*, New York: Fordham University Press, 1992, 299-314. Roland Barthes, *Image, Music, Text*, London: Fontana, 1977, 142-148.

world: He typified both the transformations that were making Britain an urban nation and a stable society.¹⁹

Other scholars of Victorian periodicals acknowledged the influential role of the editor and his tasks but did not discuss and conceptualize editorship in more detail.²⁰ Mark Turner, in turn, interpreted the editor as 'a fragmented authority', deeply embedded in the publishing infrastructure and therefore strongly interdependent with other stakeholders.²¹ In Robert Darnton's well-known and much-cited theory of the 'Circuit of Communication', the editor is omitted altogether.²²

The majority of available studies on historical editorship in Britain refer to the Victorian period and its journalistic editors. The fact that several studies on the Victorian journalistic editor exist is probably linked to a learned society which focuses exclusively on Victorian periodicals, namely the Research Society for Victorian Periodicals. There does not seem to be an equivalent for earlier periods, and no German counterpart to the RSVP. No work seems to exist on the scientific editor or, for that matter, on journalistic editors of the eighteenth century, neither for Britain nor for the Heiliges Römisches Reich.

German scholars, however, make a similar observation as their colleagues working on British press: namely that it is anachronistic to speak of the 'editor' before the professionalization of the press took place in the German-speaking countries and Britain, which unfolded roughly from the mid-nineteenth century.²³ Historical observers had a similar understanding of the advent of editorship. The renowned *Economist*-editor Walter Bagehot, for example, claimed, in 1855, that the 'trade of editorship' was virtually invented by Francis Jeffrey of the *Edinburgh Review* in the early nineteenth century.²⁴ '[B]efore him', Bagehot continued, 'an editor was a bookseller's

¹⁹ Joel Wiener, 'Introduction', in: Joel Wiener, ed., *Innovators and Preachers: The Role of Editor in Victorian England*, Westport, CT and London: Greenwood Press, 1985, xii-xiii.

²⁰ Dallas Liddle, *The Dynamics of Genre: Journalism and the Practice of Literature in Mid-Victorian Britain*, Charlottesville: University of Virginia Press, 2009. Matthew Wale, "'The Sympathy of a Crowd': Periodicals and the Practices of Natural History in Nineteenth-Century Britain", PhD Thesis, University of Leicester, 2018, p. 24, 32, 38, etc. Laurel Brake, Aled Jones, Lionel Madden, eds., *Investigating Victorian Journalism*, Basingstoke: Macmillan, 1990.

²¹ Mark Turner, *Trollope and the Magazines. Gendered Issues in Mid-Victorian Britain*, Houndmills, Basingstoke: Macmillan, 2000, 194.

²² Robert Darnton, 'What is the History of Books?', *Daedalus*, 3(1982), pp. 65-83; rpt. in: *The Kiss of Lamourette: Reflections in Cultural History*, New York: Norton, 1990, 107-35.

²³ Joanne Shattock, 'Introduction', in: Joanne Shattock, ed., *Journalism and the Periodical Press in Nineteenth-Century Britain*, Cambridge, New York, Melbourne, Delhi, Singapore: Cambridge University Press, 2017, 1-14, 1. Jörg Requate, *Journalismus als Beruf: Entstehung und Entwicklung des Journalistenberufs*, Göttingen: Vandenhoeck & Ruprecht, 1995, 12 and 192. Dieter Paul Baumert argued that an early form of editorial work can be observed in the seventeenth century. See: Dieter Paul Baumert, *Die Entstehung des deutschen Journalismus: Eine sozialgeschichtliche Studie*, München: Verlag von Duncker, 1928, 48.

²⁴ Christopher Kent, 'The Editor and the Law', in: Joel H. Wiener, ed., *Innovators and Preachers: The Role of the Editor in Victorian Britain*, Westport, Ct. and London: Greenwood Press, 1985, 99-119, 99.

drudge'.²⁵ Thomas Sheridan, in turn, defined the editor more than half a century earlier—and his definition was not based on editorial dependencies but on editorial responsibilities: according to Sheridan's *Complete Dictionary of the English Language* from 1790, the 'editor' was 'he that revises or prepares any work for publication'.²⁶

Interestingly, the philosophical sole editor appears to have emerged as an agent of printed communication earlier than the journalistic editor, namely from the 1770s onwards. The earliest philosophical sole editor in Britain, for example, called himself 'Editor' on the pages of his journal and forewent anonymity as was usual practice of British editors in the late eighteenth century—whereas Henry Oldenburg had referred to himself as 'author'.²⁷ Put differently, within the realm of philosophy, the role of the editor appears to have garnered attention earlier and been conceptualized in different ways than among journalistic practitioners.

WHAT WE CURRENTLY KNOW ABOUT SCIENTIFIC EDITORSHIP IN PARTICULAR

Historians of science have been highly aware of the importance of scientific journals to the making and communicating of modern science.²⁸ This is largely due to David Kronick's seminal quantitative study from the early 1960s on historical science journals. Kronick's work has influenced today's understanding and research of historical science journals in three ways: first, to distinguish the historical scientific journal from other historical periodicals, Kronick defined it as a publication consisting of original pieces on scientific topics—in so doing he created the definition of the philosophical and scientific journal with which scholars have been working ever since; second, Kronick dated the advent of editor-run philosophical journals to the early 1770s;

²⁵ Quoted after Christopher Kent, 99.

²⁶ Thomas Sheridan, 'Editor', *A Complete Dictionary of the English Language, 3rd Edition. Revised, Corrected and Enlarged*, Vol. 1, London: Charles Dilly, 1790, EEL (no page available). William Bynum and Janice Wilson argue that Samuel Johnson defined the term 'editor' as early as 1755: W. F. Bynum, Janice Wilson, 'Periodical Knowledge: Medical Journals and their Editors in Nineteenth-century Britain', in: William F. Bynum, Stephen Lock, Roy Porter, eds., *Medical Journals and Medical Knowledge*, London: Routledge, 1992, 29–48, 35.

²⁷ William Nicholson, 'Preface', *A Journal of natural philosophy, chemistry and the arts*, 1(1797), pp. iii-iv, iii. Henry Oldenburg, 'To the Right Honourable William Lord Viscount Brouncker, Chancellor to Her Majesty, and President to the Royal Society, &c', *Phil. Trans.*, 2(1666), 0. On anonymity in eighteenth-century press: James Boswell, *Facts and Inventions*, New Haven, London: Yale University Press, 2014, 14. Paul Raabe, 'Pseudonyme und anonyme Schriften im 17. und 18. Jahrhundert', in: *Der Zensur zum Trotz. Das gefesselte Wort und die Freiheit Europas*, (Ausstellungskatalog der Herzog August Bibliothek), Weinheim: VCH, Acta Humaniora, 1991, pp. 53-58. On anonymity in eighteenth-century philosophical writing: Mary Terrall, 'The uses of anonymity in the Age of Reason', in Mario Biagioli and Peter Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science*, New York: Routledge, 2003, pp. 91–112. Thomas Habel, 'Gelehrte Journale und Zeitungen der Aufklärung', Bremen: Lumiere, 2007, 126-148.

²⁸ Kronick. A.A. Mantel, 'Development of European Scientific Journal Publishing Before 1850', in: A. J. Meadows, ed., *Development of Scientific Publishing in Europe*, Amsterdam: Elsevier, 1980, 1-22. James McClellan, *Science Reorganized: Scientific Societies in the Eighteenth Century*, New York: Columbia University Press, 1985.

and, third, Kronick showed that these periodicals were more numerous in the Heiliges Römisches Reich than in any other West European country—but also notably short-lived and unsuccessful.²⁹

This thesis will add mainly two things to Kronick's research. First, it will reveal why we should not necessarily consider the short-lived German periodicals unsuccessful. The three individual case studies on German editors will demonstrate that even a short sole editorship enabled an individual to successfully self-fashion as a man-of-science and reap other rewards as well. Second, this thesis will explain why editor-run periodicals were particularly numerous in the German lands after 1770, since Kronick did not put forward any reasons.

Kronick's focus on the historical journal rather than its editor has survived until today: historians of science tend to pivot on the artefact rather than study its creator.³⁰ After Kronick's seminal work, historians of science have increasingly investigated the written dissemination of natural knowledge. In the 1970s and 1980s mainly A.J. Meadows and Bill Brock expanded our understanding of philosophical and scientific periodicals.³¹ It is likely that because their work existed historians in the 1990s and later began to focus on books.³² A wave of book history initiated by Jim Secord, Aileen Fyfe and Jon Topham has stressed the economic elements of

²⁹ Kronick, 86/7. The late German historian of journalism, Joachim Kirchner, studied philosophical and other editor-run journals several years prior to Kronick. Kirchner's study illustrates a more gradual development of editor-run philosophical publications than Kronick, first appearing as early as the beginning of the eighteenth century and slowly gaining attention and numbers. For the period between 1740 and 1765 Kirchner listed 38 editor-run philosophical journals. Kronick in turn, documented 36 editor-run journals in the German lands for the first three quarters of the eighteenth century. More significantly, Kirchner arrived at 107 editor-run philosophical journals in the Heiliges Römisches Reich between 1770 and 1800, Kronick, in turn, 37. The on-going digitization projects on German philosophical periodicals speak in favour of Kirchner's high numbers. Joachim Kirchner, *Das deutsche Zeitschriftenwesen, seine Geschichte und seine Probleme. Von den Anfängen bis zum Zeitalter der Romantik*, Wiesbaden: Harrassowitz, 1958, 156ff. Kronick, 88ff.

³⁰ William Brock, 'The Chemical News, 1859-1932', *Bulletin for the History of Chemistry*, 12(1992), pp. 30-34. Thomas Broman, 'Periodical literature', in: Maria Frasca-Spada, Nick Jardine, eds., *Books and the Sciences in History*, Cambridge: Cambridge University Press, 2000, 225-238. Adrian Johns, 'Miscellaneous Methods: Authors, Societies and Journals in Early Modern England', *British Journal for the History of Science*, 33(2000), pp. 159-186. Pietro Corsi, 'What do you mean by a periodical? Forms and functions', *Notes and Records*, 70(2016), pp. 325-341. Sally Shuttleworth, Charnley Berris, eds., *Notes and Records* (special issue: 'Science Periodicals in the Nineteenth and Twenty-First Centuries'), 70 (2016). Csizsar, *The Scientific Journal*, 2018.

³¹ See, for example, A. J. Meadows, ed., *Development of Scientific Publishing in Europe*, Amsterdam: Elsevier, 1980. William Brock, A.J. Meadows, *The lamp of learning: Taylor and Francis and the development of science publishing*, London: Taylor and Francis, 1998. William Brock, *William Crookes (1832 - 1919) and the Commercialization of Science*, Aldershot: Ashgate, 2008. William Brock, 'The Development of Commercial Science Journals in Victorian Britain', in: A. J. Meadows, ed., *Developments of Science Publishing in Europe*, Amsterdam, New York, and Oxford: Elsevier Science Publishers, 1980, 95-122.

³² See for example: Adrian Johns, 'The Past, Present, and Future of the Scientific Book', in: N. Jardine and M. Frasca-Spada, eds., *Books and the Sciences in History*, Cambridge: Cambridge University Press, 2000, 408-426. 'History of Science and the History of the Book', in: S. Cavaciocchi, ed., *Produzione e Commercio della Carta e del Libro Secc. XIII-XVIII*, Firenze, Italy: Le Monnier, 1992, 881-90. Jim Secord, *Victorian Sensation: The Extraordinary Publication, Reception and Secret Authorship of Vestiges of the Natural History of Creation*, Chicago: University of Chicago Press, 2000.

philosophy and science publishing—which has led historians of science to acknowledge both the book, as well as the periodical, mainly as commodities.³³

It is most likely the economic focus that has prompted Topham, the scholar who has shaped our current understanding of the early editor-run periodical in Britain, to view the sole editor as a somewhat weak philosophical actor: according to Topham, the journal conductor is an individual working for somebody else, namely his publisher, with little say on his own.³⁴ This thesis will put forward arguments against this interpretation. By showing, for example, that neither the support of the publisher nor a steady stream of original contributions were central to a successful sole editorship, this thesis invites to reflect on the journal not only as a commercial but also as a socio-cultural artefact.

More recently, a few scholars have paid attention to society-run journals including the Royal Society's *Philosophical Transactions*. James McClellan, Aileen Fyfe, Noah Moxham and Camilla Mork Rostvik, to name but four researchers who have investigated the changing editorial processes, production and distribution of the *Transactions* as well as editorial challenges such as unauthorised reprints ('piracy') during the eighteenth and nineteenth centuries.³⁵ There appears to be little comparable investigation on transactions of German societies and academies (seventeenth through nineteenth centuries)—here, scholarship centers on the contents of the society-run periodicals. There have been, for example, published and unpublished studies of the Leopoldina's *Miscellanea curiosa*.³⁶

³³ James Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*, Chicago: The University of Chicago Press, 2000. Aileen Fyfe, *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain*, Chicago: University of Chicago Press, 2004. Jon Topham, 'BJHS Special Section: Book History and the Sciences: Introduction', *British Journal for the History of Science*, 33(2000), pp. 559-612.

³⁴ Jon Topham, 'The scientific, the literary, and the popular'. Topham's research on the communication of philosophy and science has included both the historiography of the book as well as editor-run and popular periodicals: Ibid. Jon Topham, 'Scientific publishing and the reading of science in nineteenth-century Britain: A historiographical survey and guide to sources', *Studies in History and Philosophy of Science Part A*, 31.4 (2000), pp. 559-612.

³⁵ James McClellan III, 'Specialist Control: The Publications Committee of the Académie Royale Des Sciences (Paris) 1700-1793', *Transactions of the American Philosophical Society*, New Series, 93(2003), pp. i-v, vii-xii, 1-99, 101-134. See publications of the *Philosophical Transactions* project led by Aileen Fyfe.

³⁶ Uwe Mayer, "'Kein tummelplatz, darauß gelehrte leut Kugeln wechseln". Principles and Practice of Mencke's Editorship of the Acta eruditorum in the Light of of Mathematical Controversies', *Archives internationales d'histoires des sciences*, nos. 170-171, 63(2013), pp. 49–59. Simon Rehbohm has investigated the *Observationes* and their link to religion (1727–1754); his findings have not appeared in print yet. Heinrich Buess focused on the contribution of Swiss philosophers to the *Miscellanea curiosa*: Heinrich Buess, 'Der Beitrag der Schweizer Ärzte zu den „Miscellanea curiosa“ der Deutschen Akademie der Naturforscher', *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften*, 37(1953), pp. 1-22.

In 2018, Alex Csiszar has published the only other in-depth work on both editor- and group-run periodicals in France and Britain after Kronick's study.³⁷ Csiszar turns to the period after 1830, arguing that 'the modern scientific journal is largely an invention of the nineteenth century'.³⁸ More precisely, he observes that since the 1830s, 'scientists increasingly perceived the social and intellectual life of science to be lodged in the pages of the specialized scientific literature'.³⁹ This thesis focuses on the period which neither Kronick nor Csiszar have discussed in more depth, namely the decades between 1770 and 1830s. Particularly the decades between 1770 and roughly 1810—the first generation of editor-run periodicals—appears to have been the period during which individuals such as the aforementioned Crell were able to use sole editorship to self-fashion as philosophers. In its second and third generation, sole editorship was more broadly used—also by already established men-of-science. For these individuals, as the thesis will show, sole editorship carried some potential pitfalls and disadvantages: it appears to have been less beneficial for these later generations.

Sole editorship in the Germanies of the eighteenth and nineteenth centuries has not been investigated yet either. Instead, German scholars have paid more attention to authorship of natural philosophers, particularly in German academia of the eighteenth century and scientific academies as well as societies in the nineteenth century.⁴⁰ Also, like their Anglo-American peers, German historians tend to focus more on the journal than its editor.⁴¹ Martin Gierl has offered comprehensive studies on early editor-run periodicals which shed some light on their editors. He has studied about 100 group- and editor-run journals connected to the University of Göttingen which appeared between 1740 and 1800. Gierl has arrived at the conclusion that journals—and,

³⁷ Csiszar.

³⁸ Ibid, 4.

³⁹ Alex Csiszar, 'Seriality and the Search for Order: Scientific Print and Its Problems during the Late Nineteenth Century', *History of Science*, (48)2010, pp. 399-434, 400.

⁴⁰ Elke Flatau, *Der wissenschaftliche Autor: Aspekte seiner Typologisierung am Beispiel von Einstein Sauerbruch, Freud und Mommsen*, Wiesbaden: Springer, 2015. Klaus Garber, 'Der Autor im 17. Jahrhundert', *Zeitschrift für Literaturwissenschaft und Linguistik*, 11 (1981), pp. 29-45. William Clark, *Charisma and the Origins of the Research University*, Chicago and London: University of Chicago Press, 2006. Peter Josephson, 'The Publication Mill. The beginnings of publication history as an academic merit in German universities, 1750–1810', in: Peter Josephson, Thomas Karlsohn, Johan Östling, eds., *The Humboldtian tradition: Origins and legacies*, Leiden: Brill Academic Publishers, 2014, 21-43. Horst Kant, 'Disziplinäre Gesellschaften als Träger von Fachzeitschriften. Einige Anmerkungen zur Entstehung physikalischer Zeitschriften im 19. Jahrhundert in Deutschland', *Wissenschaftliche Zeitschrift und Digitale Bibliothek*, 2002, pp. 61–82. Margrit Rollman, *Der Gelehrte als Schriftsteller: Die Publikationen der Göttinger Gelehrten im 18. Jahrhundert*, PhD Thesis, University of Göttingen, 1988. Helmut Walther, 'Die Universität um 1800', in: Gerhard Müller, Klaus Ries, Paul Ziche, eds., *Die Universität Jena: Tradition und Innovation um 1800*, Stuttgart: Franz Steiner Verlag, 2001, 27–32.

⁴¹ Ingrid Kästner, ed., 'Wissenschaftskommunikation in Europa im 18. und 19. Jahrhundert. Beiträge der Tagung vom 5. und 6. Dezember 2008 an der Akademie gemeinnütziger Wissenschaften zu Erfurt', *Europäische Wissenschaftsbeziehungen*, Vol 1., Aachen: Shaker Verlag, 2009. Christoph Meinel, 'German History of Science Journals and the German History of Science Community', in: Marco Beretta, Claudia Pogliano, Pietro Redondi, eds., *Journals and History of Science*, Firenze: Olschki, 1998, 77–96. Otto Dann, 'Vom Journal des Scavants zur wissenschaftlichen Zeitschrift', in: Fabian Bernhard, Paul Raabe, eds., *Gelehrte Bücher vom Humanismus bis zur Gegenwart*, Wolfenbütteler Schriften zur Geschichte des Buchwesens, Wiesbaden: Harrassowitz, 1983, 63–80.

thereby, editorship—were a means used by lecturers, extra-ordinary and ordinary professors to advance through academic ranks and further their standing, not only in academia but also beyond.⁴² This thesis will expand these studies, by discussing how and why editorship came to play an important role in German academia during this period, thereby also extending Gierl's studies by suggesting that the importance of editorship was not restricted to the University of Göttingen but was more widely present, namely in German academia in general.

For historians of science, the philosophical and scientific editor may seem a challenging actor to conceptualize since he somewhat escapes the established scholarly ideas of philosophical and scientific practitioners. Take, for example, Crell whose philosophical identity and achievement were not rooted in research but editorship. However, in line with recent scholarship which probes rigid distinctions between the amateur and the professional researcher or the populariser and primary researcher and leads to nuanced studies of the ways in which philosophical and scientific actors sought to shape their own identities, this thesis will interpret and characterize the editor as a philosophical actor in his own right—a figure located between the professionalizing fields of science and journalism.⁴³

METHODOLOGY AND STRUCTURE

Aileen Fyfe writes, '[e]xisting accounts of the activities of scientific writers have focused more on the works produced than on the experiences of those who wrote them'.⁴⁴ This is not only true for authors but also for editors. Therefore, this dissertation aims to add to the current scholarship by approaching sole editorship and the editor-run periodical 'as if it was produced by people with bodies, situated in time, space, culture, and society, and struggling for credibility and authority'.⁴⁵ More concretely, the altogether six chapters—each devoted to one editor—will reveal the individuals' a) motives to edit, b) ways in which they assumed sole editorship and established their editorial infrastructure, c) editorial day-to-day practices, challenges and goals as well as d) rewards they were able to secure through journal conducting. These four main elements also function as

⁴² Martin Gierl, 'Die Universität als Aufklärungsfabrik', in: *Historische Anthropologie*, 13(2005), pp. 367—375. Martin Gierl, "'Editor-Journals" – Professorenjournale Wissenschaftliche Fachjournale and the scientific periodicals in Germany / Göttingen 1765-1815', *Centaurus*, Special Issue, forthcoming 2019. Martin Gierl, *Geschichte als präzisierte Wissenschaft: Johann Christoph Gatterer und die Historiographie des 18. Jahrhunderts im ganzen Umfang*, *Fundamenta Historica*, Vol. 4, Stuttgart Bad Cannstatt: frommann-holzboog, 2012.

⁴³ See, for example, footnote 6.

⁴⁴ Fyfe, 'Conscientious Workmen', 222.

⁴⁵ Referring to Steven Shapin's book *Never Pure: Historical Studies of Science as If It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority*, Baltimore: Johns Hopkins University Press, 2010.

an instrument of comparison: their application to the German and British individuals helps to observe some general historical trends, beyond national borders.

The choice of the individual cases is rooted in a study carried out at the beginning of this doctoral project, which focused on German and British philosophical journals from the second half of the eighteenth century: philosophical topics (predominantly zoological, botanical, chemical and mineralogical), the number of original contributions and the chronology in which the German and British philosophical periodicals appeared allowed to identify the two earliest philosophical journals in the two countries. Their four editors have been selected as four individual case studies for this project. Their comparability lies in their chronological and contentual parallelism. This dissertation begins with individual case studies of the two earliest German sole editors and moves on to the two earliest British ones. These four chapters are devoted to what we can term the first-generation early sole editors.

The fifth and sixth case studies focus on one German and one British editor, both of which assumed sole editorship in the 1810s. Thereby, the two last chapters help to identify further developments in early sole editorship in its second (British) and third (German) generation, foreshadowing a number of processes that Csiszar observed for editor-run journals in nineteenth-century Britain. The selection of the last two editors is not based on chronology but their biographical similarities. Both were at least one generation younger than the aforementioned four editors. They came of age at a time when editor-run journals were increasingly accepted and had access to some of them. Both editors were deeply involved in philosophical institutions, commenced their editorship as professors, in cooperation with fashionable as well as influential publishers and had to navigate long-term difficulties with these publishers. Both commenced sole editorship in 1816. The choice of these last two individual cases is informed by the wish to test the theory that early sole editorship was a means of philosophical self-fashioning: both editors were established philosophers when they assumed editorship—did they nonetheless pursue editing for self-fashioning purposes? If so, why? And was sole editorship as rewarding for them as for editors of the first generation?

The first of the six chapters is devoted to the editorship of professor Johann Ernst Immanuel Walch from Jena who published the first issue of *Der Naturforscher* in 1774. According to Kronick, “(o)ne of the first natural science periodicals to contain a significant proportion of original contributions

and to limit itself to pure science is ‘Der Naturforscher’⁴⁶. But Kronick immediately continued with his discussion of the *Observations sur la Physique, sur l’Histoire Naturelle et sur les Arts*, issued by Abbé François Rozier in Paris from 1771, calling the periodical ‘the most outstanding’.⁴⁷ To Anglo-American scholars of scientific journals, Walch and *Der Naturforscher* have remained in Rozier’s shadow ever since. German scholars have hardly dealt with Walch’s editorship but they have studied *Der Naturforscher*, mainly as a commodity of the renowned Gebauer publishing house.⁴⁸ This chapter will reveal the extent to which Walch was influenced by group-based editorship: it will illustrate how deeply this type of editorship and periodicals were rooted in the German scholarly culture—and how difficult the attempt to actually introduce a novel form of philosophical editorship could become.

The second chapter centres on Crell. Historians of chemistry are familiar with Crell due to his prominent place in Karl Hufbauer’s 1982 book on the German chemical community.⁴⁹ Hufbauer devoted one chapter to the function of Crell’s editorial undertakings as a forum for chemical experimenters between 1778 and 1795. Although Hufbauer provided an excellent short biography of Crell as well as a quantitative study on one of his altogether nine chemical journals, namely the *Chemische Annalen*, his interest did not rest with Crell’s editorship. This thesis will introduce the numerous notable rewards that sole editorship offered to the philosophical outsider Crell, among them not only the opportunity to self-fashion as a philosopher and become known within and without the German lands but also to garner the attention and favor of his sovereign. Furthermore, this chapter will discuss a crucial link between early sole editorship and the German Enlightenment, thereby reflecting sole editorship’s normative footing in Enlightened values such as rationality and reason, the creation of philosophical insight and knowledge.

Chapter three will focus on the English author, inventor and teacher William Nicholson and his editorship of the *Journal of Natural Philosophy, Chemistry and the Arts*, commenced in 1797. Like Crell, Nicholson has been a familiar figure with historians of science, but not yet studied in more detail. In his article, Iain Watts has depicted a fall-out between Nicholson and the President of the

⁴⁶ Kronick, 177. James McClellan, ‘The scientific press in transition: Rozier’s journal and the scientific societies in the 1770s’, *Annals of Science*, 36(1979), pp. 425-98.

⁴⁷ Kronick, 202.

⁴⁸ Manuel Schulz, ‘Zur Rezeption der Papierkrise 1788-1793 im Hallenschen Verlag Gebauer’, *Leipziger Jahrbuch zur Buchgeschichte*, 20(2011), pp. 143–153. Anne Purschwitz, ‘Halle als medialer Standort zur Zeit der Aufklärung. Das Verlagshaus Gebauer und die halleschen Zeitschriften 1747–1810’, in: Daniel Fulda, Christine Haug, eds., *Merkur und Minerva*, Buchwissenschaftliche Beiträge aus dem Deutschen Bucharchiv München, Vol. 89, Wiesbaden: Harrassowitz Verlag, 235-256. Ute Schneider, ‘Für Kenner und Liebhaber. Zur Idee und Konzeption der Zeitschrift „Der Naturforscher“’, in: Tanja van Hoorn and Alexander Košenina, eds., *Naturkunde im Wochentakt. Zeitschriftenwissen der Aufklärung*, Bern, Berlin, New York, Wien: Peter Lang, 2014, 137–156.

⁴⁹ Hufbauer.

Royal Society, Sir Joseph Banks, because Nicholson published articles destined for the *Philosophical Transactions* on the pages of his journal before they appeared in the society-based periodical.⁵⁰ This individual case study will dissect the seeming antagonism between Nicholson and Banks which started years earlier than Watts' study has suggested and will reveal that their complex relationship can be interpreted as a motivating force for Nicholson's sole editorship. What is more, this chapter will invite us to think of Nicholson's editorial undertaking as epistemic subversion of existing philosophical infrastructures.

The journalistic editor and inventor Alexander Tilloch is the topic of the fourth chapter. He founded his *Philosophical Magazine* in 1798, only one year after Nicholson assumed editorship. In their book *Lamp of Learning*, which has presented the history of the publishing company *Taylor & Francis*, Bill Brock and A.J. Meadows have offered a biography on Tilloch.⁵¹ The case study here picks up a number of details they mentioned, such as the Askesian Society of which Tilloch was a member, and discusses their role and importance for Tilloch's editorship. Moreover, the individual case study on Tilloch also lays out how his journalistic work and, indirectly, even his interest in the occult and his religious beliefs fostered his sole editorship. This chapter shows that conducting a philosophical journal was not only a means of philosophical self-fashioning for individuals with philosophical knowledge or, for that matter, interests: in the late eighteenth century, a British journalistic actor could use sole editorship for some philosophical self-fashioning, too.

Chapter five is devoted to Lorenz Oken. Currently, there is more scholarship on Oken than on any of the other five editors. This is to some degree due to Oken's feud with Johann Wolfgang Goethe and the activities of Goethe-scholars.⁵² Over the last two decades, most in-depth research on Oken's life has been carried out by scholars affiliated with the University of Jena, where Oken had been professor and lived for over two decades.⁵³ There are also several excellent studies on Oken's

⁵⁰ Iain Watts, "'We want no authors': William Nicholson and the contested role of the scientific journal in Britain, 1797–1813", *British Journal for the History of Science*, 47(2014), pp. 397–419. On Nicholson's life: William Nicholson junior, Sue Durrell, ed., *The life of William Nicholson*, Long: Peter Owen, 2018. On contents and contributors to Nicholson's *Journal*: S. Lilley, 'Nicholson's Journal (1797–1813)', *Annals of Science*, 6 (1948), pp. 78–101.

⁵¹ Brock, Meadows, *Lamp of Learning*, 94. Topham, 'Anthologizing the Book of Nature'.

⁵² Examples of this scholarship: Adolf Meyer-Abich, ed., 'Biologie der Goethezeit. Klassische Abhandlungen über die Grundlagen und Hauptprobleme der Biologie von Goethe und den großen Naturforschern seiner Zeit: Georg Forster, Alexander v. Humboldt, Lorenz Oken, Carl Gustav Carus, Karl Ernst v. Baer und Johannes Müller', Stuttgart: Hippokrates-Verlag Marquardt & Cie., 1949. Hermann Bräuning-Oktavio, 'Goethe und Oken, ihre Beziehungen 1805–1811. Huldigung und Präokkupation', in: *Goethe*, 17(1955), pp. 254–273. Hermann Bräuning-Oktavio, 'Oken und Goethe im Lichte neuer Quellen', *Begegnungen und Gespräche*, 1959, pp. 36–48. Heinrich Düntzer, *Zu Goethes Jubelfeier*, Elberfeld: Bädeker, 1849. M. Pfannenstiel, R. Zaunick, 'Lorenz Oken und Johann Wolfgang von Goethe, dargestellt auf Grund neu erschlossener Quellen', *Sudhoffs Archiv*, 33(1940), pp. 113–173. A. Usterii, 'Lorenz Oken und Goethe', *Goethemuseum*, 9(1930), n/a.

⁵³ Olaf Breidbach, 'Oken in der Wissenschaftsgeschichte des 19. Jahrhunderts', in: Olaf Breidbach, Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779–1851). Ein politischer Naturphilosoph*, Berlin, Heidelberg: Springer,

periodical *Isis*.⁵⁴ All of them, however, focus on short spans of Oken's roughly three and a half decade-long editorship. This thesis, in turn, looks at his editorship in a bigger context, namely at its implications for Oken's whole professional career. It does so by introducing a novel theory namely that Oken's editorship was a financial safety net for him. More generally, this chapter demonstrates that early sole editorship in its third generation in the German lands did not necessarily serve the purpose of philosophical self-fashioning.

The same year as Oken commenced sole editorship, some 600 miles away, in London, William Thomas Brande published the first number of the *Quarterly Journal of Science and the Arts*. What is currently known about Brande, the protagonist of the sixth chapter, is mainly due to his professorship at the Royal Institution.⁵⁵ Only a couple of articles have dealt with other of Brande's activities such as lecturing, and none of them was devoted to Brande's sole editorship.⁵⁶ Yet, Brande's editorial endeavor makes for an interesting case study: Brande had to negotiate his own interests with that of the Royal Institution *and* his publisher John Murray. He had to assume both group-based as well as individual-run editorial rationales. Similarity with Walch becomes apparent: like Walch, Brande balanced two different, somewhat conflicting forms of philosophical editorship—and he did so in a similarly unsuccessful manner as Walch. Brande's case study reveals that early sole editorship's development in its second generation in Britain was not straightforward and did not go from difficult beginnings to flourishing within but a few decades: Brande's editorial undertaking not only faced irrelevance but, due to a number of editorial blunders, was at times also potentially detrimental to Brande's philosophical reputation and self-fashioning.

2001, 15-33. Pierce Mullen, 'The Romantic as Scientist: Lorenz Oken', *Studies in Romanticism*, 16(1977), pp. 381–399. G.A. Kertesz, 'Notes on *Isis* von Oken, 1817–1848', *Isis*, 77(1986), pp. 497–503.

⁵⁴ Examples: Roman Göbel, 'Das wissenschaftliche Profil der *Isis* oder Encyclopädische Zeitung von Lorenz Oken in ihrem gesamten Erscheinungszeitraum von 1817 bis 1848', Master Thesis, University of Jena, 2012. Heinz Degen, 'Lorenz Oken und seine *Isis* um die Gründungszeit der Gesellschaft Deutscher Naturforscher und Ärzte', *Naturwissenschaftliche Rundschau*, 8 (1955), No. 4 pp. 145-150; No. 5, pp. 180-189. Katrin Stiefel, 'Zwischen Naturphilosophie und Wissenschaftspolitik: Zum Profil der *Isis* oder Encyclopädischen Zeitschrift von Oken als naturwissenschaftliches Publikationsorgan in den Jahren 1817 bis 1822', *Berichte zur Wissenschaftsgeschichte*, 26(2003), pp. 35-56. Claudia Taszus, 'Lorenz Okens *Isis* (1816-1848) Zur konzeptionellen, organisatorischen und technischen Realisierung der Zeitschrift', *Blätter der Gesellschaft für Buchkultur und Geschichte*, 12/13(2008), pp. 85-154. Claudia Taszus, 'Okens *Isis*. Pressefreiheit, Restriktionen und Zensur in Mitteldeutschland in der ersten Hälfte des 19. Jahrhunderts', *Jahrbuch für Europäische Wissenskulturr*, 4 (2008), pp. 205-241.

⁵⁵ Bence Jones, *The Royal Institution: Its Founder and Its First Professors*, London: Longmans, Green & Co., 1871. Jon Topham, 'The scientific, the literary, and the popular'. E. Ironmonger, 'William Thomas Brande (1788–1866)', *Proceedings of the Royal Institution of Great Britain*, 38 (1960–61), pp. 450–61. Frank A.J.L. James, Brande, William Thomas, *Oxford Dictionary of National Biography*, <https://doi.org/10.1093/ref:odnb/3258>, accessed September 29, 2018.

⁵⁶ Elizabeth Haigh, 'William Brande and the chemical education of medical students', in: Roger French, Andrew Wear, eds., *British Medicine in an Age of Reform*, London: Routledge, 1991, 186–202. Aubrey A Tulley, 'The Chemical Studies of William Thomas Brande', MSc Thesis, University of London, 1970. C. H. Spiers, 'William Thomas Brande, leather expert', *Annals of Science*, 25(1969), pp. 179–201.

In short, this thesis establishes that early sole editorship in its first generation demanded a novel editorial mindset (Chapter One), could yield significant rewards including philosophical self-fashioning (Chapter Two), could somewhat challenge traditional philosophical infrastructures (Chapter Three) and offered some form of philosophical self-fashioning even to individuals without philosophical inclinations (Chapter Four). In its second and third generations, early sole editorship was not necessarily used for self-fashioning as a man-of-science anymore (Chapters Five and Six) and could be outright detrimental to one's philosophical reputation (Chapters Five and Six).

There were strong contrasts in early sole editorship between the Heliges Römisches Reich and Britain, most prominently: the editor-run periodical arrived almost 25 years later in Britain than in the Germanies, and there were only two sole editors in Britain during the late 1790s and 1800s. To set the focus of this thesis on the two countries means to create strong opposites—but, thereby, also to uncover a broad spectrum of sole editorship's causes and effects. It also means to break with the scholarly tendency to use France as a contrast to Britain.⁵⁷ This choice has usually been influenced by the fact that the two countries had centralized institutions that embodied legitimate philosophical and scientific authority in the eighteenth and nineteenth centuries, namely the Royal Society and the Académie des sciences. But a comparative approach using Britain and the Heiliges Römisches Reich promises to yield a more nuanced understanding of early sole editorship as to whether we should interpret it as a transnational phenomenon or as a mirror of national cultural peculiarities—this thesis puts forward that we can consider early sole editorship as both.⁵⁸

One of the consequences of developing a transnational scholarly approach is that some incompatibility in terminology becomes apparent. Editor-run journals have generally been called 'commercial' in Anglo-American scholarship, following the work of Meadows and Brock who used this term on a regular basis, while the work of Topham has shown the stake of publishers in the

⁵⁷ Csiszar, *The Scientific Journal*. Susan Sheets-Pyenson, 'Popular science periodicals in Paris and London: The emergence of a low scientific culture, 1820–1875', *Annals of Science*, 42(1985), pp. 549–572. S. Botein, J. Censor, H. Ritvo. 'The Periodical Press in Eighteenth-Century English and French Society: A Cross-Cultural Approach', *Comparative Studies in Society and History*, 23(1981), pp. 464–490. Sally Shuttleworth, Geoffrey Cantor, 'Introduction', in: Geoffrey Cantor, Sally Shuttleworth, George Smith, eds., *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*, Cambridge and London: MIT Press, 2004. Aileen Fyfe, Bernard Lightman, eds. *Science in the Marketplace. Nineteenth-century sites and experiences*, Chicago and London: University of Chicago Press, 2007.

⁵⁸ On comparative methodology: Jürgen Kocka, Heinz-Gerhard Haupt, *Geschichte und Vergleich. Ansätze und Ergebnisse international vergleichender Geschichtsschreibung*, Frankfurt/Main, New York: Campus, 1996 (particularly the Introduction). John Breuilly, *Labour and Liberalism in nineteenth-century Europe. Essays in Comparative History*, Manchester: Manchester University Press, 1992 (particularly pp. 1–25).

editorial venture, thereby cementing this term.⁵⁹ The conceptualization as ‘commercial’ has helped to distinguish the periodicals from the transactions and proceedings of societies and academies, which appear to have not been driven by pecuniary incentives. This thesis discusses the close links between editor-run journals and academia in the Heiliges Römisches Reich. The three British individual case studies, in turn, complicate the idea of the editor-run periodical as a mere commodity. Therefore, the term ‘commercial journals’ will not be used in this thesis. The more neutral terms ‘editor-run journals’ and ‘sole editorship’ are used instead.

In approaching the early history of the editor-run periodical from the actor-oriented perspective and employing mainly a qualitative method, this dissertation follows the warnings of scholars such as the media and communication researcher James Curran. Curran criticises that ‘[m]edia history tends not to illuminate the links between media development and wider trends in society because it is often narrowly focused on the content’.⁶⁰ He continues that a media-oriented—in contrast to an actor-oriented approach—is prone to ‘fractured and incomplete understandings of the historical role of the media.’⁶¹ This thesis also mirrors the observation of historians Asa Briggs and Peter Burke that ‘(t)he “what” (content) [and] the “who” (control) [...] matter equally’.⁶²

All in all, the thesis will demonstrate that in contrast to today’s idea of the scientific journal as an instrument of scientific communication, this particular function was a by-product of early editor-run periodicals and would become these journals’ main role only later, after the 1820s. This dissertation will reveal that early sole editorship was one highly promising way in which an individual could signal others ‘I am a philosopher’, before the consolidation of a scientific education, scientific career or, for that matter, science itself in the Germanies and Britain—this capacity allowed early sole editorship to challenge the very pillars of philosophic infrastructures.

⁵⁹ W. H. Brock, ‘The Development of Commercial Science Journals in Victorian Britain’, in: A. J. Meadows, ed., *Developments of Science Publishing in Europe*, Amsterdam, New York, and Oxford: Elsevier Science Publishers, 1980, 95-122. Samuel Lilley, ‘Nicholson’s Journal, 1797-1813’, *Annals of Science*, 6(1948), pp. 78-101.

⁶⁰ James Curran, ‘Media and the Making of British Society c. 1700-2000’, *Media History*, 8(2002), pp. 135-154, 135.

⁶¹ *Ibid.*, 135.

⁶² Peter Burke, Asa Briggs, *Social History of the Media: From Gutenberg to the Internet*, Cambridge: Polity Press, 2009, 5.

CHAPTER ONE
JOHANN ERNST IMMANUEL WALCH:
LABOUR PAINS OF SOLE EDITORSHIP

INTRODUCTION

‘First, we need at least six able and permanent assistants, two for mineralogy, two for botany—and two for zoology’, wrote Johann Ernst Immanuel Walch (1725—1778) to the publisher Johann Jakob Gebauer (1745—1818) in early 1773.⁶³ It appears to have been Walch’s first editorial decision following his acceptance of Gebauer’s request that he create and edit a natural historical periodical. Put differently: the history of *Der Naturforscher*, which Kronick and scholars after him have come to think of as one of the earliest editor-run journals in the German lands, began with its editor’s acknowledgement that one man was not enough to cope with the editorial workload—and *Der Naturforscher* required a group of editors.⁶⁴

In 1773, when Walch accepted Gebauer’s offer, he was a professor of poetry and eloquence at the University of Jena and a civil servant with the rank of Hofrat to Duchess Anna Amalia (1739—1807) of Saxe-Weimar, which meant that Walch was involved in local court proceedings and other low-level administrative responsibilities. Walch was an established, respected professor, yet his passion was not poems but petrifications—and his editorship, as Walch most likely hoped, would help him to position himself amidst academic natural historians.

Walch came of age in the first half of the eighteenth century when transactions were the dominant form of philosophical journals containing mainly original pieces in the German lands. But transactions were commonly the effort of an editorial group and this practice shaped Walch’s understanding of conducting a journal. Additionally, Walch was also deeply influenced by his own group-based editorial involvement in local, yet non-philosophical, societies. The times in which he lived as well as his experiences led Walch to assume sole editorship with a group-based rationale.

This chapter will discuss the three problems that ensued from this rationale: first, Walch was not able to recruit the assistant editors he envisioned, which, second, prompted Gebauer to get involved and undermine Walch’s editorial influence and, third, led to the publisher’s long-term

⁶³ Johann Ernst Immanuel Walch to Johann Jacob Gebauer, March 15, 1773. Gebauer-Schwetschke Verlagsarchiv, Halle, (henceforth: Verlagsarchiv) A 6.2.6 Nr. 13228. (See Appendix.)

⁶⁴ Kronick, *A history of scientific and technical periodicals*, 98.

editorial involvement and Walch's increasing withdrawal from the editorial endeavour.

The individual case study will shed light on two central features of early sole editorship: first, the investigation will demonstrate how sole editorship fused with academia in the German lands, thereby providing a historical account of an editorial model—namely today's academic journal—which we seem to have grown so used to that it generally passes unregarded. Second, this case study will illustrate that the novel editor-run journal required its conductor to strategically break with custom and established norms.

This investigation is based on ca 200 letters held at the Gebauer-Schwetschke Verlagsarchiv in Halle, Germany. A couple of scholars have consulted some of these letters to gain a better understanding of the Gebauer publishing company in particular and German Enlightenment publishing in general.⁶⁵ To this end, a few scholars have also turned to and discussed some contents of *Der Naturforscher*.⁶⁶ But this is the first individual case study of Walch's editorship.

Note: The original German quotes are provided in the Appendix.

GERMAN CONTEXT OF SOLE EDITORSHIP

Older historical scholarship suggested that philosophical academies and societies were the driving force behind the rise of philosophical research in the Heiliges Römisches Reich.⁶⁷ But this theory has been questioned and refuted over the last couple of years.⁶⁸ Instead, it appears that universities and institutions of higher education were 'the most concentrated spaces of well-educated researchers'.⁶⁹ These researchers 'depended on universities as the place of production, diffusion and storing of philosophy'.⁷⁰

⁶⁵ Anne Purschwitz, 'Halle als medialer Standort zur Zeit der Aufklärung. Das Verlagshaus Gebauer und die halleschen Zeitschriften 1747–1810', in: Daniel Fulda, Christine Haug, eds., *Merkur und Minerva*, Buchwissenschaftliche Beiträge aus dem Deutschen Bucharchiv München, vol. 89, Wiesbaden: Harrassowitz Verlag, 2014, 235–256. Wolfram Kaiser, Werner Piechoski, 'Hallesches Druck – und Verlagswesen des 18. Jahrhunderts im Dienste der medizinisch-naturwissenschaftlichen Publizistik', *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg. Mathematisch-naturwissenschaftliche Reihe*, 20(1972), pp. 61–85.

⁶⁶ Hans-Joachim Kertscher, 'Ein Hallescher Verleger mit naturwissenschaftlichen Ambitionen: Johann Jakob Gebauer', *Cardanus 2: Die >exakten< Wissenschaften zwischen Dilettantismus und Professionalität*, 2(2001), pp. 47–73. Ute Schneider, 'Für Kenner und Liebhaber. Zur Idee und Konzeption der Zeitschrift „Der Naturforscher“', in: Tanja van Hoorn, Alexandra Kosenina, eds., *Naturkunde im Wochentakt: Zeitschriftenwissen der Aufklärung*, Bern, Oxford: Peter Lang, 2014, 137–156.

⁶⁷ See, for example, Jürgen Voss, 'Die Akademien als Organisationsträger der Wissenschaften im 18. Jahrhundert', *Historische Zeitschrift*, 231(1980), pp. 43–74. Klaus Garber, Heinz Wismann, eds., *Europäische Sozietätsbewegung*, 2 vols. Tübingen: Niemeyer, 1996. Holger Zaunstöck, Markus Meumann, eds., 'Sozietäten, Netzwerke, Kommunikation', *Hallesche Beiträge zur Europäischen Aufklärung*, vol. 21, Berlin, Boston: de Gruyter, 2003.

⁶⁸ See discussion of Anne Mariss, "A world of new things". *Praktiken der Naturgeschichte bei Johann Reinhold Forster*, *Campus Historische Studien*, vol. 72, Frankfurt, New York: Campus Verlag, 2015, 275–6.

⁶⁹ Johann David Michaelis, *Raisonnement über die protestantischen Universitäten in Deutschland*, Frankfurt am Main/Leipzig: Andreae, 1776, Reprint: 1973, 89 f.

⁷⁰ Mariss, 276.

During the Early Modern period and in the course of the eighteenth century, German universities—particularly Protestant ones—underwent elemental changes that not only stimulated but also rewarded the editing of periodicals. To simplify the developments, one can use Rudolf Stichweh's idea of decoupling (*Entkoppelung*) of the university and Marian Füssel's concept of incorporation (*Eingliederung*). First, German universities were increasingly decoupled from ecclesial influence, which happened before 1700. After 1700, in turn, sovereigns incorporated academic establishments more and more as strategic instruments within their respective *Territorialstaaten*.⁷¹

Monarchs and their administrative cadres increasingly considered universities as sources of economic and geo-political advantages and that academic institutions should exist to serve a state's needs.⁷² Leading 'Kameralisten', including Michaelis, 'treated the university as a state business venture',⁷³ relying on academia to, for example, produce highly capable civil servants who could 'administer the increasingly complex economic interests of the early modern state'.⁷⁴

As a 'Kameralist', Michaelis was an adherent to the Kameral-Wissenschaft which 'concerns itself with the means of raising revenues for the Landes-Fürst, their general improvement and utilization in the maintenance of the commonweal [gemeinen Wesens] so that every year a surplus remains'.⁷⁵ More precisely, Kameralisten believed that the German sovereigns enjoyed absolute authority and that officials executed their decisions. These officials, to put it somewhat simplifying, saw their sovereigns' central goal in their territories' economic growth which could be fostered and directed by their interventions.⁷⁶ To this end they made use of philosophy (for example of chemical knowledge for mining processes), starting in the last third of the eighteenth century.⁷⁷

During this time, German sovereigns began to compete with each other to staff their academic

⁷¹ Rudolf Stichweh, *Der frühmoderne Staat und die europäische Universität zur Interaktion von Politik und Erziehungssystem im Prozess ihrer Ausdifferenzierung (16.-18. Jahrhundert)*, Frankfurt am Main: Suhrkamp, 1991. Marian Füssel, 'Akademische Lebenswelt und gelehrter Habitus, Zur Alltagsgeschichte des deutschen Professors im 17. und 18. Jahrhundert', *Jahrbuch für Universitätsgeschichte*, 10(2007), pp. 35-51.

⁷² M. Hofstetter, *The Romantic Idea of a University: England and Germany, 1770-1850*, Houndsmills: Palgrave, 2001, 6.

⁷³ Christophe Charle, 'Grundlagen', in: Walter Rüegg, ed., *Geschichte der Universität in Europa*, vol. 3, München: CH Beck, 2004, 56. Hofstetter, 6.

⁷⁴ Marcus Popplow, 'Economizing Agricultural Resources in the German Economic Enlightenment', in: Ursula Klein, E. Spary, eds., *Materials and Expertise in Early Modern Europe: Between Market and Laboratory*, Chicago: University of Chicago Press, 2010, 261-287, 270.

⁷⁵ Justus Christoph Dithmar, *Einleitung in die Oeconomische Policey und Cameralwissenschaften*, Frankfurt a.O.: Johann Christian Clepb, 1755, 242.

⁷⁶ For a concise yet informative overview of the different periods of cameralism and its roots see Hubert Johnson, 'The Concept of Bureaucracy in Cameralism', *Political Science Quarterly*, 79(1964), pp. 378-402.

⁷⁷ Lars Behrisch, 'Statistics and Politics in the 18th Century', *Historical Social Research / Historische Sozialforschung*, 41(2016), pp. 238-257.

institutions—not only with suitable but also with well-known professors. Monarchs believed that renowned academics would bestow honour and reputation on their universities, and themselves, and could attract students, thereby generating more financial resources and security for their states.

By the 1770s, finding, assessing and hiring the best and the brightest was still very much a process dominated by personal networks, privileges and sympathies.⁷⁸ Yet, governing elites increasingly interpreted the number of publications that an applicant had to his name as an indicator of achievement when considering candidates for academic posts. For example, the leading university of the eighteenth century, Göttingen, founded by the Hanoverian ruler and King of Great Britain and Ireland, Georg II, regularly included the publication record in its assessment of candidates, ever since its creation in 1737.⁷⁹ Prussia adopted a similar stance around the 1750s and other German states followed thereafter.⁸⁰

Those who wished to work as a professor had to increasingly ‘pass muster with bureaucratic or rationalized criteria for appointment, which included productivity in publication’.⁸¹ Publications were becoming a requirement to advance through academic ranks in the German lands.⁸² In the second half of the eighteenth century, the first step in an academic career was the doctorate. Then, to become an extraordinary professor, one needed three more disputation-dissertations or publications. Finally, to become an ordinary professor, an academic needed three more publications. That made a minimum of seven publications to become an ordinary professor.

But publishing did not only become an instrument of academic advancement—it could also generate recognition and renown.⁸³ Publishing—including periodical publishing—could confer what Clark dubbed ‘charisma’ on an academic.⁸⁴ As a chemical researcher observed for the second half of the eighteenth century: ‘A young philosopher cannot do anything better for himself than sharing as many and as important results of his work with the public as possible. All the more will he gain recognition [...] and will benefit considerably.’⁸⁵

⁷⁸ Hans-Uwe Lammel, *Klio und Hippokrates: eine Liaison littéraire des 18. Jahrhunderts und die Folgen für die Wissenschaftskultur bis 1850 in Deutschland*, Stuttgart: Franz Steiner Verlag, 2005, 291.

⁷⁹ Margrit Rollman, *Der Gelehrte als Schriftsteller: Die Publikationen der Göttinger Professoren im 18. Jahrhundert*, PhD Thesis, University of Göttingen, 1988, 65.

⁸⁰ Clark, 259f.

⁸¹ *Ibid*, 3.

⁸² Sven Aage Jørgensen, Klaus Bohnen, Per Øhrgaard, *Aufklärung, Sturm und Drang, frühe Klassik, 1740-1789*, München: C.H. Beck, 1990, 87.

⁸³ Clark, 4.

⁸⁴ *Ibid*, 248.

⁸⁵ Wilhelm Ostwald, *Handbuch der allgemeinen Chemie, Die chemische Literatur und die Organisation der Wissenschaft*, vol. 1, Leipzig: Akademische Verlagsgesellschaft, 1919, 7. Ambitious students were interested in

However, in 1773, when Walch agreed to sole editorship, he was not a rising but already an established professor—and did not plan to pen and publish a book or article, but to edit a periodical. Did the governing elites view sole editorship in a similarly favourable light as authoring? Was sole editorship an atypical step at Walch's stage of career? Would Anna Amalia's and Grand Duke Carl August's (1757—1828) councillors as well as the administrative elites at the University of Jena welcome Walch's sole editorship?⁸⁶

Since historians so far have not distinguished between authorship and editorship during the second half of the eighteenth century, this discussion will take place here, albeit in a concise manner. It appears that it was not so much (the form of) *authorship* that counted in the eyes of the ruling elites—but *successful publishing*. There are prominent examples to underpin this assumption: Johann Gottlieb Fichte (1762—1814), who had begun but never completed his studies, was made professor of philosophy at Jena in 1794—because he had previously made a reputation for himself, as a writer. August Gottlieb Meissner (1753 –1807), today thought of as the founder of German crime and detective novels, became professor also thanks to his literary rather than academic credits. And at the time that Friedrich Schiller (1759—1805) received the offer of Professorship in History at Jena, Schiller was celebrated for the plays and poems he had published—but lacked an academic education and career altogether.

Ruling elites took a similar approach to natural history. When, for example, choosing a new professor at the University of Halle, the ministers sought to recruit individuals 'whose fame either equalled or surpassed that of their predecessors'.⁸⁷ A consequence of this policy was that Johann Reinhold Forster (1729—1798), who had accompanied James Cook (1728—1779) on his second Pacific voyage, became professor of natural history at Halle in 1779. Forster had formally graduated from Halle—but in theology. The ministers ensured that he received honorary doctoral degrees, from both the Faculties of Philosophy and Medicine, in order to be able to lecture at both.⁸⁸

According to Steffen Martus' study, to advance within the Philosophical Faculty, which during the Enlightenment comprised subjects that were not part of one of the three traditional university

publishing their academic works—and found support among established professors, such as Joachim Georg Darjes, to publish their research. Strikes of genius, according to Darjes, were not only achieved by professors but also among the younger generation, see: Ulrike Löttsch, *Joachim Georg Darjes (1714–1791). Der Kameralist als Schul- und Gesellschaftsreformer*, Köln, Weimar, Wien: Böhlau Verlag, 2016, 274.

⁸⁶ Anna Amalia relinquished her regency to her eldest son, Carl August, on September 3, 1775.

⁸⁷ Johann Christoph Hoffbauer, *Geschichte der Universität zu Halle*, Halle: Schimmelpfennig und Companie, 1805, 330. (See Appendix.)

⁸⁸ *Ibid.* Mariss, 280.

faculties of theology, jurisprudence and medicine, one did not necessarily need to provide academic publications such as dissertations or text books; poems, biographies and other published work was equally acceptable.⁸⁹ And so, the regular publishing of a periodical could benefit academic editors and, particularly for the younger ones, become a way to move up through academic ranks.

This was probably also the case because renowned civil servants outside of academia had taken up editing around the 1750s and made it a respected activity. In conducting their journals, the 'Bergräte', 'Bergassessoren', 'Forsträte' and others signalled ambition and loyalty to their respective sovereign and put their knowledge to practical use, for the benefit of the state. Editorship, and later sole editorship, was but another means to serve your sovereign.

Johann Friedrich Stahl (1718–1790) and Albrecht Daniel Thaer (1752–1828) are two examples of high-ranking civil servants whose editorship likely benefitted their career and was actively supported by monarchs.

Stahl served the Duchy of Württemberg and, together with others, was responsible for developments in its forestry. He was one of the first to develop the 'systematic fundamentals for the emerging science of forestry, to assimilate existing experience and literature, and in addition to handle questions of forest economics'.⁹⁰ In 1763, eight years before François Rozier's journal came out in Paris and eleven years prior to *Der Naturforscher*, Stahl published the first issue of his *Allgemeines oekonomisches Forstmagazin*, the first periodical on forestry.⁹¹ Stahl never worked at a university but sought a teaching position. His editorship likely played a role in obtaining an appointment at the newly founded 'militärische Pflanzschule' at Castle Solitude in Württemberg. Stahl started his new employment in 1770, having published the last issue of his periodical a few months earlier in 1769.⁹²

Thaer, in turn, had studied medicine at the University of Göttingen but spent most of his adult life cultivating plants and flowers. His interest in and talent for agriculture earned him international renown and, ultimately, employment as an agriculturist at the court of Friedrich Wilhelm III.⁹³ The Prussian king encouraged and financially supported Thaer's work, including his editorship of the *Annalen der Fortschritte der Landwirtschaft in Theorie und Praxis* in which Thaer applied his

⁸⁹ Steffen Martus, *Aufklärung: Das deutsche 18. Jahrhundert - ein Epochenbild*, Berlin: Rowohlt, 2015.

⁹⁰ Kurt Mantel, 'History of the International Science of Forestry with special Consideration of Central Europe', *International review of forestry research*, 1(2013), pp. 1-38, 14.

⁹¹ Kirchner, vol. 1, 89.

⁹² Uwe Eduard Schmidt, 'Stahl, Johann Friedrich', *Neue Deutsche Biographie*, 25(2013), 35.

⁹³ Albrecht Daniel Thaer, *Rheinische Wochenschrift für Land- und Volkswirtschaft*, January 2, 1874, 94.

knowledge to agriculture.⁹⁴

In comparison to the journal that Walch would edit, these editors used periodicals to present mainly their own expertise and ideas as well as render time-consuming services to their sovereigns. Some editors, for example, collected information useful for administrative and bureaucratic elites, namely registers of births and deaths.⁹⁵ This was doubtlessly valuable to the enlightened absolute rulers who insisted on knowing their territories and their developments.⁹⁶ Philosophical experiments also found their way into these periodicals, but they were generally prompted by inquiries of colleagues (peers) or higher-ranking administrators. For example, in his *Fränkische Sammlungen von Anmerkungen aus der Naturlehre, Arzneygelahrtheit, Ökonomie* (1755–1768), Heinrich Friedrich Delius (1720–1791) published a report establishing the toxicity of a particular plant that went on to be used in court to decide a case.⁹⁷

Renowned cameralist editors repeatedly invited scholars and philosophers to ‘tell the world about their insights’, as the state economist and chief mining inspector (Berghauptmann) Johann Heinrich Gottlob von Justi (1717–1771) put it, as early as 1755.⁹⁸ Walch, and later Crell, were but two academics who followed this invitation.

In contrast to the cameralist philosophical journals, the periodicals of academic editors like Walch and Crell generally focussed on one particular subject rather than offering coverage of various fields of inquiry interesting to the governing elites. Academic editors nonetheless catered to central interests of German sovereigns. For example, mineralogy, a subject particularly dear to Walch, played a role for mining administrators, such as Justi—and since mining, together with agriculture and forestry, were still the main sources of the German states’ income, it stands to reason that Walch’s natural historical editorship would prompt positive rather than negative reactions by the governing elites of Saxe-Weimar, considering that Grand Duke Carl August himself would develop a lively interest in mineralogy. In February 1777, he appointed the ‘committee of mines’, headed by Goethe: the goal was to survey existing mines and plan the construction of new ones in particular, and innovate mining in general.⁹⁹ What’s more, the Grand Duke himself had an

⁹⁴ Mark Finlay, ‘The German Agricultural Experiment Stations and the Beginnings of American Agricultural Research’, *Agricultural History*, 62 (1988), pp. 41-50, 41. Hans Bentzien, *Damm und Deich - fruchtbar und reich: Märkische Miniaturen*, Berlin/Bonn: Westkreuz, 1998, 102.

⁹⁵ Heinrich Friedrich von Delius, ‘Anzeige der Geburts- und Sterbesummen’, *Fränkische Sammlungen von Anmerkungen aus der Naturlehre*, 5(1760), pp. 17-19.

⁹⁶ Albert Funk, *Kleine Geschichte des Föderalismus: Vom Fürstenbund zur Bundesrepublik*, Paderborn, München, Wien Zürich: Ferdinand Schöningh, 2010, 134.

⁹⁷ D.C.F Böckel, ‘Bemerkung einer tödlichen Wirkung der Wolfs-Kirchen’, *Fränkische Sammlungen von Anmerkungen aus der Naturlehre, Arzneygelahrtheit, Ökonomie*, 3(1758), pp. 44-47.

⁹⁸ Quoted after Popplow, 270.

⁹⁹ Karl Otto Conrady, *Goethe – Leben und Werk: Erster Teil: Hälfte des Lebens*, Frankfurt am Main: Fischer, 2015, 345.

avid interest in ‘the various sciences of chemistry, botany, mineralogy, zoology and meteorology’.¹⁰⁰

For sovereigns such as Carl August, sole editorship likely did not only hold the promise of economic but also of cultural advantages: it could help a sovereign to self-fashion as an enlightened monarch, supporting philosophical insight and knowledge. Sole editorship translated into such general reputational advantages for the respective sovereign by bolstering a university’s renown. Ernst Brandes (1758—1810), rector at the University of Göttingen, explained: ‘Much of the renown of a university and its professors in Germany, and almost all the renown that a university and its members enjoy outside Germany, depends upon the published writings of the professors’.¹⁰¹ Brandes acknowledged that the University of Göttingen, arguably the most prestigious German academic institution of the eighteenth century, gained its international reputation thanks to their professors’ published works.¹⁰²

According to Martin Gierl, who has studied more than 70 periodicals with links to Göttingen academics between 1765 and 1815, ‘[f]irst it had been the leading, established professors of the faculties or disciplines, who started journals to further their influence, then, it became more and more the recently appointed newcomers, who wanted to kick-start their academic careers’.¹⁰³ Although Göttingen lay in the Kurfürstentum Hannover and was not under Anna Amalia’s and, later, Carl August’s auspices, the monarchs of Saxe-Weimar generally welcomed editorial endeavour of established professors like Walch.¹⁰⁴

Summing up, the eighteenth-century beginnings of philosophical sole editorship in the German lands were closely linked to the governing elites’ wish to strengthen both their economies and

¹⁰⁰ Julius Lowenberg, Robert Avé-Lallemant, Alfred Dove, eds., *Life of Alexander von Humboldt*, vol. I, Cambridge: Cambridge University Press, 2012, 205.

¹⁰¹ Ernst Brandes, *Ueber den gegenwärtigen Zustand der Universität Göttingen*, Göttingen: Johann Friedrich Röwer, 1802, 189. (See Appendix.)

¹⁰² Ibid.

According to Martin Gierl, between 1765 and 1815, roughly 70 journals existed with links to the acclaimed University of Göttingen—a number which was proudly quoted by university’s administrators in official reports that circulated through Europe. Martin Gierl, *Constructing Law: The Typology of judicial literature and the Göttingen Law Journals from 1760 to 1800*, Talk given at ESHS Annual Meeting in Prague, 2016.

¹⁰³ Martin Gierl, “Editor-Journals” - Professorenjournale Wissenschaftliche Fachjournale and the scientific periodicals in Germany / Göttingen 1765-1815’, Talk given at Workshop in St Andrews, January 19, 2018. Martin Gierl, “Editor-Journals” - Professorenjournale Wissenschaftliche Fachjournale and the scientific periodicals in Germany, Göttingen 1765-1815’, *Centaurus* Special Issue, 2019, forthcoming.

¹⁰⁴ Kirchner, Vol I, 123. However, the fact that the academics at the University of Jena did not produce a similarly high number of periodicals within five decades as did Göttingen was likely the consequence of an elemental difference between these two institutions of higher education: Göttingen’s professors, in contrast to Jena’s, were crucially influenced by the concept of ‘salutary competition’ among Göttingen professors that was upheld and bolstered by university administrators. See Christoph Meiners, *Ueber die Verfassung und Verwaltung deutscher Universitäten*, vol. 2, Göttingen: Johann Friedrich Röwer, 1802, 207. Martin Gierl, ‘Die Universität als Aufklärungsfabrik. Über Kant, gelehrte Ware, Professoren als Fabrikgesellen’, *Historische Anthropologie: Kultur, Gesellschaft, Alltag*, 13(2005), 2005, pp. 367-375.

reputation among their competitors in other German lands. As a consequence of the mercantilist ‘transformation of academic manners by ministries and markets’, those in charge of academic appointments opened up to an achievement-oriented and somewhat meritocratic approach to candidate selection.¹⁰⁵ Publishing activities were becoming one option to assess candidates—and editorship, as a form of publishing activity, was gaining momentum.

Governing elites appear to have generally welcomed philosophical sole editorship by already established professors like Walch. After all, this segment of academic staff could potentially display a broader and richer knowledge than younger, inexperienced professors or, as Gierl dubbed them, ‘newcomers’. On an intra-state level, editorship by established professors offered the governing elites new and potential useful, practical knowledge to boost economy, public health, etc. On an inter-state level, in turn, editorship could showcase the rich knowledge of established, renowned professors, thereby benefiting their university and their sovereigns’ reputation and self-fashioning ambitions.

Also, because civil servants had employed editorship for the sake of the state since the 1750s, philosophical sole editorship—despite its novelty in the 1770s—was generally not an obscure, contested activity, but a viable instrument for younger professors to further academic careers and older ones, like Walch, to further boost their reputation.

Short Biography of Walch with Respect to his Editorship

I. Interest and Work in Natural History

Walch’s education as a child and adolescent foreshadowed his later academic career. Latin, Hebraic and Greek languages as well as religion were the focus of his schooling.¹⁰⁶ As mentioned in the chapter’s introduction, Walch came of age in the first half of the eighteenth century and was influenced by a period in which society transactions rather than editor-run philosophical journals flourished both in the German lands as well as in Europe general.¹⁰⁷ This is likely the central reason why he would approach sole editorship with a society-based rationale. Even the title for Walch’s new periodical was inspired by his membership in a society: one of his peers at the ‘Disputiergesellschaft’ at Jena in the early 1750s was Christlob Mylius (1722–1754) who had

¹⁰⁵ William Clark, *Academic Charisma and the Origins of the Research University*, Chicago: University of Chicago Press, 2006, 3.

¹⁰⁶ Anon., *Lebensgeschichte des Joh. Ernst Immanuel Walch*, Jena: Maukische Schriften, 1780, 7.

¹⁰⁷ Denise Philips, *Acolytes of Nature: Defining Natural Science in Germany, 1770-1850*, Chicago and London: University of Chicago Press, 2012, 140. Examples of transactions: The Berlin Academy had its *Histoire* and *Mémoires*, the St. Petersburg Academy its *(Novi) Commentarii*, the Paris Academy its *Histoire*, the Royal Society the *Philosophical Transactions*, the Munich Academy its *Abhandlungen*, Göttingen its *(Novi) Commentarii*, Leipzig its *Nova acta* and Basel its *Acta Helvetica*.

edited a short-lived periodical called *Der Naturforscher* in 1748.¹⁰⁸

Although Walch was deeply interested in all three fields of natural history since the late 1740s, mineralogy was the centre of his work. But before assuming editorship, Walch's mineralogical track record consisted of just two publications. One was *Naturgeschichte der Versteinerungen* in four volumes (1755–1773) which comprised a survey of all known petrifications (fossils) at that time.¹⁰⁹ It had been commenced by the naturalist Georg Wolfgang Knorr (1705–1761). After Knorr's death, his heirs asked Walch to continue the work, which he did from 1762.¹¹⁰ In the end, the volumes consisted of more than 300 coloured engravings and were published to positive reactions of German and German-speaking natural historians; the Genevan geologist Horace Bénédict de Saussure (1740–1799) called it 'great and magnificent'.¹¹¹ It was also translated into French and Dutch.¹¹²

Walch's other mineralogical publication was *Das Steinreich*, which appeared with Johann Justinus Gebauer (1710–1772), father of Johann Jakob, in 1762 (vol. 1) and 1764 (vol. 2). *Das Steinreich* had caught the attention of mineralogical researchers, due to its diligence and the breadth of Walch's knowledge, so much so that a second edition was issued.¹¹³ The theory which Walch put forward in his work, in turn, did not necessarily help him to position himself among German mineralogists: he argued that 'petrifications are by no means to be taken as sports of Nature, but they are genuinely petrified bodies of the animal and vegetable kingdoms'.¹¹⁴ While this notion underlies today's palaeontology, it was not widespread in the 1760s and only started to assert itself against other interpretations and notions in the 1780s, after Walch's death.¹¹⁵ With his understanding of petrifications, Walch contradicted the theologically based explanations of his time, including the opinion that petrifications were 'sports of nature in stone' ('Naturspiele im Gestein') or that they were evidence of organisms that had perished during the Flood'.¹¹⁶

¹⁰⁸ Felicitas Marwinski, *Der Deutschen Gesellschaft zu Jena ansehnlicher Bücherschatz*, Thüringer Universitäts- und Landesbibliothek, 1999, 24. Christlob Mylius, *Der Naturforscher: Eine physikalische Wochenschrift auf die Jahre 1747 und 1748*, (1) 1749, published by Crull in Leipzig.

¹⁰⁹ Johann Ernst Immanuel Walch, *Naturgeschichte der Versteinerungen*, 4 vols., Nuremberg: Felsecker, 1755–1773.

¹¹⁰ Robert Kihm, James St John, 'Walch's Trilobite Research – a translation of his 1771 Trilobite Chapter', in: *Fantastic Fossils—300 years of worldwide research on trilobites*, New York State Museum, 2007, 115-140, 117.

¹¹¹ Horace Bénédict de Saussure, *Reisen durch die Alpen*, vol. 2, Leipzig: Johann Friedrich Junius, 1781, 86.

¹¹² Anon., *Lebensgeschichte*, 38.

¹¹³ Ibid 37.

¹¹⁴ Martin Guntau, 'The rise of geology as a science in Germany around 1800', in: C.L.E. Lewis, Simon Knell, eds., *The Making of the Geological Society of London*. The Geological Society, London, Special Publications, 317, 2009, 163–177, 166.

¹¹⁵ For more on Walch's research see Guntau, 163–177.

¹¹⁶ See Mike Reich and Joachim Reitner, 'Die Wiederentdeckung des „Schwäbischen Medusenhaputes“', in: Joachim Reitner, ed., *Paläontologische Gesellschaft. Jahrestagung, Geobiologie: 74. Jahrestagung der Paläontologischen Gesellschaft*, Göttingen, Reihe Universitätsdrucke, Göttingen: Universitätsverlag Göttingen, 2004, 190-1, 190.

II. Isolation and lack of regular exchange with natural historians

It was not only his theory that potentially isolated him from some German mineralogists—Walch seems to have also carried out almost all of his natural historical work alone, outside of societies and mineralogical associations, without regular meetings with other natural historians, without debates and exchange. Natural historical publications seem to have been Walch's main source of information and the biggest influence on his own work, including notably older work such as that of Eberhard Friedrich Hiemer (1682—1727), a doctor of Natural Philosophy at the Stuttgart court. In his *Schwäbisches Medusenhaupt* (1724), Hiemer interpreted fossils as animals and was one of the very first to do so.¹¹⁷ Walch referred to Hiemer in his first volume of *Das Steinreich*.¹¹⁸ But Hiemer, a member of the church-based union of the 'Diluvianer', invoked the Noachian Flood as an explanatory factor from which Walch would distance himself in his work.¹¹⁹

Like most well-educated young men from prosperous academic families—Walch's father was the renowned professor and theologian Johann Georg Walch (1693—1775) who had published Martin Luther's collected works to much success¹²⁰—Walch junior undertook a grand tour during his 20s. In 1747, his travels led him to Italy where he became particularly absorbed by mineralogical studies.¹²¹ During his travels he met some well-renowned natural philosophers like Daniel Bernoulli (1700—1782) and Johann Jakob Breitinger (1701—1776) but does not seem to have remained in touch with them on a regular basis throughout the years.¹²² His travels as a young man likely remained the closest that Walch ever got to an on-going face to face exchange with natural historians.

It seems that with his passion for natural history, Walch was somewhat ahead of his time at Jena. The 'Naturforschende Gesellschaft zu Jena', the first local natural philosophical society, would only be founded in 1793—almost fifteen years after Walch's death. Furthermore, Carl August would come to foster natural historical collections, libraries and research only once Walch died—including buying Walch's 'wide-ranging, distinguished and famous' *Naturalien-Cabinet* as well as his natural historical library from his widow for 100 Reichstaler and incorporating both into the

¹¹⁷ Eberhard Friedrich Hiemer, *Schwäbisches Medusenhaupt*, Stuttgart: Roesslin, 1724. Mike Reich, 'The 'Swabian Caput Medusae' (Jurassic Crinoidea, Germany)', in: Larry Harris et al., eds., Durham: *Proceedings of the 12th International Echinoderm Conference*, Durham, New Hampshire, USA, August 2006, 61-65, 61.

¹¹⁸ Johann Ernst Immanuel Walch, *Das Steinreich systematisch entworfen*, Halle: Johann Justinus Gebauer, 1762, 76.

¹¹⁹ Ibid 76.

¹²⁰ Hans-Joachim Kertscher, 'Halle an der Saale', in: Wolfgang Adam, Siegrid Westphal, eds., *Handbuch kultureller Zentren der Frühen Neuzeit*, vol. 1, Augsburg, Gottorf, Berlin and Boston: De Gruyter, 2012, 757-790, 784.

¹²¹ Anon., *Lebensgeschichte*, 27, 36.

¹²² Ibid. 16f.

University's collections.¹²³ But when Walch received Gebauer's editorial offer in March of 1773 there was neither a natural historical society or association nor any local natural historical collections and libraries at Jena.

Since Walch had been the first professor at the University of Jena to hold natural historical lectures, it stands to reason that he found individuals sharing his interest.¹²⁴ But the majority of his audiences were students. Walch himself acknowledged his local isolation in the same letter in which he accepted Gebauer's offer, concurring that he had nobody at Jena who would be completely apt for assisting editorship.¹²⁵ The professor likely hoped that editorship would help him overcome his (geographical) isolation from other academics working on natural history.

III. Walch and societies

This said, Walch was a member of several philosophical societies, including the 'Gesellschaft naturforschender Freunde zu Berlin' as well as the 'Naturforschende Gesellschaft zu Danzig'.¹²⁶ But—based on his surviving correspondence—before he turned to sole editorship, he does not seem to have been in regular exchange with fellow members. Letters held at the Universitätsbibliothek Leipzig, in turn, suggest that most of his interaction with natural historians was, in fact, to expand his natural historian collections. In letters to fellow natural historian Johann Hermann (1738—1800), for example, Walch acknowledged the receipt of a number of petrifications and commented on them.¹²⁷ A somewhat irregular exchange with natural philosophers and changing addressees is not surprising, considering that Walch—besides his other responsibilities—was spending a significant amount of time preparing the survey of all known petrifications for his *Naturgeschichte der Versteinerungen*, immediately before he became editor.

Walch's career as a professor of rhetoric and poetry appears to have been very time-consuming, too—also due to the fact that participation in local societies and associations was not only expected of the academics at Jena but, according to Jens Riederer was a means to further one's

¹²³ Marcus Ventzke, 'Das Herzogtum Sachsen-Weimar-Eisenach, 1775-1783', *Veröffentlichungen der Historischen Kommission für Thüringen*, Kleine Reihe, vol. 10, Köln, Weimar, Wien: böhlau, 2004, 392.
Andreas Thomas, 'Walch, Johann Ernst Immanuel (1725—1778)', in: Heiner F. Klemme, Manfred Kuehn, eds., *The Bloomsbury Dictionary of Eighteenth-Century German Philosophers*, London and New York: Bloomsbury, 2010, 828.

¹²⁴ Anon., *Lebensgeschichte*, 27.

¹²⁵ Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228. (See Appendix.)

¹²⁶ Anon., *Lebensgeschichte*, 2.

¹²⁷ Johann Ernst Immanuel Walch an Johann Hermann, June 1, 1769. Universitätsbibliothek Leipzig, Sammlung Nebauer, Slg. Nebauer/W/Se-Z/W722; Nebauer/W/Se-Z/W723. Walch to Hermann, August 17, 1769. Universitätsbibliothek Leipzig, Sammlung Nebauer, Slg. Nebauer/W/Se-Z/W723.

standing at the university altogether.¹²⁸ Walch was the President of the *Societatis Latinae Ienensis*, but only an ordinary member with the aforementioned 'Gesellschaft naturforschender Freunde zu Berlin' and 'Naturforschende Gesellschaft zu Danzig'.¹²⁹ Like almost all his peers at the University of Jena, he was a member of several societies at once and also belonged to the 'Teutsche Gesellschaft zu Jena'.¹³⁰ Both societies were closely linked to the university, with one of their aim being to further the education of its students. Walch's Latin Society was also devoted to the study of classic Roman writings as well as honing Latin skills.¹³¹ It seems that part of his geographical isolation from natural historians was Walch's time-consuming involvement in local, university-related society activities.

IV. Other advantages that Walch saw in Gebauer's offer

Gebauer offered Walch sole editorship at a particularly good moment: in 1773 the last volume of *Naturgeschichte der Versteinerungen* was scheduled to come out. Walch apparently did not have other mineralogical publications in the pipeline, since he agreed immediately to Gebauer's proposition. Strictly speaking, Gebauer had penned the letter, in which he made his offer, together with his mother, who, at that time, was involved in the family business due to the recent death of her husband and Johann Jakob Gebauer's inexperience as the head of the publishing company. The two wrote to Walch:

The currently prevalent taste for natural history has given us the idea to publish a monthly or a quarterly under the possible title of The Most Gracious of Newest Natural History. Since there is nobody who could create this book more diligently and advantageously than you, we are so bold to obediently ask you for the realisation of this planned book.¹³²

The Gebauer publishers had written Walch on March 12 and Walch penned his answer as soon as he received their letter, on March 15.¹³³ It seems therefore safe to say that Walch very much welcomed the opportunity of sole editorship and considered it beneficial for his natural historical and personal interests.

After all, by 1773, he had accumulated a rich *Naturalien-Cabinett* which he described in the following way:

It [natural cabinet] consists now of four rooms *à plein pied*; one of them holds the birds, fish

¹²⁸ Jens Riederer, *Aufgeklärte Sozietäten und gesellige Vereine in Jena und Weimar*, PhD Thesis, University of Jena 1995, 71.

¹²⁹ Anon., *Lebensgeschichte*, 2.

¹³⁰ Ibid.

¹³¹ A.G. Hoffmann, ed., *Allgemeine encyclopädie der wissenschaften und künste in alphabetischer Folge*, vol. 15, Leipzig: Brockhaus, 1838, 226.

¹³² Gebauer to Walch, March 12, 1773. Verlagsarchiv, A 6.2.6 Nr. 12891. (See Appendix.)

¹³³ Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228.

and four-legged animals, the other one the mollusc shells, corals, amphibians and insects, the third one the stones and earths, the fourth the petrifications; the ores, salts and resins are stored away from the four rooms, in a garden room.¹³⁴

Walch wished to make his natural cabinet more widely known. Sole editorship offered him the opportunity to do so, namely to write about the most outstanding pieces of his collections. 'I myself have some very beautiful wholly unknown insects and butterflies from the East and West Indies of which I will make good use in every future piece of *Der Naturforscher*', he shared his plan in a letter to Gebauer.¹³⁵

Authoring two mineralogical books had allowed Walch to distance himself from other groups interested in natural history, one such group being enlightened, fashionable owners of natural cabinets who collected rare and valuable minerals as well as other exotic items to impress the viewer and display their wealth and status. But, in early 1773, editorship held the promise of an additional advantage: furnishing Walch with a novel and a more versatile instrument to carve out the community of natural historians and mineralogists he wished to be a member of, participating in philosophical discourse regularly and intensively which he was not able to do locally.

Walch's publisher

Walch's editorship was made possible by Gebauer's aspiration to expand his publishing company's portfolio. Before he took over his father's business in 1773, the company had been mainly known for theological books as well as literary magazines and moral weeklies.¹³⁶ Walch's and Gebauer's fathers had successfully collaborated on a number of publications central to Gebauer's publishing house in the first half of the eighteenth century. Their most successful cooperation was the publishing of Martin Luther's collected works in 24 volumes, which Walch senior had edited.¹³⁷

For the younger Gebauer, the periodical press would become a focus of his publishing activities, so much so that he would go on to become the leading publisher of magazines and journals in Halle.¹³⁸ Gebauer deviated from the kind of periodicals that made up the core of his father's publishing portfolio: he turned to natural history and philosophy.¹³⁹ Between 1790 and 1800,

¹³⁴ Quoted after Sigmund Fellöcker, *Geschichte der Sternwarte der Benediktiner-Abtei Kremsmünster*, Linz: Feichtingers Erben, 1864, 136. (See Appendix.)

¹³⁵ Walch to Gebauer, August 21, 1774. Verlagsarchiv, A 6.2.6 Nr. 13933. (See Appendix.)

¹³⁶ On the theological profile of Gebauer publishing see Marcus Conrad, *Geschichte(n) und Geschäfte: die Publikation der "Allgemeinen Welthistorie im Verlag Gebauer in Halle (1744-1814)*, Wiesbaden: Harrassowitz, 2010, 18. For literary and moral weeklies see Purschwitz, 241.

¹³⁷ The Walch-Gebauer edition of Luther's works was considered one of the leading and best until the twentieth century, see: Kertscher, *Cardanus 2*, 47.

¹³⁸ Purschwitz, 238 and 241.

¹³⁹ *Ibid* 243.

Gebauer published twenty learned and general-audience periodicals.¹⁴⁰ Ultimately, as the market leader in learned periodicals between 1785 and 1815, Gebauer junior would play an important role in Halle's reputation as a 'centre of philosophical publishing'.¹⁴¹

Gebauer's diversification of print products as well as his emphasis on natural history and philosophy were probably at least to some degree informed by the observations he had made during the 1760s. At that time, he had been an apprentice to his father who was the official publisher to the University of Halle.¹⁴² Gebauer likely became aware of the growing importance of publishing for local lecturers and professors—as well as the expanding interest in natural history. For example, the University of Halle founded its first professorship in natural history as early as 1769, by separating natural history from the professorship of medicine to which it had previously belonged.¹⁴³ Such observations could have played into Gebauer's decision to finance an editor-run natural historical periodical. The fact that Gebauer himself was passionate about conchology in particular and natural history in general surely strengthened his resolve to publish a respective journal as well.¹⁴⁴

When wondering why it was Gebauer and not Walch who came up with the idea of a natural historical sole editorship, the answer probably lies, to some degree, in the different speeds with which natural history developed at the universities at Halle and Jena. Halle belonged to Frederick the Great's (1712—1786) Prussia; Jena, as mentioned earlier, to the tiny and resource-scarce Saxe-Weimar. Jena would not acquire a professorship in natural history until 1812.¹⁴⁵ Walch appears to have been, up until his death, not only the leading but also the only established professor furthering natural history at the University of Jena. He, for example, taught classes on mineralogy already since 1748.¹⁴⁶ When it came to natural philosophy, Walch experienced local isolation in a way Gebauer did not. Gebauer did not only witness the structural academic development of natural history at Halle but also, thanks to his family's business, was acquainted with local or

¹⁴⁰ Ibid 241.

¹⁴¹ Wolfram Kaiser, 'Werber Piechocki, 'Hallesches Druck- und Verlagswesen des 18. Und frühen 19. Jahrhunderts im Dienst der medizinisch-naturwissenschaftlichen Publizistik', in: *Wissenschaftliche Zeitschrift. Mathematisch-naturwissenschaftliche Reihe*, Halle: Univ.-Halle-Wittenberg, 1951, pp. 61-85, 63.

¹⁴² Kertscher, *Cardanus* 2, 48.

¹⁴³ Mariss, 280.

¹⁴⁴ Johann Jacob Gebauer authored and published the natural historical work *Systematisches Verzeichnis der Seesterne, Seeigel, Conchylien und Pflanzentiere* (1802) and was honorary member of the local Naturforschende Gesellschaft, founded in 1773.

¹⁴⁵ Thomas Bach, 'Dem Geist der Zeit eine neue Rechnung geben. Die Naturphilosophie und die naturphilosophischen Professoren an der Universität Jena', in: Gerhard Müller, Klaus Ries, Paul Ziche, eds., *Die Universität Jena: Tradition und Innovation um 1800*, Stuttgart: Steiner, 2001, 155—174, 163.

¹⁴⁶ In so doing, he was even ahead of the University of Halle where Heinrich Christian Albertis (1722—1782) held lectures on botany from 1749.

temporarily Halle-based natural historians such as Johann August Ephraim Goeze (1731—1793). Such circumstances shed some light on the reasons why it was Gebauer rather than Walch who developed the idea for a natural historical periodical.

Why Gebauer turned to Walch instead of a local professor is not entirely clear. It stands to reason that the close acquaintance between publisher and editor as well as positive cooperation of their fathers influenced Gebauer's decision. Furthermore, it cannot be ruled out that Gebauer attempted to win over a local professor for sole editorship but that the respective primary sources either did not survive or Gebauer and his mother made the offer directly to the professor in question, so that it remains unbeknown to us. Also, considering that the last volume of Walch's well-respected *Naturgeschichte* was scheduled to appear in 1773, Gebauer could have assumed that Walch's authorship would help to draw attention to a new natural historical periodical and boost its early sales.

But one of the striking observations about Gebauer is that money seems to have been neither his crucial motivation nor his central goal for *Der Naturforscher*. As a young successor to his father's business, and passionate about natural history himself, the periodical was his first step to define himself and his publishing house according to his liking. The relevant bookseller's accounts at the Gebauer-Schwetschke Verlagsarchiv do not seem to have survived, so that currently no comment as to the sales of *Der Naturforscher* can be made. It can, however, be said for sure that Gebauer would go on to become a very generous publisher, not shying away from costly and numerous engravings.¹⁴⁷ Additionally, the fact that *Der Naturforscher* continued after Walch's death—with Johann Christian Daniel von Schreber (1739-1810) as its editor—until 1804, suggests, that the editor-based project was not a financial failure or, if not financially, then notably useful to Gebauer's portfolio.

Walch's Concept of Sole Editorship

At the time, he accepted Gebauer's offer of editorship, Walch was already familiar with editorial tasks—but only in the context of society-run journals. As the President of the philological *Societatis Latinae Ienensis*, the professor had been a co-editor of and contributor to the society's transactions, the *Acta Societatis Latinae Ienensis*, composed in Latin.¹⁴⁸ As mentioned above,

¹⁴⁷ Johann Ernst Immanuel Walch, 'Vorrede', *Der Naturforscher*, 1(1774), pp. 3—14, 13.

¹⁴⁸ Bernd Naumann, 'Johann Ernst Immanuel Walch', in: H. E. Brekle, E. Dobnig-Jülch, H. Weiß, eds., *A Science in the Making. The Regensburg Symposia on European Linguistic Historiography*, Münster: Nodus, 1996, 185.

Walch also belonged to the 'Teutsche Gesellschaft zu Jena' that published the *Jenaischen Gelehrten Zeitungen*. He was involved in this publication as well, once again in both capacities, as co-editor and contributor. It stands to reason that Walch interpreted sole editorship in a similar way as group-based editorship: a highly promising social undertaking that brought together like-minded individuals on a regular basis and created learned discourse.

Walch approached sole editorship according to his previous experiences—but, at the same time, probed the advantages of heading a periodical. In the same letter to Gebauer in which he had accepted the offer of sole editorship, Walch carved out his central editorial policies. The first and foremost of them was, as we have seen earlier, that the professor wished to recruit assisting editors.¹⁴⁹ According to Walch, these individuals would pen original articles for the respective subject. So far, this set-up is reminiscent of Walch's experiences with society-run periodicals. But what would set him apart from these assisting editors, Walch continued, was the fact that he would be the only editorial agent to author pieces for all three fields covered by the periodical, zoology, mineralogy and botany.¹⁵⁰

In other words, Walch's concept of sole editorship was a two-level-hierarchical editorial group—with Walch having the last say. Due to a lack of sources it is difficult to say whether this set-up was similar to Walch's editorial work as the President of the *Societatis Latinae Ienensis*, overlooking the production of its transactions. But, as much as Walch valued an editorial community, he interpreted sole editorship as the chance to position himself in a central capacity without sharing its advantages and authority.

Envisioned Editorship-based Community and Ensuing Difficulties

In early May 1773, Walch sent his publisher the first list of individuals whom he envisioned as his assisting editors and planned to contact shortly.¹⁵¹ It contained fifteen names.

Six of the men were professors (some of them, like Walch, with additional administrative duties such as *Hofrat* and *Consistorialrat*). Four of the individuals on the list were civil servants outside of academia, two were physicians; two were clergymen, and one was a nobleman and researcher.¹⁵² Walch chose educated men: available biographies on thirteen of his candidates indicate that all thirteen held university degrees.

Walch's initial list suggests that the editor had a learned, academic exchange in mind, fostered by

¹⁴⁹ Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228.

¹⁵⁰ Ibid.

¹⁵¹ Walch to Gebauer, May 2, 1773. Verlagsarchiv, A 6.2.6 Nr. 13229.

¹⁵² See Appendix for names.

knowledgeable participants who pursued natural history through their own research. After all, of the thirteen men whose biographies have survived, twelve had published on natural history before Walch singled them out as his assisting editors. And the one of these thirteen who had not previously penned philosophical work, was an artist working as the official copper engraver to the Dresden court, Christian Gottfried Schulze. In short, Walch wished to surround himself with men he perceived as similar to himself: academics and civil servants with well-received natural historical publications, actively pursuing novel insights.

Walch's initial list of potential assisting editors illustrates that up to the point of becoming an editor, his main interest had rested with mineralogy: nine out of the thirteen men had a strong background in this field. Only three were primarily engaged in zoology and just one was devoted to botany.¹⁵³ One might assume that Walch's attempts to recruit assistant editors went particularly well with fellow mineralogists. But the reactions that he received suggest that he either did not know these men at all or had communicated with them only rarely in the past, since none of Walch's addressees expressed interest in an assisting editorship with him. Even more, six of these men, mainly professors, would never even contribute an article to Walch's periodical—including Friedrich Wilhelm Heinrich Martini, the founder of the 'Gesellschaft naturforschender Freunde zu Berlin' of which Walch was a member. Walch was surely familiar with natural historical publications and the general work of the men he had contacted; yet familiarity with publications was one thing, to persuade their authors to partake in his editorial undertaking—in a lesser role than his own—turned out a very different one.

Walch's failure to recruit assisting editors had doubtlessly a myriad of reasons. But his lack of previous communication with and isolation from the men he envisioned as his editorial community appears to have been one general cause for his difficulties. It seems that Walch had drafted his list based on which natural historians and philosophers he would have *liked* to be acquainted with rather than who in his established circle of acquaintances might have been interested in assisting editorship. Johann Hermann, the well-respected natural philosopher mentioned above with whom Walch had been in touch at least in 1769, was not on his editorial list—nor, in fact, were any of the philosophers and natural philosophers he had met during his grand tour in the late 1740s. This underpins the assumption that Walch wanted to instrumentalise editorship as a means to *create* his own community of like-minded natural historians.

Walch's isolation from other natural historians led him to overestimate the attractiveness that his

¹⁵³ It was not possible to establish the research focus of two men.

editorial offer would carry for other professors and civil servants devoted to natural history. One example is Friedrich August Cartheuser who edited *Vermischte Schriften aus der Naturwissenschaft, Chymie und Arzneygelahrtheit* and stopped when he was made professor at Gießen and later a Bergrath as well as Geheimrath. Cartheuser was particularly adept in mineralogy and published well-received works on mining. In May 1773, Walch assumed that Cartheuser would become a 'quite industrious' assistant editor—but Cartheuser, ultimately, never even contributed an article to Walch's periodical.¹⁵⁴

Several weeks into his attempts to recruit assistant editors, Walch was growing impatient. 'The number of friends of nature throughout whole of Germany with whom I am acquainted!' he wrote in a letter to Gebauer in July 1773, when finding assistant editors began to pose a serious challenge for him.¹⁵⁵ He continued:

I find among them only a few cognoscenti and among them even less such individuals who know how to communicate through publish-able pieces and how to make it [natural history] useful to the public. And among them I find still less who know what is new and what was already said and is established.¹⁵⁶

Walch was providing an excuse for why he had not yet recruited any assistant editor. And instead of changing his projected editorial set-up, he turned to other groups for potential recruits: this time he contacted less prominent natural historians, not professors and civil servants but mainly physicians.¹⁵⁷ Of the nine men he contacted ultimately only two, Johann Friedrich Gmelin (1748—1804) and Wilhelm Buchholtz (1734—1798), went on to contribute to his periodical. But even among these nine was nobody who agreed to assisting editorship.

Walch's difficulties with recruiting assistant editors suggest that he had not asked himself questions such as: what would have renowned men like Cartheuser gained from being a subordinate member of an editorial community? What impression would this form of editorship made on Cartheuser's sovereign, Frederick II (1720—1785), Landgrave of Hesse-Kassel? Could agreeing to Walch's offer translate into an indirect compliment to Walch's sovereign Carl August, but would be perceived as a slight by Cartheuser's own monarch? Walch's approach to his editorship suggests that he was not fully aware of the potential political implications of his undertaking and did not perceive journal conducting in deeper socio-cultural ways. Instead, he

¹⁵⁴ Walch to Gebauer, May 21, 1773. Verlagsarchiv, A 6.2.6 Nr. 13230.

¹⁵⁵ Walch to Gebauer, July 29, 1773. Verlagsarchiv, A 6.2.6 Nr. 13235.

¹⁵⁶ Ibid. (See Appendix.)

¹⁵⁷ See Appendix.

interpreted the phenomenon in terms of what it could yield for himself. Walch's experiences illuminate that the advent of sole editorship was not merely 'setting up a new kind of journal'—but posed a highly complex and challenging endeavour for German academics.

Gebauer's and Goeze's Editorial Influence

The difficulties with recruiting assisting editors did not only shape the later, actual community of Walch's contributors but his editorial approach in general. It seems that, somewhat disillusioned by the obstacles he encountered, Walch relinquished some editorial decision-making to Gebauer who also got involved in the recruitment of editorial helping hands during the summer of 1773.¹⁵⁸ Gebauer turned to Johann August Ephraim Goeze. Goeze had been on Walch's initial list of potential editorial assistants as one of the two clergymen and it appears that he had been included upon Gebauer's proposal. Walch left it to Gebauer to contact him.

Goeze was linked to Halle through his studies and to the Gebauer publishing company through his brother, Johann Melchior Goeze (1717–1786), who had published several works with Gebauer's father.¹⁵⁹ Johann August Ephraim had been acquainted and in contact with Gebauer senior since at least the mid-1750s.¹⁶⁰ And now, in 1773, Gebauer junior wanted to revive the contact between his family business and the pastor. The publisher persuaded the clergyman to become involved in the editorial project. It is unclear, however, how exactly Gebauer worded his offer—whether he considered Goeze as a potential co-editor of Walch, an assisting editor or in a subordinate editorial capacity.

Goeze, who had only recently developed a passion for natural history, namely in 1772, quickly established himself as a notable zoologist: he worked on aquatic invertebrates and was the first to discover tardigrades.¹⁶¹ He also contributed to modern parasitology by studying tapeworms.¹⁶² During the journal's editorial set-up in 1773, Gebauer and Goeze cooperated closely and communicated at least once a month.¹⁶³ From this early phase, Goeze took on editorial tasks such

¹⁵⁸ Johann August Ephraim Goeze to Johann Jakob Gebauer, January 19, 1774. Verlagsarchiv, A 6.2.6 Nr. 13488.

¹⁵⁹ Victor Carus, 'Goeze, Johann August Ephraim', *Allgemeine Deutsche Biographie*, 9 (1879), 530. Martin Müllerott, 'Goeze, Johann August Ephraim', *Neue Deutsche Biographie*, 6 (1964), 597. Johann Melchior Goeze to Johann Justinus Gebauer, November 24, 1749. Verlagsarchiv, A 6.2.6 Nr. 1782.

¹⁶⁰ Johann August Ephraim Goeze to Johann Justinus Gebauer, March 27, 1754. Verlagsarchiv, A 6.2.6 Nr. 5384.

¹⁶¹ For Goeze's discovery of tardigrades see: Joseph Seckbach, Aharon Oren, Helga Stan-Lotter, eds., *Polyextremophiles: Life Under Multiple Forms of Stress*, Dordrecht: Springer Science+Business, 2013, Introduction.

¹⁶² For Goeze's work on tapeworms see: John Ridley, *Parasitology for Medical and Clinical Laboratory Professionals*, Clifton Park: Delmar, 2012, 164.

¹⁶³ Goeze to Gebauer. Verlagsarchiv: August 28, 1773. A 6.2.6 Nr. 12860; September 11, 1773, A 6.2.6 Nr. 12863; September 15, 1773, A 6.2.6 Nr. 12864; October 26, 1773, A 6.2.6 Nr. 12869; November 13, 1773, A 6.2.6 Nr. 12872; no date, presumably 1773, A 6.2.6 Nr. 12859.

as ordering and taking care of the engravings to appear in the journal.¹⁶⁴ Furthermore, Goeze would go on to become the central contributor to *Der Naturforscher*: with altogether seventeen pieces between 1774 and 1778, Goeze would assume the role of a main author, second only to Walch who authored more than twice as many, namely forty, articles during these years.

Boasting a big international network, Goeze ultimately both helped to make *Der Naturforscher* known in countries such as Denmark, Switzerland and Holland—and also forwarded feedback of international readers to the publisher.¹⁶⁵ Among Goeze's international correspondents was, for example, the influential Swiss naturalist Charles Bonnet (1720–1793), who wished *Der Naturforscher* would be translated into French due to its usefulness.¹⁶⁶

Thanks to both his editorial assistance and his reputation as natural historian, Goeze played an important role for the periodical throughout Walch's editorship, even though the former was working more closely with Gebauer than with Walch. Goeze, for example, sent his articles to Gebauer, not Walch, and asked the publisher to communicate information to the editor instead of writing him himself. Walch, too, corresponded with Goeze mainly through Gebauer. This is somewhat surprising, considering that Walch had initially valued a strong two-level editorial hierarchy; one that did not include the publisher's regular participation but put him, the editor, in the centre.

The impression Gebauer had made in his initial letter to Walch was that of an inexperienced publisher looking for help of the well-established and well-connected natural historian Walch. But this impression faded quickly during the infrastructural set-up of *Der Naturforscher*, not only due to Walch's inability to find assisting editors and Gebauer's recruitment of Goeze. It was the young publisher who, for example, was also able to secure the services of the famous engraver Johann Stephan Capioux (1748–1813).¹⁶⁷ And from as early as May 1773, Gebauer also forwarded articles that he found worth publishing for Walch's consideration.¹⁶⁸ In other words, it appears that Gebauer strongly shaped both the periodical's early profile and Walch's editorship. Later, Gebauer and Goeze exerted strong influence on the editorial routine, so much so that it seems unsuitable

¹⁶⁴ Goeze to Gebauer, Verlagsarchiv: August 28, 1773, A 6.2.6 Nr. 12860; September, 11, 1773, A 6.2.6 Nr. 12863; September 15, 1773, A 6.2.6 Nr. 12864; October 26, 1773, A 6.2.6 Nr. 12869; November 13, 1773, A 6.2.6 Nr. 12872; no date, A 6.2.6 Nr. 12859; etc.

¹⁶⁵ Goeze to Gebauer, August 31, 1774. Verlagsarchiv, A 6.2.6 Nr. 13498

¹⁶⁶ Goeze to Gebauer, January 15, 1774. Verlagsarchiv, A 6.2.6 Nr. 13487.

¹⁶⁷ Johann Stephan Capioux to Johann Jacob Gebauer, August 28, 1775 and September 18, 1775. Verlagsarchiv, A 6.2.6 Nrs. 14078 and 14079.

¹⁶⁸ Walch to Gebauer, May 31, 1773. Verlagsarchiv, A 6.2.6 Nr. 13231.

to call Walch's *sole* editor. Furthermore, Walch was unable to successfully establish the kind of editorship he had envisioned. If this led him to grow disillusioned with the editorial undertaking, he did not show it in his letters.

Walch's approach to the later phase of editorial set-up and editorial routine

Gebauer's and Goeze's involvement in editorial proceedings first somewhat seemed as a collaboration with Walch—but, ultimately, eroded Walch's editorial authority. Walch, however, did not do anything to stop it. On the contrary: whether in line with his society-informed rationale or due to his disillusionment, Walch relinquished editorial power to his publisher on a regular basis. When Gebauer took the liberty of organising the sequence of articles for the second issue and sent the manuscripts off to the printer without consulting Walch, the professor did not criticise the publisher in any way, remarking only that he would have structured the contents differently.¹⁶⁹

Another illustrative example of Walch transferring editorial power upon his publisher is the journal's name. A 'short, simple title according to current taste, recommends the periodical to potential readers', Walch wrote to Gebauer, 'As for the title, I leave it to you to select one from the following three: 1) Der Naturforscher 2) Beyträge zu Naturkunde 3) Abhandlungen zur Naturgeschichte'.¹⁷⁰ Ultimately, it was the publisher and not the editor who gave one of the earliest and best known German editor-run periodicals its name.

Walch's letters from 1773 and 1774 paint the image that he acted like a consultant to Gebauer's editorial undertaking. Walch, for example, stressed the importance of the *Philosophical Transactions* in several of his letters, writing on one occasion unmistakably clear: 'This Londonian journal is absolutely indispensable'.¹⁷¹ Walch had explained to Gebauer what made the *Transactions* so valuable: 'The phil. Transactions holds a treasure on nature that has not been used in our Germany'.¹⁷² The editor first mentioned the *Transactions* in the same letter in which he accepted Gebauer's editorial offer—and more than one year later, in May 1774, was still reminding Gebauer of it.¹⁷³ Albeit the *Transactions* were notoriously difficult to acquire, which might explain why it took Gebauer altogether roughly fifteen months to establish regular access

¹⁶⁹ Walch to Gebauer, August 21, 1774. Verlagsarchiv, A 6.2.6 Nr. 13933.

¹⁷⁰ Walch to Gebauer, April 27, 1773. Verlagsarchiv, A 6.2.6 Nr. 13229. (See Appendix.)

¹⁷¹ Walch to Gebauer, September 8, 1773. Verlagsarchiv, A 6.2.6 Nr. 13241.

¹⁷² Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228. (See Appendix.)

¹⁷³ Walch to Gebauer, May 12, 1774. Verlagsarchiv, A 6.2.6 Nr. 13922.

to it, Walch's letters nonetheless portray him more as a consultant than the one in charge, finishing his paragraphs on the *Transactions* usually with remarks such as: 'But I leave everything to your wise decision'.¹⁷⁴ Such comments were not pure politeness or deference since they started to appear in Walch's letters after several months of cooperation with Gebauer—and after Walch's disappointment of not being able to find assistant editors—rather than being part of Walch's rhetoric from the very beginning, meaning from early 1773.

Once the editorial set-up was completed, Walch also regularly left it to Gebauer which papers to include in the periodical. In one instance, Walch questioned the validity of a piece by Gottfried August Gründler (1710—1775). Gründler had described the size of lizard eggs which, in Walch's eyes, were too big for lizards and, according to the editor, must have been the eggs of a snake. Walch did not simply send Gebauer a letter but also a set of both lizard and snake eggs. Considering his expertise and editorial prerogative, Walch's word should have sufficed. Taking such steps, Walch repeatedly undermined his own editorship as an instrument of philosophical self-fashioning and positioning amidst German natural historians.

That Walch had initially planned to use the periodical more intensively but later changed his mind is also illustrated by his approach to authoring prefaces. While setting up his editorship in 1773, Walch wrote to Gebauer that he would 'pen a small preface to each issue or each volume'.¹⁷⁵ Ultimately, however, he forewent the opportunity provided by prefaces to become visible to his readers, address them directly, provide them guidance on how to navigate his periodical, foster a closer relationship with and self-fashion as one them.

Walch prefaced only three issues. Besides the introductory one, he composed two prefaces for the purpose of reacting to readers' demand for an index: one to announce that an index would be issued in the tenth number and, in the tenth issue, an acknowledgment of the index which had been drawn up by one of the journal's contributors rather than Walch himself.¹⁷⁶ In his three prefaces, Walch spoke of an institute ('Institut') and society ('Gesellschaft') as being responsible for *Der Naturforscher*, displaying the rhetoric of a group-run periodical.¹⁷⁷ Such rhetoric was common for early editor-run journals in the German lands—but in Walch's case, the rhetoric

¹⁷⁴ Walch to Gebauer, September 8, 1773. Verlagsarchiv, A 6.2.6 Nr. 13241.

¹⁷⁵ Walch to Gebauer, September 24, 1773. Verlagsarchiv, A 6.2.6 Nr. 13244.

¹⁷⁶ Johann Ernst Immanuel Walch, 'Vorrede', *Der Naturforscher*, 2(1775), pp. 2-5. Johann Ernst Immanuel Walch, 'Vorrede', *Der Naturforscher*, 4(1777), pp. 2-15.

¹⁷⁷ *Ibid*, 2-15.

appears to have veiled his loss of interest in his editorship.

Gebauer's undermining of Walch's editorship and its consequences

Walch's low editorial visibility by way of prefaces—and Gebauer's presence on the cover of each new issue—had its consequences. Due to Gebauer's visibility, individuals who wished to contribute to the journal, such as the clergyman Jodocus Leopoldus Frisch (1714—1787), appear to have commonly reached out to the publisher instead of the editor. 'You are the procurer/supplier of the learned and popular Hallensian Naturforscher', Frisch wrote, 'I dare to engrave you with the modest request of giving me a short note whether this collection is edited by a Hallensian society of Naturforschenden, whether its permanent seat is Halle¹⁷⁸, furthermore, who the head or the president of this society is?'¹⁷⁹ Gebauer's reply does not seem to have survived but altogether six letters of Frisch at the Verlagsarchiv in Halle suggest that Gebauer presented himself in an editorial capacity since Frisch addressed his further questions as well as contributions to the publisher instead of Walch.¹⁸⁰

Gebauer was also in touch with the small group of most frequent contributors, such as August Christian Kühn (1743—1808). Kühn's letters indicate that Gebauer did not only possess the editorial capacity to change contents of the journal but was regarded as a guarantor of the periodical's quality. Kühn, for example, asked Gebauer to not waste space for 'superfluous, tedious' explanations of details 'which are unreliable and very dispensable for an aficionado'.¹⁸¹ In the same letter, Kühn criticised the colours of engravings, urging Gebauer to take better care of them altogether.¹⁸² It is unclear whether Kühn—or, for that matter, Gebauer—shared these musings with Walch, but it is safe to say that contributors, even the regular ones, considered Gebauer to be in charge of editorial decisions.

What is more, even old confidants of Walch, the family of Knorr whose *Die Naturgeschichte der Versteinerungen* Walch had continued after Knorr's death, began to communicate with Gebauer

¹⁷⁸ Some societies such, as the Leopoldina, changed their location, and were temporarily based at the town where their respective president lived. They were called 'Wandergesellschaften' (wandering societies).

¹⁷⁹ Jodocus Leopoldus Frisch to Gebauer, December 14, 1774. Verlagsarchiv, A 6.2.6. Nr. 13416. Further examples include Lorenz Spengler to Johann Jacob Gebauer, November 11, 1775. Verlagsarchiv, A 6.2.6. Nr. 14559. (See Appendix.)

¹⁸⁰ Frisch to Gebauer, Verlagsarchiv: January 22, 1775. A 6.2.6 Nr. 14126; February 12, 1775. A 6.2.6 Nr. 14127; October 11, 1775. A 6.2.6 Nr. 14128; November 12, 1775. A 6.2.6 Nr. 14129; November 15, 1775. A 6.2.6 Nr. 14130.

¹⁸¹ August Christian Kühn to Johann Jakob Gebauer, November 2, 1776. Verlagsarchiv, A 6.2.6 Nr. 15037. (See Appendix.)

¹⁸² Ibid.

instead of Walch, regarding editorial decisions for *Der Naturforscher*.¹⁸³ One might assume that Walch and Gebauer had divided editorial tasks between them—and had done so in a letter which by now has been lost. But in one of their letters to the publisher, the Knorr family apologised for having enclosed a letter for Walch in their previous correspondence to Gebauer, stressing that they ‘had been completely unaware of the forbiddance’ to do so.¹⁸⁴ The publisher wished to keep his editorial dialogue with the Knorrs a secret from Walch. Whether he succeeded, cannot be said for sure. But, if Walch knew, he likely perceived his editorship as shaky, with unclear rules of who was responsible for which editorial tasks and how much authority he truly had as an editor. Whatever Gebauer’s reasons, the publisher, ultimately, impeded Walch’s editorship and curtailed its potential of philosophical self-fashioning.

One general consequence of Gebauer’s editorial interaction with the contributors could have been that Walch did not receive all submissions to read and evaluate but only the ones that Gebauer approved of. Additionally, Walch was not necessarily aware of the criticism and recommendations that contributors and readers put to improve the periodical. Over time, this potentially led Walch to be somewhat out of touch with the two crucial groups, resulting in a further loss of editorial authority as well as the ability to use editorship strategically for his ends.

The surviving letters, however, do not suggest that Walch and Gebauer arrived at an impasse in their cooperation. In his correspondence, Walch remained polite and professional. And yet it is somewhat safe to assume that his interest in the editorship continued to shrink: the regularity of *Der Naturforscher* was decreasing. The only year that Walch and Gebauer issued four numbers of the periodical, as planned, was 1774. Next year, the number of issues went down to three, and in 1776 and 1777 *Der Naturforscher* came out twice a year. In 1778, in turn, only one issue appeared.

This development cannot be solely blamed on Walch’s declining health. He was plagued by illness only in the last year of his life, 1778—and even then he still maintained his editorial work: roughly one month before his death, he penned a letter to Gebauer regarding the articles for the next number of *Der Naturforscher*.¹⁸⁵ This letter did not sound any different than the earlier ones and was the typical length, namely four pages.¹⁸⁶ Instead, the irregularity with which *Der Naturforscher*

¹⁸³ Georg Wolfgang Knorr Seel. Erben to Johann Jacob Gebauer, August 7, 1774. Verlagsarchiv, A 6.2.6 Nr. 13720.

¹⁸⁴ Ibid. (See Appendix.)

¹⁸⁵ Walch to Gebauer, November 18, 1778. Verlagsarchiv, A 6.2.6 Nr. 16714.

¹⁸⁶ Ibid.

appeared was more likely linked to Walch's personal decision. Editorship had been a disappointment for him—but being involved in *Der Naturforscher* allowed him to pursue natural history, which was still one of his main passions. This might explain why the number of his articles for *Der Naturforscher* did not decrease over time. As mentioned above, Walch was the most frequent contributor, with 40 articles in 12 issues, including the prefaces.

Gebauer did not push Walch to devote more time to editorship. After all, Walch was a renowned professor and author, while Gebauer was a young publisher with yet limited experiences and no reputation. But Gebauer's contact with contributors signals that he was highly interested in natural historical editorship—potentially more so than Walch. Yet, Gebauer, to some degree, needed Walch because the professor instilled credibility in the editorial project and signalled expertise: Walch provided the periodical's only permanent link with academia, which bestowed some prestige on *Der Naturforscher* that someone like Goeze or Gebauer—or, for that matter, the small group of regular contributors—could not.

Walch's and Gebauer's different professional situations provide further explanation for Walch's decreasing interest and Gebauer's growing involvement in the editorial undertaking: Walch had an established career and decided for editorship out of personal passion for natural history—Gebauer was an inexperienced publisher who wanted to continue his father's lifework. Additionally, both were operating in two distinctively different towns—which appears to be mirrored in their respective approach to *Der Naturforscher*. Halle was three times the size of Jena, an academic and cultural center, publishing the most books/periodicals annually after Leipzig, Berlin and Vienna—Gebauer, in other words, confronted a strong competition and likely felt the pressure to push things along.¹⁸⁷ Compared to that, Walch did not feel any of the pressure, considering that Jena was neither a cultural nor an economic center.

The demographic make-up of the most frequent contributors

Sixty-six individuals contributed to the altogether 12 issues of *Der Naturforscher* during Walch's life time. *Der Naturforscher* featured original articles by twenty-five (non-German) foreigners. Most of the foreign contributors to the periodical were not mentioned in Walch's surviving letters to Gebauer which could mean that it was not his network of European contacts from which the

¹⁸⁷ C. H. Freiherr Von Hagen, *Die Stadt Halle*, Halle: Verlag Emil Barthel, 1867, 280.
Thomas Bürger, *Aufklärung in Zürich: Die Verlagsbuchhandlung Orell, Gessner, Füssli & Comp. in der zweiten Hälfte des 18. Jahrhunderts*, Archiv für Geschichte des Buchwesens, vol. 48, Frankfurt am Main: Buchhändler Vereinigung, 1997, 11.

periodical benefited here, attesting once again to Walch's limited role in the editorial undertaking.

During Walch's involvement in *Der Naturforscher*, from 1774 to December 1778, only two individuals, beside himself, contributed to each or almost each issue: the aforementioned clergyman Goeze published seventeen pieces and the physician Kühn authored eleven articles. Neither belonged to the demographic group that Walch originally aimed to reach when he set out in 1773. Although both Kühn and Goeze had completed their university degrees, they did not go into civil service or pursue an academic career. For them, natural history was a pastime. However, in 1773, Walch had sought to form a circle of assisting editors working in academia and state service—like him—since this would have been potentially more beneficial for his self-fashioning as a natural historian and mineralogist.

The other most frequent contributors—apart from Walch, Goeze and Kühn—were six individuals who authored less than ten and more than five pieces for the periodical. Among them we encounter Johann Friedrich Gmelin (1748–1804) who would later also pen submissions for Crell's chemical periodicals. Gmelin was the youngest of Walch's frequent contributors and, at the time he penned texts for *Der Naturforscher*, an extra-ordinary professor. In other words: this contributor needed publications. Working towards an ordinary professorship—which he obtained in 1778—he published eight pieces with Walch in 1774 and 1775.¹⁸⁸ *Der Naturforscher* was an early stepping stone in Gmelin's academic career. The young professor was, like Walch himself, an exception among the most frequent contributors—as was the nobleman Siegmund Adrian Rottemburg (1745–1797). The other four individuals were clergymen—and pursued natural history as a leisure activity.¹⁸⁹ It appears that Walch's inability to carve out the community of assisting editors and main contributors he initially expected was the central reason for his disillusionment with editorship. Journal conducting did not rid Walch of his natural historical isolation—on the contrary: it upheld the geographical seclusion, and created a sociodemographic one.

CONCLUSION

This chapter carved out the links between sole editorship, academia and state administrations during the second part of the eighteenth century—and illustrated that journal conducting offered a way of socio-cultural—more precisely, academic and philosophical—self-fashioning. Gebauer's

¹⁸⁸ Moriz Gmelin, 'Gmelin, Johann Friedrich', *Allgemeine Deutsche Biographie*, 9(1879), 270.

¹⁸⁹ See Appendix.

editorial involvement, in turn, invited us to ponder the role that commercial publishing houses played for the advent of sole editorship: it seems that academia incentivised sole editorship but it was the publishers who made them possible.

Furthermore, this chapter illustrated that early editor-run periodicals in the German lands were not necessarily considered the opposite of society-run transactions: Walch did not conceptualise his editorship in contrast to learned societies but modelled it after them. This led him to develop the idea of a small, two-level hierarchical group of editors which he, ultimately, was not able to create, due to the lack of interest on part of his addressees. It would appear that the context of academia and state administration provided more incentives for an individualistic model of editorship rather than a society-modelled editorship as Walch had imagined—but Walch did not seem to realize this. Sole editorship was generally perceived as a means for the individual academic to garner attention, mainly of administrative elites but also his academic peers, and advance his career. Walch's idea of a group of assisting editors clashed with this concept of sole editorship: inviting peers to act as assistant editors on his periodical, Walch, de facto, expected renowned and well-established academics to act as his subordinates in order to foster his reputation in the eyes of his Grand Duke. Sole editorship turned out challenging for Walch, demanding nothing less than a change of his (but also more widely prevalent) society-orientated mindset.

This chapter illustrates that the advent of sole editorship in the second half of the eighteenth century was not straight-forward but characterised by unclarities and incoherencies in editorial as well as authorial roles and tasks. It would not be wrong to think of Walch, at times, as editor, editorial consultant and frequent contributor. And it does appear that throughout the years of his involvement in *Der Naturforscher*, Walch was more content with natural historical *authorship* than editorship, as his forty published articles suggest. Put differently, the choice between editorship and authorship demanded thorough reflection—which Walch did not do, considering the fact that he said yes to Gebauer's editorial offer within just a few days.

Lastly, and interestingly, Walch's case suggests that a strong editorial authority was not necessary to actually further natural historical knowledge production. For example, in 1783, the Danish zoologist Otto Friedrich Müller (1730—1784) published short pieces titled 'Notes Reading some

essays in the 10 first issues of *Naturforscher*.¹⁹⁰ Müller was closing knowledge gaps of the 1770s and also corrected some errors. After Müller, the botanist and entomologist Franz von Paula Schrank (1747–1835) did the same in his fields for the first twenty numbers of *Der Naturforscher*.¹⁹¹ Another similar attempt was undertaken by Johann Christoph Meinecke (1722–1790) and published posthumously.¹⁹² This suggests that even a weak and not well-cultivated sole editorship could contribute to and strengthen philosophical progress—and that sole editorship stimulated various forms of reviewing of and engaging with philosophical periodical press.

¹⁹⁰ Otto Friedrich Müller, 'Anmerkungen beym [sic] Durchlesen einiger Aufsätze in den 10 ersten Stücken des Naturforschers', *Der Naturforscher*, 10(1783), pp. 159–176; Issue 20(1784), pp. 131–146.

¹⁹¹ Franz von Paula Schrank, 'Anmerkungen zu den ersten zwanzig Stücken des Naturforschers', *Der Naturforscher*, 14(1788), pp. 126–148.

¹⁹² Johann Christoph Meinecke, 'Zufällige Gedanken und Erläuterungen über die ersten 20 Stücke des Naturforschers, in Rücksicht der darin enthaltenen lithologischen und mineralogischen Abhandlungen', *Der Naturforscher*, 17(1792), pp. 176–232.

CHAPTER TWO
LORENZ CRELL:
INGREDIENTS OF EDITORIAL SUCCESS

INTRODUCTION

In early 1777, Lorenz Crell (1744—1816) complained in a letter: ‘The many situations in which I have found myself have hindered me to make myself known.’¹⁹³ At this point, he was thirty-three years old and a professor of medicine at the University of Helmstedt. Helmstedt was situated in the Principality of Brunswick-Wolfenbüttel, roughly five miles from the Principality’s eastern border with Prussia and eight miles from the northern border with Kurfürstentum Hanover.

In early 1777, Crell was neither a man-of-science nor an established professor. He had gained his ordinary professorship not due to his achievement but because his father, Johann Friedrich Crell (1707—1747), and grandfather, the pioneering surgeon Lorenz Heister (1683—1758), had been renowned professors at the University. When writing the letter in early 1777, Crell had but a few articles to his name, only one of which was significant because it had appeared in the *Philosophical Transactions*.¹⁹⁴

Considering the importance of publishing but also, as this chapter will show, of lecturing in German academia in the second half of the eighteenth century, Crell was a failing academic. But he was working on a way to push his stagnating career forward: ‘I do have a *Chemisches Magazin* in the works’, Crell wrote in the same letter.¹⁹⁵ He would go on to devote 27 years to sole editorship, publishing altogether nine chemical periodicals, the longest-running and most famous of which is the *Chemische Annalen* (1784-1804). The *Annalen* was the site where German chemists debated (and death-bedded) phlogiston.

This chapter will show that we should think of Crell’s sole editorship as divided into two periods. The period from the inaugural issue of Crell’s first periodical in 1778 to early 1793 offers an excellent example of sole editorship’s potential as an instrument of philosophical self-fashioning—and is highly illustrative of the various other forms of rewards available to the academic sole editor. The later period of Crell’s editorship, in turn, will give an idea of what was potentially

¹⁹³ Quoted after: Karl Hufbauer, *The Formation of the German Chemical Community, 1720-1795*, Berkeley: University of California Press, 1982, 68.

¹⁹⁴ Lorenz Crell, ‘Some experiments on putrefaction’, *Philosophical Transactions*, 61(1771), pp. 332- 344.

¹⁹⁵ Quoted after: Hufbauer, 69.

detrimental to sole editorship and could lead to its demise: the dogmatic adherence to individual philosophical theories, in Crell's case the phlogiston theory.

The focus of the chapter rests with the first period of Crell's editorship so that we learn more about its potential and attractiveness to Crell and other academics. After all, sole editorship enabled Crell to become a member of every major European philosophical academy and society. How did an obscure professor, unknown to German chemical philosophers as well as academics in 1777, establish his sole editorship so quickly and successfully that, after publishing only one issue, some of the most famous experimenters in the German lands decided to contribute to the second issue of his *Chemisches Journal*? This chapter will argue that two factors were crucial in Crell's case: first, the support of a leading representative of the German Enlightenment and, second, a number of editorial practices thanks to which Crell cultivated a strong editorial persona and, thereby—in contrast to Walch—a strong editorship.

More concretely, this chapter will first discuss the support that Crell received from the Prussian publisher Friedrich Nicolai (1733—1811), despite the fact that Nicolai was not the publisher of any of Crell's journals. Then, the chapter will investigate individual editorial strategies and policies such as an eloquent as well as proactive defence of editorial authority, orchestrated display of achievements and rewards as well as intensive networking, which altogether helped Crell for example to recruit well-respected and even famous contributors, thereby fortifying his sole editorship.

This chapter is mainly based on roughly 140 letters of Crell to Nicolai held at the Staatsbibliothek zu Berlin. It is the biggest surviving corpus of Crell's letters, spanning more than two and a half decades. Furthermore, this case study relies on the scholarship of Karl Hufbauer who has discussed the central role that Crell's journals played in the German phlogiston debate during the 1780s and early 1790s. According to Hufbauer, Crell 'had not really enlarged understanding of any significant chemical phenomenon. But [...] created a discipline-oriented periodical which could serve as a forum for German chemists'.¹⁹⁶ This chapter draws on Hufbauer's depiction of how Crell's periodicals were used as a communicative instrument during the heights of the phlogiston debate.

¹⁹⁶ Hufbauer, 82.

Hufbauer is also the scholar who has studied Crell's life and his periodicals in most detail so far.¹⁹⁷ Other historians, such as Christoph Meinel, have also devoted attention to Crell's periodicals, but mainly as a few among many other philosophical journals in the German lands in the second half of the eighteenth century.¹⁹⁸ Crell has also been acknowledged as the founder of the first chemical periodical but scholars have not undertaken any investigations into his sole editorship.¹⁹⁹ Crell's correspondence with Nicolai at the Staatsbibliothek zu Berlin also has not been researched in more detail.

Crell's chemical periodicals (including publishers and dates published)

<i>Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen</i>	Lemgo: Meyer	1778 -1781
<i>Die Neuesten Entdeckungen in der Chemie</i>	Leipzig: Weygand	1781-1784
<i>Auswahl aller eigenthümlichen Abhandlungen und Beobachtungen aus den neuesten Entdeckungen in der Chemie</i>	Leipzig: Weygand	1781 -1786
<i>Chemisches Archiv</i>	Leipzig: Weygand	1783
<i>Neues chemisches Archiv</i>	Leipzig: Gelehrte und J.G. Müllersche Buchhandlung	1784 -1791
		1784 - 1804

¹⁹⁷ Hufbauer, 62-82. (Chapter 5. Lorenz Crell: 'Chemical Journalist')

¹⁹⁸ Christoph Meinel, 'Die wissenschaftliche Fachzeitschrift: Struktur- und Funktionswandel eines Kommunikationsmediums', in: Christoph Meinel, ed., *Fachschrifttum, Bibliothek und Naturwissenschaft im 19. und 20. Jahrhundert*, Wolfenbütteler Schriften zur Geschichte des Buchwesens, Vol. 27, Wiesbaden: Harrassowitz Verlag, 1997, 137-155. Christoph Meinel, 'German History of Science Journals and the German History of Science Community', in: Marco Beretta, Claudia Pogliano, Pietro Redondi, eds., *Journals and History of Science*, Florence: Olschki, 1998, 77-96. David Kronick, 'Scientific Journal Publication in the Eighteenth Century', *The Papers of the Bibliographical Society of America*, 59(1965), pp. 28-44.

¹⁹⁹ Hans Toftlund, 'Lorenz Crell und das erste chemische Periodicum 1778', *Chemie in unserer Zeit*, 12(1978), pp. 199-200. Dietrich von Engelhardt, *Die chemischen Zeitschriften des Lorenz von Crell, Indices naturwissenschaftlich-medizinischer Periodica bis 1850*, vol. 2, Stuttgart: Hiersemann, 1974. Ronny Tadday, Jan Frercks, 'Scherer in Weimar', in: Hellmuth Seemann, ed., *Anna Amalia, Carl August und das Ereignis Weimar*, Göttingen: Wallstein Verlag, 2007, 345-353, 345.

<i><u>Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufakturen, Beyträge zu den chemischen Annalen</u></i>	Helmstedt and, later, Leipzig: Fleckeisen	
<i><u>Beyträge zu den chemischen Annalen</u></i>	Helmstedt and Leipzig: Gelehrte und J.G. Müllersche Buchhandlung	1786 - 1788
<i>Neuestes chemisches Archiv</i>	Weimar: Hoffmannnische Hofbuchhandlung	1798
<i><u>Auswahl vorzüglicher Abhandlungen aus den sämtlichen Bänden der französischen Annalen der Chemie: zur vollständigen Benutzung derselben durch Ergänzung der von ihrem Anfange an den chemischen Annalen einverleibten Aufsätze; für deutsche Scheidekünstler</u></i>	Helmstedt: Fleckeisen	1801
English translation of Crell's <i>Annalen</i> : <i>Crell's chemical journal: giving an account of the latest discoveries in chemistry, with extracts from various foreign transactions: translated from the German with occasional additions</i>	London: R. Baldwin	1791 - 1793

Note: the underlined words indicate the short names usually used by Crell and his peers when referring to the periodicals.

Crell's life up until late 1777

Crell was born in Helmstedt and spent most of his life in this little town. In comparison, Brunswick, the Principality's capital, was almost seven times as big as Helmstedt, with its 27,000 inhabitants. In the 1770s, roughly 4,000 people lived in Helmstedt, as many as in Walch's Jena. Like his father and grandfather, Crell studied medicine, which he also did at Helmstedt. He received his doctoral degree in 1768 and embarked on a grand tour through the Western part of Europe, visiting its primary centres of philosophical study, including Paris, London and Edinburgh.

Upon returning home in 1771, Crell was not able to secure an ordinary professorship with the University of Helmstedt right away. But he most likely expected to receive the professorship in *materia medica* once the elderly professor Philip Conrad Fabricius (1714–1774) would retire or die. In the meanwhile, Crell taught at the Collegium Carolinum in Brunswick. The Collegium was a secondary school, preparing pupils for an academic education leading to a position as civil servant.²⁰⁰

Crell did not publish much during this period²⁰¹—he, probably, did not have incentives to do so. As the son and grandson of two of its popular and well-respected professors, Crell benefited from the fact that the University of Helmstedt was one of the Protestant *Familienuniversitäten* where sons could inherit their fathers' professorships.²⁰² Like most of the University's former students, Crell would return to teach there. In the seventeenth century, about 80 per cent of the professors at the Helmstedtian university had also received their education there.²⁰³ The number, likely, went down in the eighteenth century, but the tradition was still very much alive.²⁰⁴

Crell joined the University of Helmstedt in 1774, as an ordinary professor of medicine. The same year, G.R. Lichtenstein (n/a) joined the faculty. The two other, older as well as more established, professors were Gottfried Christoph Beireis (1730–1809) and F.W. Cappel (died 1800).²⁰⁵ Crell faced overwhelming competition from the popular and admired Beireis.²⁰⁶ The fact, that the later had been Crell's professor probably affirmed the hierarchy between the two men and potentially prompted Crell to assert himself against his former teacher—contributing to Crell's wish to make himself known through publishing.

This was particularly the case because academic teaching appears to have been one of the unwelcome and bothersome activities for Crell—but was the very activity that German professors

²⁰⁰ Hugh Barr Nisbet, *Gotthold Ephraim Lessing: His Life, Works, and Thought*, Oxford: Oxford University Press, 2013, 431.

²⁰¹ Crell's dissertation: Lorenz Crell, *Contagium vivum lustrans*, Helmstedt: Schnorr, 1768. Furthermore: Lorenz Crell, 'Beantwortung einiger Vorurtheile gegen die Einpöpfung der Blätter', *Gelehrte Beyträge zu den Braunschweigischen Anzeigen*, 11(1771), pp. 689-704. In addition, Crell also published several translations as well as some of his letters with his former professor Beireis in the *Gelehrte Beyträge zu den Braunschweigischen Anzeigen*, see: Hufbauer, 65ff.

²⁰² Jens Bruning, *Innovation in Forschung und Lehre. Die Philosophische Fakultät der Universität Helmstedt in der Frühaufklärung 1680-1740*, Wiesbaden: Harrassowitz, 2012, 95.

²⁰³ Bruning, 95.

²⁰⁴ Michaela Triebs, *Die Medizinische Fakultät der Universität Helmstedt (1576-1810): eine Studie zu ihrer Geschichte unter besonderer Berücksichtigung der Promotions- und Übungsdisputationen*, Wiesbaden: Harrassowitz, 1995, 110.

²⁰⁵ *Ibid.*, 40.

²⁰⁶ Georg Schwedt, *Vom Harz nach Berlin Martin Heinrich Klaproth: Ein Apotheker als Entdecker sieben chemischer Elemente*, Norderstedt: BoD, 2016, 69.

were actually paid for.²⁰⁷ Beside their salaries, ordinary professors charged students for attending their lectures. Known and popular professors decided which sum was appropriate; less established professors like Crell sometimes had to negotiate the amount.²⁰⁸ Some universities did not pay their extra-ordinary professors and lecturers any salaries at all, forcing them to hold several lectures a day and making them dependent on students.²⁰⁹

Crell was reckoned a dull lecturer, an impression that was indirectly fuelled by the popularity of Beireis and his crowded classes.²¹⁰ Crell's colloquia rarely took place due to the lack of interested students.²¹¹ Students' lack of interest in Crell is also mirrored by the fact that during his thirty-six years of tenure at the University of Helmstedt, he supervised mere six doctorates.²¹² In comparison, Crell's grandfather Heister had worked thirty-eight years as a professor at Helmstedt, providing doctoral supervision to sixty-four students.²¹³ Teaching, in short, was not Crell's forte and he apparently did not try to change this, despite the fact that 'the applause of the students' helped the German academic in the 1770s to advance through the ranks and make a reputation for himself.²¹⁴

Eager to find a way out of his academic obscurity, Crell contacted Albrecht von Haller (1708—1777) in late 1776 and early 1777 and asked the renowned Swiss anatomist for feedback on his medical essays. Haller sent Crell favourable comments that prompted Crell to reveal his plan for a chemical magazine.²¹⁵

It is not exactly clear how Crell arrived at the decision to devote his sole editorship to chemistry. He likely first came across chemical inquiries during his studies of medicine since chemical philosophy was one of the items on the medical curriculum.²¹⁶ But it appears that his passion was

²⁰⁷ Jan Frercks, 'The Interplay of Chemical Teaching with Work and with Research: A Case Study from Germany around 1800, Johann Friedrich August Göttling at Jena', in: JR Bertomeu-Sánchez, ed., *Neighbours and Territories: The Evolving Identity of Chemistry*, Louvain-la-neuve: Mémosciences, 2008, 149-155, 152.

²⁰⁸ Ulrich Joost, 'Vorlesungsmanuskript und Vorlesungsnachschrift als editorisches Problem, und etwas von Lichenbergs Vorlesungen', *Cardanus 1: Beiträge zur Sozialgeschichte der Naturwissenschaften zur Zeit der Aufklärung*, 1(2000), pp. 33—69, 33. For a more detailed account of academic lecturing in the second half of the eighteenth century see: Axel Rüdiger, *Staatslehre und Staatsbildung*, Hallesche Beiträge zur Europäischen Aufklärung, Tübingen: Max Niemeyer Verlag, 2005.

²⁰⁹ Stefan Brüdermann, *Göttinger Studenten und akademische Gerichtsbarkeit im 18. Jahrhundert*, Göttingen: Vandenhoeck & Ruprecht, 1990, 157.

²¹⁰ Schwedt, 69.

²¹¹ Ibid.

²¹² Triebs, 106.

²¹³ Ibid, 105.

²¹⁴ Kirsten Anna van Elten, 'Der ökonomische Professor? Universitäre Karrieremuster am Beispiel der Universität Helmstedt im 18. Jahrhundert', in: Elizabeth Harding, ed., *Kalkulierte Gelehrsamkeit, Wolfenbütteler Forschungen*, Wiesbaden: Harrassowitz, 2016, 277-288, 277.

²¹⁵ Quoted after: Karl Hufbauer, 69.

²¹⁶ Jan Frercks and Michael Markert, 'The Invention of Theoretische Chemie: Forms and Uses of German Chemistry Textbooks, 1775–1820', *Ambix*, 54(2007), pp. 146–171, 150.

sparked during his grand tour, when he spent a term in Edinburgh attending the lectures of Joseph Black (1728–1799), the eminent chemist and proponent of the phlogiston theory.²¹⁷ ‘I acknowledge’, Crell wrote in a letter to Black, ‘with a very grateful mind, how much I am indebted to You, as my great teacher in Chemistry; & this very gratitude shall never cease during my life.’²¹⁸ Furthermore, Crell was likely well aware of the growing importance of chemical knowledge for the German sovereigns as well as its increasing presence in learned discourses.²¹⁹ Put differently, there are several reasons, personal as well as purely professional, that could have prompted Crell to turn to chemistry.

Sole editorship, in turn, bore the promise for Crell of appearing in front of a learned public on a regular basis. This enabled him to make a reputation for himself without having to present new observations and philosophical insights each time, as one would have when penning chemical books and other formats of publishing. Sole editorship could also bring Crell in touch with a number of renowned men-of-science and counter both his philosophical and academic isolation.

Moreover, it appears that the history and the developments at the University of Helmstedt brought Crell in touch with publishing in general and editorship in particular. The university was historically linked to numerous printers. Two years after the Duke Julius of Brunswick (1528–1589) had founded the academic institution in 1576, he recruited the famous printer Jacobus Lucius (the Elder) (1530–1597) to become the official printer and publisher to the university. Other followed and by 1660 Helmstedt, a town of only 1,782 inhabitants, was home to four printers, working closely with the university.²²⁰ Between 1700 and 1750 sixteen printers lived and worked in the university town.²²¹ Despite the Seven Years’ War and the French occupation of Helmstedt, the number likely did not change dramatically until the 1770s.²²²

Printers in Helmstedt had experiences with periodicals. This was mostly due to the initiative of university professors. Helmstedt, for example, had its *Gelehrte Zeitung* (1769–1787), which was

²¹⁷ Although Crell’s name is not on any of Black’s class lists, there is a record of Crell as a ‘Discipuli Domini Jacobi Russell, Nat. Philos. Professoris’, referring to James Russell, who was professor of Natural History at the University of Edinburgh. He taught as the Chair of Natural Philosophy from 1764 until his death in 1773. However, Crell’s letters to Black suggest that he had audited Black’s classes. Lorenz Crell to Joseph Black, April (no date provided) 1782, Robert Anderson and Jean Jones, *The Correspondence of Joseph Black*, Vol. One, Surrey: Ashgate, 2012, letter 226, 492.

²¹⁸ Ibid.

²¹⁹ Jost Weyer, *Geschichte der Chemie*, Vol 2., Berlin: Springer Spektrum, 2018, 221.

²²⁰ Ulrich Brohm, *Die Handwerkspolitik Herzog Augusts des Jüngeren von Braunschweig*, Stuttgart: Franz Steiner Verlag, 1999, 42.

²²¹ David Paisey, ‘Deutsche Buchdrucker, Buchhändler und Verleger, 1701-1750’, in: Max Pauer, ed., *Beiträge zum Buch- und Bibliothekswesen*, Wiesbaden: Harrassowitz, 1988, 318.

²²² Ibid.

a weekly that addressed the local academic reader and provided news relating to the university.²²³ Helmstedtian printers also worked on novel periodicals, for example foreign-language periodicals. Since the early 1750s: Emilio Giordano, an Italian lecturer at the university, published a periodical on political topics, and Columba King, teaching English language and literature, edited *The Helmstat and London Mercury* which is today considered one of the first English language periodicals in Germany.²²⁴ Crell's peers at the university potentially drew his attention to editorship.

The beginning of Nicolai's and Crell's cooperation

Crell presumably understood that as an academic with no track record of achievements and no philosophical network in place he could not possibly expect any influential chemical investigator to contribute to the early issues of his journal. Crell likely once again turned to Haller for support. But the physician's health deteriorated in 1777 and he died in December. Haller's death likely forced Crell to turn to another known man: Friedrich Nicolai (1733–1811) in Berlin, the famous editor of the *Allgemeine Deutsche Bibliothek*.

The correspondence at the Staatsbibliothek zu Berlin includes a handful of letters from the years 1777 and 1778, which provide insights into when and how Crell and Nicolai got in contact with each other. One of them suggests that Crell had an idea for a book and pitched it to Nicolai in the second half of 1777: the professor wanted to edit a collection of Haller's essays, a project to which Nicolai agreed.²²⁵ Nicolai took interest in Crell, apparently responding to his letter quickly and positively.

Scholars consider Nicolai a somewhat controversial yet leading actor of the Enlightenment in the German lands.²²⁶ The publisher, editor and author was devoted to the values of the Enlightenment such as on-going exploration, discovery and fostering of knowledge, and he also desired to 'overcome the intellectual Kleinstaaterei' that had befallen the German lands.²²⁷ He favoured debate and criticism, fostered new ideas and talents and thought of himself as an innovator and

²²³ Jens Bruning, 'Helmstedt', in: Wolfgang Adam, Siegrid Westphal, eds., *Städte und Residenzen im alten deutschen Sprachraum*, Berlin, New York: De Gruyter, 2012, 901-934, 923.

²²⁴ Ibid.

²²⁵ Lorenz Crell, *Herrn Albrecht von Haller Beyträge zur Beförderung der Geschichte und Heilung der Krankheiten, aus dessen Sammlung praktischer Streitschriften*, Berlin and Stettin: Friedrich Nicolai, 6 vols., 1781-1785.

²²⁶ Klaus Epstein, *The Genesis of German Conservatism*, Princeton: Princeton University Press, 1966, 38. Pamela Selwyn, *Everyday Life in the German Book Trade: Friedrich Nicolai as Bookseller and Publisher in the Age of Enlightenment*, University Park: Pennsylvania State University Press, 2000, 14. See also: Stefanie Stockhorst, ed., *Friedrich Nicolai im Kontext der kritischen Kultur der Aufklärung*, Göttingen: v&r unipress, 2013. Rainer Falk, *Friedrich Nicolai und die Berliner Aufklärung*, Hanover: Wehrhahn Verlag, 2008.

²²⁷ Ute Schneider, *Friedrich Nicolais Allgemeine Deutsche Bibliothek als Integrationsmedium der Gelehrtenrepublik*, Wiesbaden: Harrassowitz, 1995, 81.

patron of young, promising thinkers and writers.²²⁸ Nicolai criticized Immanuel Kant and was an avid supporter of empiricism, which made him a ‘precursor of the natural sciences of the nineteenth century’.²²⁹

This mindset offers an answer to the question why Nicolai would come to support Crell’s editorial undertaking: here was an eager unknown professor, isolated in a small university town, passionate about experimental philosophical research and determined to find a way to contribute to the production of empirical knowledge, who needed Nicolai’s help. The Prussian both directly and indirectly supported the set-up of Crell’s philosophical editorship.

Nicolai’s support, however, was not only informed by idealism and altruism—but also by business acumen and economic interest. In his first letter to Crell he apparently asked the professor to recruit subscribers and readers to his newest publishing project, a short work on the physician Christoph Martin Wieland (1733–1813) and the naturalist Johann Bunkel (n/a).²³⁰ Crell replied to Nicolai’s request:

High and gently born have honoured me with the task to find subscribers for Bunkel’s life: and I accepted this request with great joy. I worked hard to find a notable number of subscribers, thereby providing you a proof of my excellent appreciation I have for the man who has rendered outstanding services with the dispersion of so many useful truths and good taste in Germany, and, additionally, provided excellent contributions as an author himself. Unfortunately, my success does not meet my wish: I can only give you four subscribers: they are Madame Rehkorf, here in town; and Mr Ober-Salz-Inspector Abich, and [not readable] secretary Hohnstein in Brunswick: and my wife.²³¹

This rather disappointing number mirrors Crell’s obscurity and lack of contacts, even in his home town. The quote also introduces us to Crell’s strikingly coaxing rhetoric which seems characteristic of all his surviving letters, not only the ones that Crell wrote as an unknown professor. Compared to the correspondence of his contemporaries, Crell’s choice of words can be considered uncommonly hyperbolic—but Crell apparently thought it a promising strategy to elicit favours from his addressees. Signalling Nicolai good will through both his language and his attempt to recruit subscribers, Crell continued his letter:

I cannot let this opportunity pass without uttering that, should the post of a reviewer in practical medicine, chemistry, mineralogy or materia medica for your valuable *allgemeine Deutsche Bibliothek* become available and you would like to fill this post with me, I would accept this call with much joy.²³²

²²⁸ Sheila Dickson, ‘Nicolai, Friedrich 1733-1811’, in: Christopher John Murray, ed., *Encyclopedia of the Romantic Era, 1760–1850*, New York, London: Fitzroy Dearborn, 2004, 805.

²²⁹ Barbara Becker-Cantarino, ‘Nicolais Vertraute Briefe von Adelheid B** an ihre Freundin Julie S**, Fichte und Schlegel’, in: Stockhorst, 95-110, 106.

²³⁰ Friedrich Nicolai, *Ein paar Worte betreffend Johann Bunkel und Christoph Martin Wieland*, Berlin: Nicolai, 1779.

²³¹ Crell to Nicolai, November 13, 1777. Staatsbibliothek Berlin, Nachlass Friedrich Nicolai/I. [hereafter: Staatsbibliothek] (See Appendix.)

²³² Ibid. (See Appendix.)

Nicolai's *Allgemeine Deutsche Bibliothek* (ADB) was a quarterly review. It existed from 1765 until 1806 and offered accounts of all significant German books. In the course of its existence, over 400 contributors reviewed more than 80,000 books in all disciplines, making the ADB one of the most influential periodicals of the Enlightenment in the German-speaking lands.²³³ The ADB was what we would call a 'bestseller', selling regularly around 2,500 copies each month.²³⁴ ADB's sales were generally only surpassed by one other magazine, namely Christoph Martin Wieland's (1733—1813) literary and review magazine *Teutscher Merkur* in Weimar, with roughly 4,400 readers.²³⁵ Due to ADB's popularity, Nicolai received numerous inquiries from strangers who wished to contribute reviews.²³⁶ Usually these individuals came recommended, Crell, however, 'seems to have been unusual in offering his services without mentioning that someone else suggested he do so'.²³⁷

Despite the absence of common acquaintances, Crell turned out lucky: within roughly seven weeks, between late November 1777 and mid-January 1778, Crell penned eleven reviews, primarily on chemistry but also medicine—and Nicolai accepted all of them.²³⁸ By mid-February Crell submitted additional five.²³⁹ This, however, was still not enough: Crell asked Nicolai to send him more books pertaining to chemical and medical topics;²⁴⁰ And in another letter from 1778, Crell attached seven more reviews.²⁴¹ In short, Crell submitted at least 23 reviews to the ADB the very year that the first issue of his journal appeared. Thereby, he did not only acquaint himself with new literature relevant or even essential to his editorial work. But he was also positioning himself in Nicolai's vast network of contacts and contributors of all ranks and orders. This way, Crell also made himself known among some leading chemical investigators in the months leading up to the appearance of his first issue in August 1778—successfully using Nicolai and the ADB to gain momentum for the arrival of his editorial undertaking.

Nicolai's editorial support: well-known chemical experimenters as Crell's contributors

In 1778, Nicolai most probably helped Crell to recruit the three eminent chemical philosophers

²³³ Matthias Konzett, *Encyclopedia of German Literature*, Chicago, London: Fitzroy Dearborn Publishers, 2000, 760.

²³⁴ Helga Brandes, 'The Literary Marketplace and the Journal. Medium of the Enlightenment', in: Barbara Becker-Cantarino, James Hardin, eds., *German Literature of the Eighteenth Century: The Enlightenment and Sensibility*, New York: Camden House, 2005, 79-102, 96.

²³⁵ Elisabeth Fehrenbach, *Vom Ancien Régime zum Wiener Kongress*, München: Oldenbourg, 1793, 57.

²³⁶ Selwyn, Footnote 67.

²³⁷ Ibid.

²³⁸ Crell to Nicolai, January 16, 1778, Staatsbibliothek.

²³⁹ Crell to Nicolai, February 27, 1778, Staatsbibliothek.

²⁴⁰ Crell to Nicolai, January 16, 1778, Staatsbibliothek; Crell to Nicolai, February 27, 1778, Staatsbibliothek. (See Appendix.)

²⁴¹ Crell to Nicolai, October 18, 1778, Staatsbibliothek.

Johann Christian Wiegleb (1732—1800), Friedrich August Götting (1753—1809) and Johann Friedrich Gmelin (1748—1804) as contributors, the last of which we have met before, as one of Walch's most frequent contributors. Wiegleb was a close friend of Nicolai and published several of his books with him, including his well-received *Chemische Versuche über die alkalischen Salze*.²⁴² Götting was Wiegleb's former apprentice.²⁴³ Both Wiegleb and Götting penned articles for Nicolai's ADB—as did Gmelin.²⁴⁴ These three significant chemical investigators were close enough to Nicolai to agree to contribute to Crell's periodical out of their friendship as well as, to some degree, their professional links to the publisher.

The surviving letters do not offer any information on how Crell became acquainted with the three eminent researchers, but the fact that all three contributed original pieces to the second issue of Crell's journal suggests that Nicolai was somehow involved in their cooperation—especially since the inaugural number of the *Chemisches Journal* was not considered outstanding, neither in terms of its contents nor its contributors. All articles in the first issue of Crell's *Chemisches Journal* were authored by Crell himself and his former doctoral student Johannes Christian Conrad Dehne (n/a), a physician from a village close to Helmstedt with no track record of chemical publications beside his doctoral dissertation.²⁴⁵ In other words, it most probably was not the editor and contributor of the first issue that persuaded men of the calibre of Wiegleb and Gmelin to contribute to Crell's second issue.

But to avoid exaggerating Nicolai's role, it needs to be noted that the first issue of the *Chemisches Journal* received positive reviews, which presumably somewhat encouraged Wiegleb and Götting to become involved in Crell's editorial undertaking. These reviews, however, underpinned the *utility* of Crell's journal and, therefore, of his sole editorship rather than lauding the journal's actual contents and contributors. 'Prof Crell opens up a good and welcome possibility to all those chemists who have new and good experiments, but find no way to communicate them to the world, to make them public', wrote a reviewer in the *Physikalisch-ökonomische Bibliothek*, the transactions of the Prussian 'Physikalisch-ökonomische Gesellschaft'.²⁴⁶ But he criticised the contents, for example, the fact that Crell could not provide the exact amount of phosphorus which

²⁴² Paul Raabe, *Friedrich Nicolai 1733-1811: die Verlagswerke eines preussischen Buchhändlers der Aufklärung 1759-1811*, Ausstellungskatalog der Herzog August Bibliothek, 1986, 94.

²⁴³ Ibid.

²⁴⁴ Johann Christian Wiegleb, *Chemische Versuche über die alkalischen Salze*, Berlin and Stettin: Nicolai, 1774.

²⁴⁵ Johann Christian Conrad Dehne, *Dissertatio chemico medica solemnis de praeparatione toncturae antimonii acris concentratae*, Helmstädt: PD Schnorr, 1776.

²⁴⁶ G, XXI. *Chemisches Journal*, *Physikalisch-ökonomische Bibliothek*, 9(1778), pp. 561-565, 561.

he had produced in one of his experiments.²⁴⁷ The reviewer also commended the twofold structure of Crell's periodical: most of the space was devoted to original pieces, the rest offered translations of pieces from transactions of German and foreign philosophical academies and societies. These excerpted pieces were, 'if they are well chosen and have not been translated so far, even if they are older [...], very welcome to the chemical reader'.²⁴⁸

Gmelin, too, reviewed Crell's first number in the *Göttingische Anzeigen von gelehrten Sachen*: he found it a 'useful and joyful attempt to set up a magazine of chemical experiments', although he considered Crell's preface 'quite strong', in which Crell invited all German chemical philosophers to contribute to his periodical in order to demonstrate that the German lands still stood out as the teacher of chemical knowledge to all other nations.²⁴⁹ But, in contrast to other reviewers, Gmelin stressed that the issue 'contains many [of Crell's] own yet new experiments'.²⁵⁰ The fact that Crell prioritized novelty, in contrast to mere reprinting what has been already shared with the public, apparently made his editorial undertaking attractive to Gmelin. The anonymous reviewer of Crell's inaugural issue in the *Auserlesene Bibliothek der neuesten deutschen Litteratur* also lauded that Crell's periodical countered the loss of novel observations: 'Considering the ambition with which chemistry is carried out among us [Germans], it would have already risen to much taller height if [...] important discoveries had not vanished with their originators'.²⁵¹

Positive—yet not outstanding—reviews likely were not enough to prompt Wiegleb, Götting and Gmelin to contribute original pieces to Crell's journal. Nicolai, most probably, showed some form of support: whether he, for example, asked his friend Wiegleb to author an article for Crell as a favour to Nicolai and Wiegleb, in turn, prompted his former apprentice Götting to do so, cannot be said for sure based on the available sources. But it appears safe to assume that Nicolai helped Crell to balance his lack of acquaintances among philosophers in a way that allowed Crell to curate a notably stronger second issue, with roughly sixty of the altogether hundred-and-sixty pages devoted to original experiments penned by Wiegleb, Götting and Gmelin.²⁵²

²⁴⁷ Ibid, 562.

²⁴⁸ Ibid, 565.

²⁴⁹ J.F. Gmelin, 'Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen', *Göttingische Anzeigen von gelehrten Sachen*, 1778, pp. 1134-1136, 1134.

Lorenz Crell, 'Vorrede', *Chemisches Journal*, 1(1778), pp. 9–20, 10.

²⁵⁰ Gmelin, 1135.

²⁵¹ Anonymous, 'Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen', *Auserlesene Bibliothek der neuesten deutschen Litteratur*, 13(1778), pp. 710-712, 711. Note: *Auserlesene Bibliothek der neuesten deutschen Litteratur* was published by Christian Friedrich Helwing, the publisher of Crell's first periodical, the *Chemisches Journal*. It is probable that Crell himself penned this review.

²⁵² Johann Friedrich Gmelin, 'Ueber [sic] einige baumähnliche Bildungen von metallischen Salzen', *Chemisches Journal*, 2(1779), pp. 3–5. Johann Christian Wiegleb, 'Chemische Untersuchung des Sauerkleesalzes',

Nicolai most probably turned to the chemical experimenters among his acquaintances because Crell asked him to. In one of his letters, the professor wrote for example:

When you talk to your Berl. [Berlin] professor of chemistry (his name escapes me) or any other of the good chemists, mineralogists or apothecaries, do send him my compliments and ask him for contributions to my chemical journal [...] you would very much oblige me with this small recruitment of contributors²⁵³

This quote is taken from a letter from 1781, after Crell's sixth issue had appeared. But it seems most likely, that Crell implored Nicolai to put him in touch with chemical experimenters as early as 1778—and Nicolai remained a significant contact for Crell to win new contributors throughout the early period of his sole editorship.

Further examples of Nicolai's editorial support

Apart from helping Crell to get in touch with important chemical experimenters, Nicolai aided Crell's set up of his editorial infrastructure and the early period of his sole editorship in other ways, too. He, for example, procured books and periodicals that the Helmstedtian professor was not able to buy due to a lack of contacts in the world of publishing and, apparently, the lack of support of the actual publisher of his *Chemisches Journal*, Christian Friedrich Helwing (1756—1799).²⁵⁴ We may go as far as saying that Nicolai, not Helwing, was a crucial source of editorial support for the first chemical periodical—for a couple of more reasons. Nicolai, for example, also invited Crell to pick books from his catalogue for free.²⁵⁵ Moreover, Nicolai furnished Crell with philosophical and chemical news from the Prussian capital during the early phase of Crell's journal.²⁵⁶

Furthermore, Nicolai allowed Crell to review his own journal in the ADB.²⁵⁷ To have this option was particularly beneficial during the early phase of Crell's sole editorship, when Crell was still unknown and in need of credentials that would signal his suitability for the editorship of a chemical periodical. It became a habit that Crell reviewed new issues of his periodical on the pages of Nicolai's ADB.²⁵⁸

Chemisches Journal, 2(1779), pp. 6—38. Friedrich August Göttling, 'Chemische Versuche mit der Holzsäure in der Absicht vermittelst derselben eine Naphtha zu verfertigen', *Chemisches Journal*, 2(1779), pp. 39—61.

²⁵³ Crell to Nicolai, November 14, 1781, Staatsbibliothek. (See Appendix.)

²⁵⁴ Crell to Nicolai, October 18, 1778, Staatsbibliothek. (See Appendix.)

²⁵⁵ Crell to Nicolai, December 15, 1779, Staatsbibliothek. (See Appendix.)

²⁵⁶ Crell to Nicolai, January 16, 1778, Staatsbibliothek. (See Appendix.)

²⁵⁷ Whether this was the idea of Nicolai or Crell himself remains unclear, the respective letters appear to not have survived. Hufbauer, 73.

²⁵⁸ Examples of early reviews penned by Crell, discussing his own journal, on the pages of the *Allgemeine deutsche Bibliothek*: (39)1779, pp. 188-194; (43)1780, pp. 473-479; (45)1781, pp. 117-120; (49)1782, pp. 428-431; (51)1782, pp. 456-458, etc.

Nicolai and his ADB did not only offer Crell a chance to speak highly of and generate advertisement for his chemical journals—Nicolai also allowed him to review competitors and their periodicals. One early example is the *Physicalisch-Chemisches Magazin für Ärzte, Chemisten und Künstler* by Jakob Andreas Weber (1741–1792), which first appeared in 1780.²⁵⁹ Already in the first sentence of his review, Crell stated that Weber’s editorial endeavour would most likely fail in his attempt to ‘exist side by side with Crell’s journal for chemists’.²⁶⁰ After this bleak introduction, Crell delivered a scathing review of all central experiments and findings presented in the new periodical.²⁶¹ Weber indeed gave up his chemical journal only a few months later.²⁶²

Crell and the publishers of his periodicals

No letters between Crell and any of the publishers of his periodicals seem to have survived. But it is, nonetheless, possible to observe that Crell had a rather critical stance towards the publishers of his periodical and approached his cooperation with them carefully and strategically. Let us take a closer look at the second of his chemical journals, *Die Neuesten Entdeckungen in der Chemie* as well as two of the periodical’s supplements. Crell published them with Christian Friedrich Weygand (1743—1806) who had moved his business from Helmstedt to Leipzig in 1773 to become better known. Weygand published ‘omnivorously’, including travelogues, literature and philosophy and quickly found fame: in 1774, he published ‘the first work of German literature to achieve European best-seller status’, namely Goethe’s *Die Leiden des jungen Werthers*.²⁶³

Crell appears to have believed that well-known publishers posed a threat to an autonomous and strong sole editorship. They could, after all, not only intrude on editorial prerogatives but also set forth potentially less attractive terms of cooperation than less known publishers who wished to avail themselves of a successful chemical periodical. This rationale possibly prompted Crell to bring out his third and most famous chemical periodical, *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufakturen* (in short: *Chemische Annalen* or Crell’s *Annalen*) with the hardly known Fleckeisen family in Helmstedt whose son, Carl Gottfried Fleckeisen (1756–1814), became the official publisher to the university in 1790—six

²⁵⁹ Toftlund, 199.

²⁶⁰ Lorenz Crell, ‘Review: Physikalisch-Chemisches Magazin für Ärzte, Chemisten und Künstler’, *Allgemeine Deutsche Bibliothek*, 43(1780), pp. 167-169, 167.

²⁶¹ *Ibid.*

²⁶² Only two issues of the *Physicalisch-chemisches Magazin für Aerzte, Chemisten und Künstler* were published, both in 1780.

²⁶³ Martin Swales, ‘Johann Wolfgang Goethe (1749–1832): The German Bildungsroman’, in: Michael Bell, ed., *The Cambridge Companion to European Novelists*, Cambridge, New York: Cambridge University Press, 2012, 124-139, 124. Siegfried Unseld, *Goethe and his publishers*, Chicago and London: Chicago University Press, 20.

years after Crell started publishing his *Annalen* with him.²⁶⁴

To avoid power struggles, Crell was willing to bring out his journals with less established and therefore less well-connected publishers. Thereby, he forewent a broad and potentially international distribution of his periodical. But Crell balanced such downsides by actively promoting his periodicals, within and without the German lands. One prominent example is his interaction with the British chemist Henry Cavendish (1731—1810). Cavendish wished to receive each new issue of Crell's *Annalen* as quickly as possible and Charles Blagden (1748–1820), Cavendish's secretary, communicated the request to Crell.²⁶⁵ Cavendish was willing to pay 'many times the original value of the work' to lay his hands on Crell's periodical.²⁶⁶ Put differently, Crell, to some degree, took care of tasks that were usually the responsibility of the publisher.

Crell's critical stance towards publishers likely goes back to the negative experience with his first publisher, the aforementioned Helwing. In 1781, Crell decided to work with a publishing company closer to Helmstedt since the distance between Helmstedt and Helwing in Lemgo slowed down important editorial processes.²⁶⁷ But Crell parted ways against Helwing's wish, so much so that the publisher apparently planned to set up his own chemical periodical—and made Crell so nervous with the prospect of competition that the editor sought out Nicolai, asking yet again to put him in touch with potential and well-known contributors.²⁶⁸ It seems that the editor was generally highly protective of his periodical undertaking and wished to avoid forfeits in editorial power.

The fact that Crell was not more dependent on the advice and support of the publishers of his chemical periodical, especially in the early phase of his sole editorship, was likely a consequence of Nicolai's on-going support: the Prussian offered him editorial advice when the inexperienced journal conductor approached him with questions. This was not only the case during the early period of Crell's sole editorship but also years later. In December 1783, for example, Crell was devising the plan for his *Chemische Annalen* and consulted Nicolai on the frequency: he wanted to know whether to publish monthly or 'sell whole volumes without splitting it up? Should not

²⁶⁴ Mechthild Wiswe, *Kinder- und Jugendbücher im Braunschweigischen Landesmuseum: kommentierter Bestandskatalog*, Forschungen und Berichte des Braunschweigischen Landesmuseums, vol. 5, Braunschweigisches Landesmuseum, 1997, 14.

²⁶⁵ Charles Blagden to Lorenz Crell, July 4, 1786, draft Blagden Letterbook, Royal Society.

²⁶⁶ Christa Jungnickel, Russell McCormach, *Cavendish*, Philadelphia, Pennsylvania: The American Philosophical Society, 1996, 273.

²⁶⁷ Lorenz Crell, 'Vorbericht', *Chemisches Journal*, 5(1780), Vorbericht.

²⁶⁸ Crell to Nicolai, November 14, 1781, Staatsbibliothek. (See Appendix.)

some chemist e.g. have concerns to spend 2 ½ - 3 Thl for one volume who would, by and by spend the same money if each issue costs but 8 gg [...] you are most able to give me the [...] best advice in this case'.²⁶⁹

Crell seems to have developed the habit of switching publishers almost every time he commenced one of his altogether nine periodicals, and so his journals were—also in the public eye—linked to Crell rather than a particular publishing house. It appears that the six publishers of Crell's journals were little more to him than printers. With his approach to publishers, Crell seemed to have devised an editorial strategy that made his sole editorship less susceptible to power loss—and stood in strong contrast to Walch's editorial approach. The reason for Crell's strong defence of his editorial power was likely the fact that sole editorship was at the very heart of his career and, in Crell's eyes, most likely the only activity which allowed him to self-fashion in a highly successful way. He was neither a talented experimenter, nor a popular professor. Diminishing or losing editorial power could potentially feel threatening to him as it could possibly mean the end of his career.

Crell's editorial steps to success

The success of Crell's sole editorship to some degree likely rested with the editorial visibility which he curated. In contrast to Walch who seemed to shy away from editorial visibility, Crell sought it out. One example of Crell's one-time steps to make himself visible to the reading public and introduce himself was his very first issue, in which he reprinted the one piece that he had published with the *Philosophical Transactions*. This was his most notable publication to date: his article on *Some Experiments on Putrefaction* had appeared in the Royal Society's publication in January 1771—seven years before Crell included it in his journal. According to his own editorial policy which Crell put forward in the same issue as his *Transactions* piece, the editor wished to provide his audience with 'important, new observations'—therefore, *Some Experiments* should have been left out.²⁷⁰ Yet, Crell made efficient use of what little resources he had, and his audience learned right away, in the inaugural issue, that the editor had received the high honor of publishing his observations in one of the most prestigious philosophical transactions in Europe. The high esteem in which German men-of-science held *Philosophical Translation* worked in Crell's favour: the general assumption that the Royal Society only published work of highest quality signalled that

²⁶⁹ Crell to Nicolai, December 6, 1783, Staatsbibliothek. (See Appendix.)

²⁷⁰ Lorenz Crell, 'Vorrede', *Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, 1(1778), Vorrede.

he could not be an obscure researcher but potentially was a knowledgeable philosopher.

An irregular practice to heighten his editorial visibility was, in turn, Crell's use of prefaces. In contrast to Walch, Crell utilised prefaces to a high degree: compared to the three out of altogether twelve issues which Walch had prefaced during his editorship, Crell authored ten prefaces to his twelve earliest issues.²⁷¹ In his use of prefaces, Crell was also notably more strategic than Walch. Both editors employed the same pro-German rhetoric and tapped into national pride in order to mobilise contributors, but Crell was rhetorically much more explicit, arguing, for example, that, in contrast to other European nations, nature had chosen the Germans to be chemists.²⁷²

Crell appeared highly confident in his editorial visibility, performing eloquently throughout the earlier as well as the later years of his sole editorship. If, for example, he did not wish to publish something—such as a summary of some experimental findings—he argued that by publishing them he would express distrust in the fame and importance of these notable observations.²⁷³ Then again, if he did want to draw more attention to known observations, he argued to the contrary: that some experimental findings are so important that they warrant repeated publication.²⁷⁴ This is an illustrative example of both editorial rhetoric and editorial approach to shaping philosophical discourse.

Crell also used prefaces to defend his editorial identity, more concretely, to quickly react to and quell criticism against his periodicals.²⁷⁵ In one of his 'Vorreden' and 'Vorberichten', he, for example, addressed the allegation that his periodical provided space for a very limited number of chemical philosophers to contribute. 'It is correct,' Crell wrote, 'that the actual number of contributors to this periodical, compared to the number of many well-renowned, patriotic chemists German-wide, is not big'²⁷⁶, but the editor immediately turned the criticism into an opportunity to not only thank his regular and loyal contributors but also to directly address those chemical experimenters who had not yet submitted any piece to his periodical, 'in hope they are not indifferent towards the honour of their fatherland' and would share their insights with others to strengthen chemical endeavours and, thereby, the German lands.²⁷⁷ Put differently, Crell used

²⁷¹ *Chemisches Journal*: Issues 1 through 6; *Die Neuesten Entdeckungen*: Issues: 1, 3, 5 and 6.

²⁷² Crell, Vorbericht, *Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, Lemgo: Meyersche Buchhandlung, 1778, Vorrede. Walch, *Der Naturforscher*, Vorrede.

²⁷³ Lorenz Crell, 'Vorrede', *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufakturen*, 1(1884), Vorrede.

²⁷⁴ Lorenz Crell, 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 6(1782), Vorbericht.

²⁷⁵ Lorenz Crell, 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 7(1782), Vorbericht.

²⁷⁶ Lorenz Crell, 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 7(1782), Vorbericht.

²⁷⁷ Ibid.

the criticism uttered against him to actually strengthen his editorship, through an attempt to recruit new contributors.²⁷⁸

In contrast to Walch, who, in his prefaces, spoke of an editorial ‘institute’ and ‘society, Crell used the first person singular. Thereby, he signalled a strong editorial persona and was, most likely, perceived as more closely linked to and in control of his periodicals than Walch. In one of his letters to Gebauer, Walch had stressed that it was unusual to present a strong individual editorial persona.²⁷⁹ Five years later, Crell did not shy away from such self-presentation and self-fashioning which likely familiarised philosophers with the concept of sole rather than group-based editorship—and contributed to its establishment.

One of Crell’s regular editorial practices that presumably furthered his editorial success was to define his peer group and his philosophical addressees. He did so, for example, by dedicating each issue of his first two journals, the *Chemisches Journal* and *Neueste Entdeckungen*, to an influential individual. The first two addressees of the altogether six issues of Crell’s *Chemisches Journal* were chemists, Andreas Sigmund Marggraf (1709–1782) and Reinhold Jakob Spielmann (1722–1783). The next four numbers were dedicated to four high-ranking civil servants.²⁸⁰ Five of the six individuals were not from Braunschweig-Wolfenbüttel²⁸¹, but other German lands. Crell referred to the six as the ‘fathers of current chemistry’.²⁸² Next, Crell published twelve numbers of his *Neuste Entdeckungen*, all of which were devoted to his sovereign, the Duke Carl Wilhelm Ferdinand of Braunschweig-Wolfenbüttel (1735–1806). Crell started this editorial habit *after* the later had made him *Bergrath* (councillor of the mines) in 1780. But this was not merely an act of retrospective gratitude. Having gotten a taste of the potential benefits and rewards made possible by sole editorship, Crell stressed his loyalty towards his sovereign even more—likely in hope of further attractive rewards, such as the knighthood that he would receive in early 1792.²⁸³ A simple editorial practice like the dedication allowed Crell to self-fashion himself as an ambitious civil servant with a strong interest in chemical philosophy, signalling his readiness to ‘serve’ chemical philosophy, academia and his sovereign.

²⁷⁸ Ibid.

²⁷⁹ Walch to Gebauer, September 23, 1773. Gebauer-Schwetschke Verlagsarchiv A 6.2.6 Nr. 13244.

²⁸⁰ Carl Abraham Gerhard (1738–1821), Friedrich August Cartheuser (1734–1796), August Ferdinand von Veltheim (1741–1801), Freiherr Anton Friedrich von Heiniß (n/a)

²⁸¹ August Ferdinand von Veltheim (1741–1801) was born, educated and a civil servant in Braunschweig-Wolfenbüttel.

²⁸² Lorenz Crell, ‘Vorbericht’, *Die neuesten Entdeckungen in der Chemie*, 1(1781), Vorbericht.

²⁸³ Note: Sources mention different dates for receiving the order of knighthood. Because Crell’s new title appeared on the cover of the first of two volumes of his *Chemische Annalen* for the year 1792, the year 1792 is used here.

Dedicating one's publication to a particular individual does not only speak to the achievements of the one who receives the dedication but also to the one who dedicates: Crell demonstrated, once again, that he was in control of the periodical, its form and content. He cultivated a high degree of editorial visibility and we should consider the element of visibility as important, if not crucial, for reaping the rewards Crell did, including the knighthood. A low visibility, as we have seen in Walch's case, carried the risk that the editor's name was not even known to potential contributors. Crell, in turn, ensured that his name—closely linked to his editorial role—would become known to the chemical as well as the governing elites.

Crell's success

The covers of Crell's journals offer the best illustration of his successful self-fashioning as a man of science—as well as of other rewards that Crell reaped thanks to his sole editorship. Starting with the first issue of the *Chemisches Journal* in 1778, Crell's name appeared on each cover of his periodicals. Over the years, the list underneath his name—which carried all national and international institutions, academies and societies with which Crell was officially affiliated—became longer and longer. On his covers, Crell also mentioned the rewards that opened up to him beyond the realm of philosophy, including his appointment as Bergrath in 1780 and his knighthood in 1792.

Also illustrative of Crell's editorial and commercial success was the number of subscribers to his *Annalen*. Crell published the long list of subscribers in the inaugural issue of his *Chemische Annalen* in 1784. Roughly 750 individuals subscribed to his most famous periodical between 1784 and 1891, the year in which he published the list for the last time.²⁸⁴ Usually, the number of 500 to 750 subscribers to a periodical was 'considered substantial, since many [general-audience periodicals] were forced to make due with fewer than 300 paying readers'.²⁸⁵

Crell's list of subscribers speaks in two ways to the socio-cultural success of his editorial undertaking. First, the list included highly important individuals from both realms, the administrative and the philosophical, including Johann Wolfgang von Goethe (1749—1832), Johann Friedrich Westrumb (1751—1819), Wiegleb and Georg Christoph Lichtenberg (1742—1799). This suggests that Crell's editorial work was considered important and informative for state

²⁸⁴ Lorenz Crell, 'Pränumeraten-Verzeichnis', *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufakturen*, 1(1884), Pränumeraten-Verzeichnis.

²⁸⁵ Michael North, *Material Delight and the Joy of Living: Cultural Consumption in the Age of Enlightenment in Germany*, Köln: Böhlau, 2003, 6.

and philosophical elites. Second, students made up a large group of Crell's subscribers.²⁸⁶ As mentioned above, Crell had the reputation of being a dull and unsuccessful lecturer. Sole editorship allowed him to counter this academic weakness: he might have kept lecture halls empty—but he found a way to communicate the newest chemical observations and some established chemical knowledge to the next generation. The fact that Crell played a role as a chemical educator likely pointed to his editorial versatility, enriched his professional reputation and made him able to compete with prominent and successful academic lecturers, including his older colleague Beireis.

Crell's decision to publish his list of subscribers was an editorial policy that allowed him to turn an organisational everyday item of editorship into a public symbol of editorial success. Crell's success becomes even more noteworthy considering the fact that he apparently never focussed on chemical experiments and rarely carried them out: he, de facto, still lacked a track record of chemical and academic achievements in 1791. Crell's case illustrates most vividly that philosophical sole editorship could serve as an instrument of philosophical self-fashioning and was also able to yield considerable professional rewards in academia and civil service in the German lands during the second half of the eighteenth century.

Crell's strategies for the recruitment of contributors and creating his peer group

Also, in contrast to Walch, Crell was never as conflicted and unsure whom he actually wanted and should address by way of his sole editorship. On the contrary, Crell had an increasingly more refined concept of whom he wished to recruit as 'friends and contributors'.²⁸⁷ In the first preface to his *Annalen*, the editor described the spectrum of readers and philosophical writers he had in mind, ranging from those who carried out chemical investigations for their joy and amusement, as a leisure pastime, to the mining experts, apothecaries and chemical manufacturers who devoted their professional lives to *Scheidekunst* (chemistry).²⁸⁸ Thereby, Crell expressed confidence in his ability to accommodate the needs and interests of these different practitioners and cater to all of them.

For Crell's ambitious plan to recruit known and respected contributors as well as readers, Nicolai once again was helpful—although indirectly: Crell used Nicolai to gain the attention and favour of

²⁸⁶ Hufbauer, 272-292.

²⁸⁷ Crell, 'Vorrede', *Chemische Annalen*.

²⁸⁸ Ibid.

prominent philosophers. To this end, Crell furnished Nicolai with short news for his ADB. One example can be found in a letter from September 1780: here, Crell recollected the case of Johann Reinhold Forster (1728—1798), who had just been made professor of Natural History at the University of Halle.²⁸⁹

Together with his young son Georg Forster (1754—1794), the German explorer and official botanist during Captain James Cook's (1728—1779) second voyage documented the journey in his *Observations Made During a Voyage Round the World*.²⁹⁰ However, in the late 1780s, the elder Forster fell out with the Admiralty which had appointed him to travel with Cook, and the disagreements turned out irreconcilable; so much so that the German was forced to return to the Heiliges Römisches Reich where he found academic employment at Halle.²⁹¹ Crell saw the chance to gain not only favours with the Forsters, but also with Nicolai and his sovereign: calling Duke Carl Wilhelm Ferdinand as the morally best and greatest monarch, the editor informed Nicolai that the sovereign had rescued Forster from financial ruin and the 'questionable Englishmen'.²⁹² Crell asked Nicolai to mention this news as well as Forster's professorship in the ADB.²⁹³

Crell demonstrated a number of strategies—as well as a lot of stamina—for the recruitment of editorial contributors. One of them was to translate tractates and manuscripts by foreign chemical philosophers and to publish them with Nicolai. This step prompted foreign philosophers to furnish Crell with chemical intelligence from their respective country, likely due to the principle of polite reciprocity which governed philosophical interactions since the Republic of Letters. An excellent example is the Irish experimenter Richard Kirwan (1733—1812) and his essays on phlogiston, for which the philosopher had received the Royal Society's Copley Medal in 1782. For a decade, from 1777 to 1787, Kirwan resided in London where he became a Fellow of the Royal Society in February 1780 and, in the following years, a leading actor of philosophical and chemical circles.²⁹⁴

Although no letters between Kirwan and Crell seem to have survived, he was relevant to Crell not only as a contributor of newest intelligence: Kirwan played a role in advertising and distributing Crell's periodicals among the philosophers in London. So much so that Crell spoke of Kirwan as his

²⁸⁹ Crell to Nicolai, September 16, 1780, Staatsbibliothek. (See Appendix.)

²⁹⁰ Johann Reinhold Forster, *A Voyage Round The World*, London: G. Robinson, 1778.

²⁹¹ Gerhard Steiner, 'Forster, Reinhold', in: *Neue Deutsche Biographie*, 5 (1961), p. 301.

²⁹² Crell to Nicolai, September 16, 1780, Staatsbibliothek Berlin.

²⁹³ Ibid.

²⁹⁴ J. Reilly, N. O'Flynn, 'Richard Kirwan, an Irish Chemist of the Eighteenth Century', *Isis*, 13 (1930), pp. 298-319, 299.

'agent in London'.²⁹⁵ Crell had furnished Kirwan with spare copies of his journals which the Irish experimenter handed out to potential subscribers.²⁹⁶

A central strategy governing Crell's approach to successfully recruiting contributors, carving out his editorial network and building his philosophical peer group was a rather uncommon method: he contacted strangers in his editorial capacity—generally ignoring the convention of approaching individuals whom he did not know by providing a recommendation of mutual acquaintances. He did so both with German as well as foreign individuals. While preparing the first issue of his *Chemische Annalen* in 1784, the editor, for example, turned to the well-respected naturalist Johann Hermann (1738—1800) who had been just appointed professor of chemistry at Strasbourg. The earlier was not acquainted with him. They did not even live in the same state—which was exactly the reason why Crell contacted him: in order to ask Hermann to provide him with 'notable mineralogical news in general and from your region in particular'.²⁹⁷ Hermann, ultimately, submitted mineralogical intelligence.²⁹⁸ Furthermore, he also affirmed Crell's sole editorship by subscribing to Crell's *Annalen*.

In contrast to Walch, Crell went beyond what was socially accepted, disregarding conventions, for the sake of his editorship. The interesting thing for us is that Crell's socio-cultural transgressions, instead of being punished by way of, for example, social ostracism, in fact were accepted and, in most cases that can be traced through the available correspondence, even welcome. Sole editorship pushed (or, potentially, created new) social conventions, doubtlessly drawing on some older ones, including those which had governed the republic of letters, such as 'reciprocity and gratitude'.²⁹⁹ One could go as far as saying that the social mores that had furnished national and international interactions between men-of-science in the late seventeen and early eighteenth centuries made sole editorship possible.

Sole editorship becomes instrument of dogma

Crell's ease of soliciting contributions and recruiting editorial help makes it somewhat surprising

²⁹⁵ Richard Kirwan, Lorenz Crell (translator), *Versuche und Beobachtungen über die spezifische Schwere, und die Anziehungskraft*, Berlin und Stettin: Nicolai, 1783.

Crell to Black, August 5, 1782, *The Correspondence of Joseph Black*, letter 243.

²⁹⁶ Crell to Black, August 5, 1782, *The Correspondence of Joseph Black*, letter 243.

²⁹⁷ Lorenz Crell to Johann Hermann, February 5, 1784, Universitätsbibliothek Leipzig, Signatur: Slg. Römer/NL 133/153.

²⁹⁸ Johann Hermann, 'Über einen violetten und einen weißen weißen Piorphyr', *Chemische Annalen*, 2(1788), pp. 414-416.

²⁹⁹ Anne Goldgar, *Impolite Learning. Conduct and Community in the Republic of Letters 1680—1750*, New Haven & London: Yale University Press, 1995, 19.

that, all of the sudden, Crell was losing both in the early 1790s, culminating in 1793.³⁰⁰ As mentioned in the introduction to this chapter, the phlogiston theory played a role. It would constitute a grave oversight to speak about Crell's editorial identity without acknowledging his dogmatic adherence to this particular theory.

The phlogiston theory went back to the turn of the century, when Georg Stahl (1660-1734) proposed that elemental to each combustible body was a constituent called phlogiston which was released during the combustion.³⁰¹ Throughout the following decades, different interpretations of phlogiston evolved, as well as criticism of the theory, most notably by a circle of French chemists, particularly its most famous member, Antoine-Laurent de Lavoisier (1743—1794). The phlogiston discourse culminated in the German lands in the 1780s and early 1790s.

Crell was a strong proponent of the theory—and, as an editor, tended to seek out other proponents as contributors, such as Kirwan. The Irish experimenter was an ardent and well-respected defender of the phlogiston theory until the later 1780s.³⁰² Throughout the 1780s and early 1790s, Crell offered a forum for both sides, defenders but also critics of phlogiston, which meant that he commonly published pieces by chemical investigators such as Sigismund Friedrich Hermbstaedt (1760—1833), Martin Heinrich Klaproth (1743—1817) and others who increasingly demonstrated the pitfalls and weaknesses of the phlogiston concept, verifying the French findings put forward by Lavoisier.³⁰³

In 1793, when in the face of the available research most German experimenters agreed that the phlogiston theory could no longer be upheld, Crell turned his famous periodical into one of the last bastions of phlogiston proponents. He tried to reconcile the concept with Lavoisier's oxygen theory of combustion, based on 'their main arguments which seem independent from each other' and could therefore, according to Crell, coexist.³⁰⁴ The editor continued printing new findings that seemed to corroborate the idea of phlogiston.³⁰⁵ Among the small group of like-minded

³⁰⁰ See Hufbauer, Chapters: "The 'Frensch Chemistry'"; 'The Notorious Reduction Experiment'.

³⁰¹ Maximilian Lackner, Arpad Palotas, Franz Winter, *Combustion. From Basics to Applications*, Weinheim: Wiley VCH, 2013, 1. A.W. Ward, G.W. Prothero, Stanley Leathes, eds., *The Cambridge Modern History*, vol. 5, Cambridge: University Press, 1908, 732.

³⁰² P. J. McLaughlin, 'Richard Kirwan Part II-Kirwan and Chemistry in the Eighteenth Century', *An Irish Quarterly Review*, 28(1939), pp. 593-605, 601.

³⁰³ The exact timeline as well as papers published in Crell's *Annalen* that contributed to the theory's rebuttal will not be discussed in more detail here since they have been outlined by Hufbauer. See Hufbauer, Chapter: 'The Notorious Reduction Experiment'.

³⁰⁴ Lorenz Crell, *Einige Bemerkungen über das phlogistische und das antiphlogistische Epistem*, *Chemische Annalen*, (2) 1793, pp. 346-352, 346.

³⁰⁵ Johann Friedrich Gmelin, 'Winke an seine Zeitgenossen, den Streit über den Brennstoff betreffend', *Chemische Annalen*, 1(1795), pp. 287-302 and pp. 391-409. Johann Christian Wiegleb, 'Über die Entstehung und Natur der

contributors who remained loyal to Crell's journal were Wiegleb and Gmelin, the two chemical experimenters whom Crell met through Nicolai and who were the first renowned philosophers to contribute to the *Chemisches Journal*.

The phlogiston theory was deeply interwoven with Crell's editorial and even with his individual identity, probably since his time in Edinburgh, under the famous Professor Black who at that time had been a supporter of the phlogiston-theory.³⁰⁶ As mentioned above, Crell seems to have held Black in particular esteem, writing to his former teacher in August 1782: 'You really can hardly believe, how much I [...] reverence You: how much I, on every occasion, feel, that I am obliged to You for the kind instructions in Chemistry, I received by your lectures; & how much I love your open sincere, et friendly Character.'³⁰⁷ Since Crell penned these lines also in his capacity as a sole editor, his hyperbolic rhetoric is likely once again an editorial means, to win Black as a correspondent of philosophical intelligence. Yet, it is possible that Black left a significant mark on Crell's chemical understanding as well as his sole editorship because he had introduced Crell to chemistry—and therefore potentially impacted him even after the phlogiston theory was refuted.

The fact that most of the leading German chemists did not contribute to the periodical after 1793 and Crell did not publish lists of subscribers anymore suggest that readers, most probably, were cancelling their subscriptions in the early 1790s and abandoning Crell's periodicals. Crell, however, did not adapt his editorial stance and tactics according to the developments. He continued editing his *Chemische Annalen* until 1804, facing irrelevance among fellow philosophers.

It seems somewhat bewildering that somebody, who carried out as little actual research as Crell, would so emphatically support one theory—and risk the success of his crucial professional instrument over one particular chemical assumption. It appears that Crell, by 1793, had reached so much by way of his sole editorship that he felt less and less dependent on it. Yet, the fervour with which he defended phlogiston suggests that he was still passionately involved in both chemistry and sole editorship. One reason for this is, possibly, that Crell had invested significant amounts of time into the phlogiston theory, for example, translating Kirwan's works into German which amounted to roughly 1170 pages.³⁰⁸ In other words, he had made this theory another

sogenannten Stick- oder azotischen Luft und die daraus gezogenen Folgen', *Chemische Annalen*, 2(1796), pp. 467-493.

³⁰⁶ Richard Myers, *The Basics of Chemistry*, Westport, London: Greenwood Press, 22.

³⁰⁷ Crell to Black, August 5, 1782. *The Correspondence of Joseph Black*, letter 243.

³⁰⁸ Richard Kirwan, and Lorenz Crell (translator), *Die wahre neuentdeckte Natur des Phlogiston's*, Berlin and Stettin: Nicolai, 1783. Richard Kirwan, and Lorenz Crell (translator), *Physisch-chemische Schriften*, Berlin and

cornerstone of his career. Continuing his sole editorship without compromising the phlogiston theory potentially seemed like the one approach thanks to which Crell could maintain and protect the two elements that, in his eyes, were essential to his career.

With his dogmatic approach to the phlogiston theory we witness a way in which sole editorship was instrumentalized for personal convictions and beliefs—a behaviour from which Walch steered away, due to his society-based mentality. In his dogmatic approach, Crell potentially did sole editorship a disservice: he likely demonstrated to critics that sole editorship was detrimental to the production of philosophical knowledge because it served the personal ends of an individual.

CONCLUSION

This chapter demonstrates the significant potential of early sole editorship for philosophical self-fashioning. In 1778, Crell was not affiliated with any respected philosophical society—in 1793, he was the member of 34 leading societies and academies throughout Europe and the United States.

Unlike Walch, Crell seemed to have believed that his academic and professional career depended on his sole editorship. This prompted the Helmstedtian professor to undertake editorial experiments, such as designing not one but nine chemical periodicals, for example the *Chemisches Archiv*, in which he reprinted pieces pertaining to chemistry from old issues of foreign society and academy transactions.³⁰⁹ Crell's editorial practices fostered a highly visible editorial persona and strong editorial authority—both of which linked Crell closely with all his journals; so much so that German philosophers and academics came to know him as a chemical editor and viewed his editorship as the reason for his professional advancement, from as early as 1780.³¹⁰ But it was not only Crell's peers who perceived his periodicals and sole editorship as closely intertwined with Crell himself: the governing elites considered Crell's journal conducting a philosophical and professional achievement and rewarded it, once again suggesting that in the late eighteenth century-Germanies, sole editorship was perceived as an expression of an individual's philosophical knowledge, skills, interests and preferences—rather than a philosophical instrument of the group.

The fact that sole editorship was Crell's instrument for philosophical and professional self-

Stettin: Nicolai, 1788. Richard Kirwan, and Lorenz Crell (translator), *Anfangsgründe der Mineralogie*, Berlin and Stettin: Nicolai, 1798.

³⁰⁹ In the first issue of his *Chemisches Archiv*, for example, Crell published 82 pieces from the earliest issues of the *Philosophical Transactions*, namely from the years 1665 – 1699. Lorenz Crell, 'Vorbericht', *Chemisches Archiv*, 1(1783), pp. 10-16, 14.

³¹⁰ Anon., 'Helmstädt', *Gothaische gelehrte Zeitungen*, 13(1780), p. 654.

fashioning invites a nuanced interpretation of Hufbauer's findings: the chemical forum, which Hufbauer has discussed in his book, was a by-product of Crell's sole editorship, not his central goal and priority. We have come to think of the scientific journal as an instrument of and for scientific communities—but this was not what Crell had in mind when he devised his sole editorship in early 1777, as this chapter shows. The fact that sole editorship furthered and spurred philosophical development was a by-product of Crell's philosophical and academic ambitions.

Considering that the majority of Crell's regular contributors were in contact with each other through private correspondence and face-to-face exchange,³¹¹ one wonders to what degree the 'chemical forum' presented by Hufbauer actually was a forum—or whether it was a *public mirror* of what was going on in private letters, coffee shops and other sites. After all, to carry out the phlogiston discourse openly, in public, allowed its participants to attract attention of peers and governing elites. In short, the individual case study of Crell's sole editorship invites future reflection of its socio-cultural nature and the quality of the philosophical sociability it created.

Furthermore, Nicolai's strong involvement in Crell's editorial undertaking links sole editorship with the German Enlightenment. Nicolai's support infused Crell's editorship with *zeitgeist* values which invite a closer look at the interrelations between the early sole editorship and the Enlightenment in the German lands.

³¹¹ This is because the twenty-seven individuals that contributed most often to Crell's periodicals either lived in the same city or maintained close correspondence.

CHAPTER THREE
WILLIAM NICHOLSON

**A PROJECTOR'S IMPACT ON PHILOSOPHICAL INFRASTRUCTURE:
THE ADVENT OF SOLE EDITORSHIP IN BRITAIN**

INTRODUCTION

At the commencement of 1797, Mr. Nicholson began his “Philosophical Journal”, the first periodical work devoted to the sciences which had till that time appeared in the British empire, [...] which, to say the least of it, is such a monument of the industry, acquisitions, and ability of the conductor as few men will leave behind them.³¹²

Taken from a review of William Nicholson’s (1753–1815) memoir, these lines are illustrative of the approval and praise that Nicholson received for his sole editorship. But they may seem surprising, considering the socio-cultural environment in which Nicholson founded his periodical.

While in the Heiliges Römisches Reich, academia welcomed sole editorship and the self-fashioning as a man of science, Britain—and particularly England—offered significantly fewer opportunities of self-fashioning as a man of science—as the first part of this chapter will show. In contrast to his German peers Walch and Crell, the London-based Nicholson was not situated in an environment that incentivised philosophical sole editorship: the central philosophical organ in England, the Royal Society of London, was dominated by nobility, affluence and a strong oral tradition.³¹³

The history of Nicholson’s sole editorship and his *Journal of Natural Philosophy, Chemistry and the Arts* (1797–1813) reaches back to the late 1780s, about a decade before the first issue of his periodical appeared. The second part of this chapter will introduce the events leading to Nicholson’s editorship, discussing a number of individuals involved, most prominently Sir Joseph Banks (1742–1820), President of the Royal Society (1778-1820). More concretely, this chapter will reveal the two central reasons for Nicholson’s sole editorship: his exclusion from the Royal Society and his involvement with politically active individuals who fostered his awareness of socio-cultural inequality—and helped him realize that editorship could be a tool to overcome that inequality to some degree.

³¹² Anon., ‘Memoir of William Nicholson, Esq. [With a portrait]’, *The European Magazine and London Review*, August 1812, pp. 83-87, 86.

³¹³ John Gascoigne, *Joseph Banks and the English Enlightenment: Useful Knowledge and Polite Culture*, Cambridge: Cambridge University Press, 1994, 251.

Together with the two earlier German cases, this chapter suggests that it was the editor—and not a particular national context or a specific philosophical infrastructure—who played the crucial role in the advent and establishment of early sole editorship. However, national and infrastructural differences shaped individual editorial strategies, leading to a different sole editorship model in England than we have encountered in the Heiliges Römisches Reich. This will become apparent through a discussion of Nicholson's editorial concepts and strategies in the third and last part of this chapter.

Although Nicholson and his journal routinely get honorable mentions in the roll call of early philosophical journals,³¹⁴ so far we have only two studies of Nicholson's journal. The first one is Samuel Lilley's article from 1948.³¹⁵ But Lilley's piece focuses more on the periodical than on its editorial processes and the editor himself. Recently, Iain Watts contributed the only other article on Nicholson's periodical, focussing on a couple of incidents in 1802, in which Nicholson and Banks clashed with each other over editorial decisions.³¹⁶

Indirectly, Watts has suggested that Banks was an inhibiting force to Nicholson's sole editorship. This chapter argues that the President was, in fact, a catalyst of the advent of Nicholson's periodical and, thereby, of sole editorship in Britain. In so doing, it will complicate the available scholarship on Nicholson, also showing that Banks and Nicholson were able to lay their conflicts aside and to cooperate if it furthered their respective interests.

The main sources for this chapter are biographies of Nicholson, especially the one penned by his son, as well as obituaries.³¹⁷ Furthermore, Nicholson's books, reviews of his journal and the transactions of societies of which he was a member are important sources. Unfortunately, what little correspondence of Nicholson has survived does not refer to his sole editorship.

³¹⁴ Alex Csiszar, *The scientific journal. Authorship and the Politics of Knowledge in the Nineteenth Century*, Chicago and London: University of Chicago Press, 2018, 59. Iain Watts, "'Current' Events: Galvanism and the World of Scientific Information, 1790–1830", PhD Thesis, Princeton University, 2015, 67. Bill Brock and A.J. Meadows, *The lamp of learning: Taylor and Francis and the development of science publishing*, London: Taylor and Francis, 1998, 90. David Kronick, *A History of Scientific and Technical Periodicals: The Origins and Development of the Scientific and Technical Press, 1665-1790*, New York: Scarecrow Press, 1962, 118.

³¹⁵ S. Lilley, 'Nicholson's Journal (1797–1813)', *Annals of Science*, 6 (1948), pp. 78–101.

³¹⁶ Iain Watts, "'We want no authors': William Nicholson and the contested role of the scientific journal in Britain, 1797–1813," *British Journal for the History of Science*, 47(2014), pp. 397–419.

³¹⁷ William Nicholson junior, Sue Durrell, ed., *The life of William Nicholson*, London: Peter Owen, 2018.

Natural Philosophy in England during the 1790s

Natural philosophy in England was neither as closely linked to academia nor as intensely pursued by academic staff as it was in the Heiliges Römisches Reich. The only two English Universities, Oxford and Cambridge, had ‘almost totally shed the last vestiges of the scholastic academic order’ and were no longer subjugated to ecclesiastical influences.³¹⁸ But, during the 1790s, the two English universities played a more important role as education institutions and still a means of social advancement than philosophical research.³¹⁹

Medical education was generally the activity through which young Englishmen became familiar with chemical and other philosophical inquiries. But as a young Englishman truly dedicated to philosophy, one would not take up medical studies in England.³²⁰ It has been estimated that ‘by the end of the eighteenth century nearly sixty per cent of English men-of-science had pursued at least part of their studies elsewhere’.³²¹ They travelled either abroad, for example to Leyden³²², — or to Scotland.³²³ Starting in the second half of the eighteenth century, Cambridge and Oxford— as well as the other three Scottish universities of Glasgow, St Andrews and Aberdeen—were secondary to Edinburgh when it came to natural philosophy³²⁴: Edinburgh enjoyed both prominence and ‘preeminence in science which gained for it the reputation of being the best university for science in Europe and in the English-speaking world’.³²⁵ Indeed, the University of Edinburgh was ‘remarkably productive of students who (later) attained eminence in science partly as a result of their deliberate sojourn in the city’.³²⁶

But where did philosophical research take place in the late eighteenth-century England? It was conducted within the structures of learned societies, essentially different from the philosophical academies in the German lands. The British societies were voluntary associations whose members paid subscription fees, rather than crown-organized and funded academies as in the German

³¹⁸ A. Rupert Hall, ‘Cambridge: Newton’s Legacy’, *Notes and Records*, 55(2001), pp. 205-226, 205.

³¹⁹ Ian Britain, ‘Education’, in: Iain McCalman, ed., *An Oxford Companion to the Romantic Age: British Culture, 1776-1832*, Oxford: Oxford University Press, 2001, 161–170, 164.

³²⁰ James Donnelly, ‘Industrial recruitment of chemistry students from English universities: a reevaluation of its early importance’, *British Journal for the history of science*, 24(1991), pp. 3-20, 3.

³²¹ A.J. Meadows, *Communication in Science*, London: Butterworths, 1974, 71.

³²² W. Hackmann, ‘The growth of science in the Netherlands in the seventeenth and early eighteenth centuries’, in: Maurice Crosland, ed., *Emergence of Science in Western Europe*, London: MacMillan, 1975, 89–109.

³²³ Margaret Jacob, Larry Stewart, *Practical Matter*, Cambridge, London: Harvard University Press, 2004, 120. J. R. Christie, ‘The rise and fall of Scottish science’, in: Crosland, *Emergence*, 111-26.

³²⁴ David Wilson, *Seeking Nature’s Logic: Natural Philosophy in the Scottish Enlightenment*, University Park Pennsylvania: Pennsylvania State University Press, 2009, 274.

³²⁵ J. B. Morrell, ‘The University of Edinburgh in the Late Eighteenth Century: Its Scientific Eminence and Academic Structure’, *Isis*, 62(1971), pp. 158-171, 158.

³²⁶ Morrell, 159. Nicholas Hans, *New Trends in Education in the Eighteenth Century*, London: Routledge & Kegan Paul, 1951, 32.

lands.³²⁷ The British societies emerged as the initiative of individuals like Newton and Wren and were product of historical tradition—not deliberate planning, as it was the case with the cameralist system in the Heiliges Römisches Reich. The centre for philosophical research and its international exchange was the Royal Society of London.

Infrastructure of English philosophical discourse

During the 1790s, the Royal Society held together and dominated the mechanisms of philosophical communication, approbation and networking. What did philosophical discourse look like in England, particularly with the Royal Society as the center of philosophical inquiries? Publishing played a much smaller role for English philosophers than for the German ones during the second half of the eighteenth century. In England, philosophical exchange rested to a notably higher degree on oral than written communication.

Regular meetings of the Royal Society took place every Thursday, when Fellows would also dine together and socialize.³²⁸ Presidential breakfasts were also part of the social engagements during the season which ran from early November to the end of June.³²⁹ In addition, the Society's calendar offered other events such as soirees. The same was true for philosophical societies outside of London, such as the Manchester Literary and Philosophical Society or the Derby Philosophical Society.³³⁰

Besides the face-to-face culture of the societies, another established instrument of philosophical discourse still played an important role in the last decades of the eighteenth century: epistolarity. The epistolary tradition, which had upheld the Republic of Letters during the seventeenth and eighteenth centuries, was still the means of English philosophers to update others about one's observations, learn about the activities of peers and carry out philosophical debates.³³¹ Letter correspondence was a centrepiece of philosophical activities, so much so that leading men-of-

³²⁷ James McClellan, 'Scientific Institutions', in: Roy Porter, ed., *The Cambridge History of Science: Volume 4, Eighteenth-Century Science*, Cambridge: Cambridge University Press, 2003, 87–98, 89.

³²⁸ I am grateful to Aileen Fyfe, Noah Moxham, Julie McDougall-Waters and Camilla Mørk Røstvik for providing me advance access to drafts of the relevant chapters of their forthcoming book on the history of the *Philosophical Transactions*.

³²⁹ Ibid.

³³⁰ Robert Schofield, *The Lunar Society of Birmingham: a social history of provincial science and industry in eighteenth-century England*, Oxford: Clarendon Press, 1963. Paul Elliott, *The Derby Philosophers: Science and Culture in British Urban Society, 1700-1850*, Manchester: Manchester University Press, 2009. Donald Sheehan, 'The Manchester Literary and Philosophical Society', *Isis*, 33(1941), pp. 519-523. James McClellan, *Science Reorganized: Scientific Societies in the Eighteenth Century*, New York: Columbia University Press, 1985.

³³¹ Neil Chambers, 'Letters from the President: The Correspondence of Sir Joseph Banks', *Notes and Records*, 53(1999), pp. 27-57, 36.

science, including Banks, made sure that ‘interruptions to his scientific correspondence were carefully avoided’.³³²

One of the things that Banks had in common with his peers was the fact that he published notably little. In contrast to the strong publishing culture of philosophical findings and their practical applications in the German lands, England did not have a comparable one, as, for example, Roy Porter has said of geologists:

John Michell published none of his later work; Henry Cavendish none at all. Sir James Hall never wrote a geological book. Although a fresh configuration of Earth science interests – newly to be called ‘geology’ - was crystallizing towards the end of the century, the amateur tradition long preserved contacts and communication on an informal, personal level.³³³

Besides the ephemeral personal meetings and face to face dialogues, society-based *Philosophical Transactions* was another means of communication at the Royal Society, handing novel findings down to posterity. The transactions ‘both secure the shared values of a scientific community and certify what that community takes to be licensed knowledge.’³³⁴ Some of the societies outside of London also tended to publish transactions—but not all, as the lack of regular publications of the Lunar Society and Derby Society suggests. Yet, by 1790s, most societies that aspired to being ‘proper societies’ did publish volumes of ‘memoirs’ or ‘transactions’.

The *Transactions* was not a commercial undertaking because it was financially supported by the Society’s funds, not by sales.³³⁵ Its copies were handed out to Fellows for free. But, as Adrian Johns has observed for the early existence of the *Transactions*, due to its exclusivity it became “subjected to such practices, which [...] came to be known as ‘piracy’” and was sold for high prices.³³⁶ Oftentimes, this even happened without the knowledge of founder Henry Oldenburg (c. 1618—1677) and, in the eighteenth century, of the Royal Society which took over the editorship and responsibility for the *Transactions* in 1752. However, this step was not motivated by ambitions to foster philosophical authorship or editorship—but was perceived as necessary to avoid further

³³² Chambers, ‘Letters’, 41.

³³³ Roy Porter, ‘Gentlemen and Geology: The Emergence of a Scientific Career, 1660–1920’, *The Historical Journal*, 21(1978), pp. 809–836, 815.

³³⁴ Adrian Johns, ‘Miscellaneous methods: authors, societies and journals in early modern England’, *British Journal of the History of Science*, 33(2000), pp. 159–186, 159. For the late eighteenth century see Aileen Fyfe and Noah Moxham, ‘Making public ahead of print: meetings and publications at the Royal Society, 1752–1892’, *Notes & Records*, 70(2016), pp. 361–379.

³³⁵ Aileen Fyfe, Julie McDougall-Waters and Noah Moxham, ‘350 years of scientific periodicals’, *Notes and Records*, 69(2015), pp. 227–239.

³³⁶ Johns, 163.

criticism and ridicule that the *Transactions* had received from English commentators, particularly John Hill (1714–1775).³³⁷

Since 1752, the *Transactions* was usually issued in two parts each year, mainly in February and November. Annual volumes were circulated among learned institutions across Europe. But the majority of natural philosophers in England was left without the possibility to peruse the *Transactions*. As Nicholson observed more generally, ‘even the best memoirs they [transactions] contain must continue unknown to a very large class of men of science’ due to the exclusivity of the *Transactions* and other society-run periodicals.³³⁸ In Nicholson’s eyes, this was a weakness of the English philosophical discourse. The fact that some of the knowledge contained in the *Transactions* eventually found its way into more accessible print outlets such as reviews and encyclopaedias was not enough for him.

Considering the English philosophical infrastructure and discourse, Nicholson’s decision to assume sole editorship seemed notably less promising than that of his German peers—also because English men-of-science had reservations about periodicals and the periodical market altogether. The Royal Society, in which landowning, genteel and aristocratic individuals came together, was oftentimes critical of the print media. According to A. Aspinall, ‘[i]n an age when the country was still for the most part governed by the aristocracy and its connections, it was natural that men who wrote for the people and sought to bring the pressure of public opinion to bear on Parliament and the Government by appealing to the opinions and prejudices of the people, should be looked upon with suspicion and even hostility.’³³⁹ Highly aware of the French Revolution, Banks, for example, fretted that the poor would come to despise the genteel classes by reading seditious pamphlets and other print products.³⁴⁰ Here the elite gentlemen’s distrust of the popular press at a time of possible revolution combined with the gentlemanly philosophers’ distrust of print media. Additionally, the fact that Banks and the Royal Society were caricatured and satirised from ‘as early as 1772’ further aggravated the leading philosophers’ stance towards print media.³⁴¹ So, why would Nicholson want to start a periodical?

³³⁷ For the criticism of the *Transactions* and its consequences see Fyfe, ‘350 years’.

³³⁸ William Nicholson, ‘Preface’, *Journal of Natural Philosophy*, 1(1797), pp. iii-iv, iv.

³³⁹ A. Aspinall, ‘The Social Status of Journalists at the Beginning of the Nineteenth Century’, *The Review of English Studies*, 21(1945), pp. 216-232, 220. See also Chapters 2 and 3 in: James Curran, Jean Seaton, *Power Without Responsibility*, London and New York: Routledge, 2018. Aled Jones, *Powers of the Press: Newspapers, Power and the Public in Nineteenth-Century*, Abingdon: Ashgate, 1996.

³⁴⁰ Steven Lagerfeld, ‘The Reading Revolution’, *American Media: The Wilson Quarterly Reader*, Spring 1986, pp. 11-22, 18.

³⁴¹ Heather Ellis, ‘Masculinity and Science in Britain, 1831–1918’, in: *Genders and Sexualities in History*, London: Palgrave Macmillan, 2017, 32. See also: Jan Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*, Cambridge: Cambridge University Press, 1992.

Nicholson's background and his life as 'Projector'

Nicholson was the son of a solicitor with enough financial means to send his only son to a boarding-school. But Nicholson decided to switch from school to sea: at the age of sixteen, he took up employment with the East India Company and travelled to India.³⁴² After his return to Europe, in 1773, he, worked for the well-known pottery manufacturer Josiah Wedgwood and in the second half of the 1770s returned to England.³⁴³

Here, Nicholson was neither in permanent employment nor pursued a particular line of work. Instead, he earned his living through penning articles, plays, translations as well as teaching. Moreover, he was a gifted inventor, devising machines for comb-cutting and file-making as well as an aerometer and a printing cylinder.³⁴⁴ He was, in short, what his contemporaries called a 'projector'.³⁴⁵ In 1697, Daniel Defoe (1660—1731) had written about *The Projecting Age* and its actors in his *Essay upon Projects*. Whereas in Defoe's time the term 'projector' had a distinctly unsavoury connotation, being associated with unscrupulous schemes for getting money', a century later it began to develop a relatively neutral meaning.³⁴⁶ But even though Nicholson's obituarists emphasized his good reputation they observed that he 'shared the common fate of projectors, to be continually employed without enjoying any material advantage from his labours'.³⁴⁷

Nicholson's experiences as journalist and book author

Authorship was the central professional activity with which Nicholson earned his living. The origin of his writing activities can be traced back to the influence of his social network as a young man back in London, especially one individual, Thomas Holcroft (1745—1809), who, in 1783 and 1784, conducted *Wit's Magazine*, using fiction to advocate political and social change, and probably also influenced Nicholson's later decision to commence sole editorship.³⁴⁸ 'It seems probable', wrote one of Nicholson's contemporaries,

³⁴² 'Memoir', *European Magazine*, 84.

³⁴³ Anon., 'Memoir of late Mr Nicholson', *The Gentleman's Magazine, and Historical Chronicle*, 86(1816), pp. 70-71, 70.

³⁴⁴ See Nicholson junior.

³⁴⁵ 'Memoir', *The Gentleman's Magazine*, 70.

³⁴⁶ Maximillian Novak, 'Introduction', in: Maximillian Novak, ed., *The age of projects*, Toronto and London: University of Toronto Press, 2008, 3-26, 3.

³⁴⁷ 'Memoir', *The Gentleman's Magazine*, 71.

³⁴⁸ Gary Kelly, 'Holcroft, Thomas', *Oxford Dictionary of National Biography*, <https://doi.org/10.1093/ref:odnb/13487>, [accessed May 27, 2017].

that an intimacy he [Nicholson] formed with the late Mr. Holcroft, the Dramatic writer, from whom in his lifetime we derived a large part of the information we now communicate, might have persuaded him, that at least as much Revenues could be obtained from literary publications as from any of the objects to which he had before directed his thoughts.³⁴⁹

Like Holcroft, Nicholson cultivated authorship in genres as eclectic as literary, non-fiction and periodical journalism. He seems to have started with smaller articles and reviews, mainly on *Belles Lettres*. Essay, tales and poems followed in the 1780s, but, as his contemporaries observed, he published all these works anonymously.³⁵⁰

In contrast, Nicholson tended to sign his philosophical publications—which suggests that he wanted to be publicly perceived as a natural philosopher from, at least, the late 1770s. During these years and in the 1780s, the talented autodidact translated several French chemistry books into English and made a reputation for himself as a philosophical author. More importantly, he wrote a textbook, *Introduction to Natural Philosophy* (1782), which was an immediate success and went on to ‘supersede Rowning’s System of Natural Philosophy’, running to five editions.³⁵¹

In 1784, Nicholson brought out *Navigator’s Assistant, containing the theory and practice of Navigation*.³⁵² Although this particular work was not as successful as *Introduction*, it seems important in a different way: it deepened the acquaintance between Nicholson and John Sewell (1735–1802), the publisher of the book, who later recruited Nicholson for another undertaking which would, ultimately, lead to a consequential disagreement between Nicholson and Banks and is likely to have motivated Nicholson to assume editorship.³⁵³

Among other works, Nicholson’s *Abstract of the Arts relative to the exportation of Wool*, which appeared in 1786, speaks to his assumption that printing and publishing were means to support the national arts, manufacture and economy and further England’s economic and socio-cultural interests.³⁵⁴ Nicholson’s *Review of the Controversy between Kirwan and the French Academicians on the subject of Phlogiston* (1787), suggests, in turn, Nicholson’s close attention to and in-depth understanding of on-going philosophical debates.³⁵⁵ In the late 1780s, Nicholson worked mainly

³⁴⁹ ‘Memoir’, *European Magazine*, 84.

³⁵⁰ *Ibid.*, 84.

³⁵¹ ‘Memoir’, *The Gentleman’s Magazine*, 70.

³⁵² William Nicholson, *Navigator’s Assistant, containing the theory and practice of Navigation*, London: Sewell, Cadell, Longman, 1784.

³⁵³ ‘Memoir’, *The Gentleman’s Magazine*, 70.

³⁵⁴ *Ibid.*, 71.

³⁵⁵ *Ibid.*

on the books of the French chemist Antoine François de Fourcroy (1755–1809), resulting in a four-volume work titled *Elements of Natural History and Chemistry*.³⁵⁶

Nicholson's publishing record suggests that he not only knew how to address a number of different audiences and had well-established links to the publishing market but also skills such as the fluency in French and a broad natural philosophical knowledge which he could turn into central resources to his sole editorship.

Nicholson's participation in discourse on philosophy and its practical application

It was through voluntary activities that Nicholson made some very useful contacts. He was a member of several formal and informal clubs. One of the first regular meetings which Nicholson frequented upon his return to London were the dinners of the Cannonians, around 1780. The group got its name from their chairman, an 'eccentric man of letters' named Cannon (n/a).³⁵⁷ The Cannonians formed an informal dining club that convened in a cook-shop in St Martin's Lane 'where in the upper room [...] a daily party of men, afterwards destined to be eminent in Science, Art, and Literature, met to partake of ninepenny dinners'.³⁵⁸ Holcroft was one of the club members and it is possible that he and Nicholson met here for the first time.³⁵⁹ The Cannonians offered Nicholson a possibility of networking and philosophical debates, but the dining club combined members of various walks of life, including actors. Nicholson looked for other possibilities to connect particularly with individuals devoted to philosophy and its practical applications.³⁶⁰

It was not through paid projects but rather through his voluntary activities that Nicholson met individuals who would become crucial actors in his editorial endeavour, namely a notable number of local and foreign contacts among men-of-science as well as manufacturers and inventors. At the age of 30, in mid-December 1783, Nicholson became a member of the Coffee House Philosophical Society, where he met some of the leading figures of the scientific community.³⁶¹ The Society had come into being in December 1780 and would exist for roughly six and a half

³⁵⁶ Jan Golinski, 'Nicholson, William', *Oxford Dictionary of National Biography*, <https://doi.org/10.1093/ref:odnb/20153>, [accessed August 3, 2018].

³⁵⁷ Reginald Corlass, 'William Nicholson', *The Reliquary*, 22(1882), pp. 40-42, 40.

³⁵⁸ *Ibid*, 40.

³⁵⁹ George McLean Harper, *William Wordsworth, His Life, Works, and Influence*, Vol. 1, Victoria: Russell & Russell, 1961, 192.

³⁶⁰ *Ibid*, 192.

³⁶¹ Nicholson had been suggested as a member by his friend Jean-Hyacinthe de Magellan (1722–1790). T.H. Levere and G. L'E. Turner, *Discussing Chemistry and Steam. The Minutes of a Coffee House Philosophical Society, 1780-1787*, Oxford: Oxford University Press, 2002, 19.

years.³⁶² Its meetings took place fortnightly.³⁶³ The ‘prime mover’ of the society was Richard Kirwan, whom we have met in the previous chapter, as Crell’s agent in London.³⁶⁴

The Coffee House Society had, at its peak, 55 members, 33 of which either were or would go on to become Fellows of the Royal Society. The society, which included famous inventors like James Watt (1769–1848) among their members, laid at the crossroads of two social groups which would become crucial to Nicholson’s editorial undertaking: entrepreneurial inventors and men of science.

In mid-November 1784, Nicholson and William Babington (1756—1833) were elected ‘first’ and ‘second’ secretaries of the Society.³⁶⁵ According to T.H. Levere and G. L’E. Turner, Nicholson ‘made the meetings much more effective and disciplined’.³⁶⁶ During the meeting following his election, he appears to have raised thirteen procedural matters for discussion and action.³⁶⁷ His coordinating role made him a prominent member of the Society, which must have offered good networking possibilities and likely allowed him to hone his organisational skills, further benefitting his later role as editor.

Although another of Nicholson’s group-based activities was not devoted to philosophical discourse, it, nonetheless, likely carried importance for his sole editorship because it demonstrated that one could further one’s interests—even against existing laws and customs—through rigorous and strategic self-organizing: in 1784, while still a member of the Chapter Coffee House Society, Nicholson was active with the General Chamber of Manufacturers of Great Britain and Ireland (1785—1787). Nicholson’s former employer, Wedgwood, was the first chairman and proposed Nicholson as Secretary, from which, we might think that Nicholson was making a reputation for himself as a competent pair of hands if one wanted a Secretary.

This group of manufacturers of cottons, iron, ironware and pottery united for purposes of influencing public policy and successfully protecting some of their interests with the House of Commons, for example by organising regular petitions.³⁶⁸ Some important efforts of the

³⁶² Ibid.

³⁶³ Ibid, 6.

³⁶⁴ Ibid, 19. Note: No sources seem to have survived suggesting that Crell and Nicholson corresponded with each other.

³⁶⁵ Ibid, 19.

³⁶⁶ Ibid.

³⁶⁷ Ibid.

³⁶⁸ H.T. Dickinson, *The Politics of the People in Eighteenth-Century Britain*, Houndsmills, Basingstoke: MacMillan Press, 1994, 74.

Chamber's members were successful, such as abandoning the cotton tax in 1785 and amending trade concessions with Ireland.³⁶⁹ In his function as Secretary, Nicholson 'displayed an extensive acquaintance with political Economy, Finance, Statistics, and the Laws', while 'many of the publications of that well informed and acute body of men were drawn up and arranged, and others entirely composed by him'.³⁷⁰

All in all, Nicholson witnessed different forms of self-empowering including through both editorship and authorship (for example through Holcroft) as well as through strategic planning, self-organizing and peaceful but ongoing pressuring of elites, as was the case with the General Chamber. This likely contributed to his later resolve to use sole editorship as a means of philosophical self-empowering.

Nicholson's philosophical activities during the 1780s

That Nicholson would eventually need an instrument of philosophical self-empowering, probably seemed unlikely to him throughout the 1780s. In 1782, Nicholson came across a field of study which would turn into his main philosophical interest: electrochemistry. That year, Alessandro Volta (1747–1827), the father of the electrical battery, visited London. On this occasion, the Italian experimenter demonstrated his condenser and Nicholson not only met him but apparently also had the opportunity for in-depth conversations with Volta, which led to Nicholson's interest.³⁷¹

The year 1787 was particularly important for Nicholson as an experimenter eager to become a man-of-science and participating in philosophical discourse. Likely due to acquaintances such as Kirwan and Wedgwood, both of which were Fellows of the Royal Society, Nicholson regularly attended the *conversazioni* at Banks' house and asked the President to communicate a number of his recent electrochemical experiments to the Royal Society. Banks agreed and presented Nicholson's work at one of the Society's meetings. It went on to appear in the *Transactions* in 1788.³⁷² Nicholson chose the right person to communicate his experiments to the Society: due to Banks' influence, the papers presented and supported by him had the best chances to be published in the Society's transactions. Starting 1787, Nicholson contributed an article annually

³⁶⁹ Ibid.

³⁷⁰ 'Memoir', *European Magazine*, 85.

³⁷¹ Volta's journey from September 1781 to August 1782 brought him to London. See Paul Elliott, 'Abraham Bennet, F.R.S. (1749-1799): A Provincial Electrician in Eighteenth-Century England', *Notes and Records*, 53(1999), pp. 59-78, 67.

³⁷² William Nicholson, 'A description of an instrument which, by the turning of a winch, produces the two states of electricity without friction or communication with the earth. In a letter from Mr. William Nicholson to Sir Joseph Banks, Bart. P. R. S', *Philosophical Transactions*, 78(1788), pp. 403-407.

and continued working and writing mainly on electrochemistry. In 1789, for example, he described not only one but several electrochemical experiments in the *Transactions*.³⁷³

In other words, in the late 1780s, Nicholson began to establish himself among London's philosophical elite. He was able to contribute his findings to the central philosophical discourse and through the most respected means of communication among English men of science. What is more, he had the ear of Banks who was not only curious about Nicholson's experiments—despite the Society's comparatively small interest in electrochemistry—but also the instruments and inventions that Nicholson devised.³⁷⁴

Nicholson's hope of a Fellowship with the Royal Society and his conflict with Banks

Nicholson harboured the hope to become a Fellow of the Royal Society probably since the early 1780s. Back then, he prefaced the first edition of his *Introduction* with a two-page note to Banks, 'taking the liberty of dedicating the following Treatise to the President of that respectable Body of Men, among whom the true Philosophy had its origin, and to whom it owes a great part of its improvements'.³⁷⁵ When completing his *First Principles of Chemistry* in the late 1780s, Nicholson dedicated his work to another famous Fellow, Henry Cavendish (1731–1810).

Interacting with eminent philosophers such as Kirwan, admiring men like Cavendish and Banks, Nicholson found himself drawn to the Royal Society. Becoming a Fellow was likely attractive to him in two ways—first, because it would put him at the centre of British philosophical discourse and sociability and, second, because the Fellowship would provide a crucial social asset for a 'projector' like him, potentially leading to more, better-paid or long-term work.³⁷⁶

As mentioned above, in the late 1780s, Nicholson had Banks on his side.³⁷⁷ Having the support of the President was a significant advantage for Nicholson. He knew that the President, in cases

³⁷³ William Nicholson, 'Experiments and observations on electricity', *Philosophical Transactions*, 79(1789), pp. 265-288.

³⁷⁴ William Nicholson to Joseph Banks, March 20, 1788. Neil Chambers, ed., *Scientific Correspondence of Joseph Banks*, Vol. 3, London: Pickering and Chatto, 2007, 378/9.

³⁷⁵ William Nicholson, *An Introduction to Natural Philosophy*, in two Volumes, Vol. 1, London: Johnson, 1781, v/vi.

³⁷⁶ Richard Sorrenson has shown that men like school teachers and apothecaries could become Fellows with the Royal Society so that Nicholson had reason to believe he could be elected, too. See Richard Sorrenson, 'Towards a History of the Royal Society in the Eighteenth Century', *Notes and Records*, 50(1996), pp. 29-46.

³⁷⁷ William Nicholson to Joseph Banks, 20 March 1788. Neil Chambers, ed., *Scientific Correspondence of Joseph Banks*, Vol 3, letter 828, London: Pickering and Chatto, 2007, 378/9.

where he was well-disposed, was 'generous with strategic advice on the best way into [...] the Society'.³⁷⁸ Just a few years later, Banks advised Wedgwood's son

to defer putting himself forward as a candidate for election until two papers of his 'respecting the production of Light & heat from various bodies' had had time to appear in *Transactions*, on the theory that 'you will gain much upon the Good opinion of the members when they read your Papers at their Leisure & Consequently are able to understand them more fully than can be done by hearing them read'.³⁷⁹

By 1790, Nicholson had published three articles in the *Transactions*. But his good fortune was about to turn when he joined the Society for the Improvement of Naval Architecture (1791—1796). Sewell, the publisher and bookseller whom we met above, founded the Society and proposed Nicholson as a member from the outset. The two men believed 'British ships to be inferior to that of those designed and built in France and Spain' and in April 1791 convinced altogether 133 men to create a society that would encourage ship model testing and other activities 'by offering awards and medals'.³⁸⁰

Nicholson was a member of the Society's Committee, while Banks served as the Society's Vice-President.³⁸¹ It worked well 'till their operations began to be impeded by the jealousies' of Banks.³⁸² Since these events have not been documented and discussed by scholars yet, the whole report of a contemporary of Banks and Nicholson is provided here:

Not satisfied with being at the head of the Royal Society, he was anxious to be at the head of this Society also. [...] the President was the late Earl Stanhope, a man of extraordinary talent [...] Sir Joseph, however, uniformly thwarted the plans proposed by his lordship and the bulk of the Society, and soon formed a party of his own for the purpose of systematic annoyance. This led to a determination on the part of the main body to free themselves from this source of vexation. A series of resolutions was framed, proposed by the late Mr *William Nicholson* (Editor of the *Philosophical Journal*), and carried by a large majority. In these the Society firmly declared their determination to support the President, so long as he continued to aid and sanction the legitimate objects of the Society. Sir Joseph shortly after retired from the institution; *but not to remain in inactivity*.³⁸³

³⁷⁸ Fyfe et al, forthcoming.

³⁷⁹ Ibid. Joseph Banks to Thomas Wedgwood, March 17, 1792. *Banks Scientific Correspondence*, Vol. 4, 113.

³⁸⁰ Fred Walker, *Ships and Shipbuilders: Pioneers of Design and Construction*, Barnsley: Seaford, 2010, 40.

³⁸¹ The Society for the Improvement of Naval Architecture, *An Address to the Public*, London: n/a, 1791, 7. / Neil Chambers, *The Letters of Sir Joseph Banks: A Selection, 1768–1820*, London: Imperial College Press, 2000, 386.

³⁸² A Contributor, 'Sir Joseph Banks. A Review of some leading Points on the Official Character and Proceedings of the late President of the Royal Society', *Philosophical Magazine*, 56(1820), pp. 241-257, 251.

³⁸³ Ibid.

Nicholson's resolutions most likely were not a move against Banks personally. Instead—and in line with his earlier experiences as secretary of a couple of societies and member of several groups—Nicholson's behaviour was a consequence of his wish to make the Society work as efficiently as possible. We should not think of the fall-out between Banks and Nicholson as the big break after which the two men descended into animosity and hostility. It is likely that Nicholson first even was not aware of having done something wrong. But he likely found out over time. Banks, for example, did not communicate any other paper of Nicholson to the Royal Society in the 1790s and would never do so again. Ultimately, Banks also made sure that the Society collapsed.³⁸⁴ It did so in 1796, roughly one year before Nicholson published the first issue of his *Journal*.

According to the same anonymous source

Mr Nicholson [...] became a neighbour of Sir Joseph's, in Soho Square, and a certain degree of intimacy, in consequence subsisted between them; Mr Nicholson occasionally conducting experiments on voltaism, &c. at the President's house. Still, his crime in opposing Sir Joseph in the Society of improving Naval Architecture was never cordially forgiven; nor was he ever admitted [as] a fellow of the Royal Society.³⁸⁵

Nicholson indeed was still able to attend Banks' *conversazioni* and other meetings at the President's house: Banks' gentlemanly mores made it possible, according to which '(e)very morning the library, the fine reception rooms and the Museum were open to visitors... on polished tables lay the latest works on scientific subjects... Once a week, on Thursdays, he [Banks] held a formal reception, at which some particular subject, selected beforehand, was demonstrated or discussed.'³⁸⁶

Admitting Nicholson to some minor public meetings was one thing—supporting his admittance to the Royal Society a very different. In 1796, Banks made it distinctly clear that he did not consider Nicholson fit for the Society. The President apparently remarked: 'To be sure Nicholson is a clever fellow. But you know he is only a sailor-boy turned schoolmaster; and we cannot, with any sort of propriety, admit such people among us.'³⁸⁷ We know from Nicholson's son, that Nicholson learned what Banks had said: 'It came to my father's ears that Sir Joseph Banks was the chief objector [to Nicholson's election as FRS], having said that whatever pretensions Mr Nicholson had to the membership he did not think a 'sailor boy' a fit person to rank among the gentlemen members of

³⁸⁴ Ibid.

³⁸⁵ Ibid, 252.

³⁸⁶ Elizabeth Montagu, quoted after: Albert Edward Musson, Eric Robinson, *Science and Technology in the Industrial Revolution*, Manchester: Manchester University Press, 1969, 123/4.

³⁸⁷ 'Banks', *Philosophical Magazine*, 252.

the Royal Society or words to that effect'.³⁸⁸ Banks seems to have deepened the divide between him and Nicholson in 1796 and 1797, by resorting to ad-hominem attacks that mirrored the socio-cultural gap between the two men. Nicholson probably perceived the growing inability to advance his philosophical self-fashioning as a pressing injustice and a challenge.

Writing about England and France in the nineteenth century, Csiszar has emphasised that the 'scientific journal [editor-run periodical] was no solution to, or even a mirror of any problems of communication *within* [emphasis added] the scientific community'.³⁸⁹ And this holds true for the advent of sole editorship in Britain. Being blackballed by Banks, it was the exclusion from the well-respected community to which Nicholson wished to belong that likely triggered his idea of sole editorship.

In 1796, a year before Nicholson assumed sole editorship—and after more than twenty years of building a reputation for himself in philosophy and developing relations with fellows of the Royal Society—Nicholson saw his chances to become a member of the most influential and renowned British philosophical circle dwindle. Sole editorship seemed like the way around the impasse: it enabled Nicholson to participate in philosophical discourse, build and maintain a network of like-minded individuals, support arts and manufacturing, potentially share his inventions and observations with the broader public and, last but not least, generate additional income.

Put reductively, the advent of sole editorship in Britain was triggered by two men's bickering. But this interpretation veils the fact that Banks' and Nicholson's conflict was rooted in political structures and antagonistic socio-cultural milieus. Nicholson was close with individuals like Holcroft, the author and dramatist from the working class, who fervently supported political empowering of the individual and citizen which found expression in, for example, his support of the French Revolution.³⁹⁰ Holcroft likely perceived the Royal Society as he perceived William Pitt's (1759–1806) Parliament, namely as a 'gentleman's club'—and as a stronghold of monarchical loyalty.³⁹¹ He would not be mistaken, considering Banks' close ties to the British monarchy. Banks was 'a confidant to the king'.³⁹² From his election as President, the Society was increasingly

³⁸⁸ Nicholson junior, 90.

³⁸⁹ Alex Csiszar, 'Broken pieces of fact: the scientific periodical and the politics of search in nineteenth-century France and Britain', PhD Thesis, Harvard University, 2010, 8.

³⁹⁰ Mary Russell Mitford, *Recollections of a Literary Life, Or, Books, Places, and People*, Vol. I, London: Bentley, 1857, 89-114.

³⁹¹ Peter Jupp, 'The Landed Elite and Political Authority in Britain, ca. 1760-1850', *Journal of British Studies*, 29(1990), pp. 53-79, 56.

³⁹² Gascoigne, *Banks*, 98.

involved in a range of activities financed by the government—and was also, thanks to Banks' ambitions, experiencing stronger patronage from British monarchs, an early example of which was a grant for new Society's accommodations in 1780.³⁹³

Nicholson surrounded himself with individuals who fostered his awareness of a socio-cultural and political divide between him and Banks—and he helped them in editorial capacity. In 1792, for example, Nicholson edited William Godwin's (1756–1836) *Enquiry into Political Justice*, revising the introduction and conclusion as well as other parts of Godwin's manuscript.³⁹⁴ There was a close collaboration: while Nicholson and Godwin met only ten times at Nicholson's house the year before, the two men convened here 40 times in 1792.³⁹⁵ Once Nicholson clashed with Banks and witnessed the President's seeming abuse of rank and socio-cultural power, he likely felt attracted to some of Godwin's ideas presented in the *Enquiry*. One such idea was potentially that of the self-organizing capacities of the individual—for which early sole editorship was an example.³⁹⁶

All in all, it seems that Banks' behaviour as well as the politically charged milieu in which Nicholson moved combined in a way that invited the latter's sole editorship. Yet, it would be wrong to interpret Nicholson's editorship or journal as political, considering, for example, that he would go on to publish Banks' articles on the pages of his periodical. Nicholson never used his editorship to attack the Royal Society or its Fellows for political or socio-cultural reasons. In the preface to his first volume he indirectly even expressed his intention to include Fellows in the editorial undertaking. Here, Nicholson promised readers 'who are so fortunate as to have access to all the expanded sources of philosophical intelligence'—by which he most likely meant Fellows—that his periodical would afford even them 'a considerable portion of new and curious matter'.³⁹⁷ Such claims seem to point to Nicholson's continuing wish to maintain the attention of and the dialogue with leading men-of-science at the Society. In other words, the advent of early sole editorship in England was rooted in political and socio-cultural divides—yet, Nicholson did not make his journal a vehicle for political but for philosophical interests.

Additionally, during the 1790s, Nicholson witnessed the growing visibility and importance of editors in society. Although the socio-cultural role of the editor as an influential agent of public

³⁹³ For a discussion of the links between Banks, the Royal Society and the monarchy see: Gascoigne, 'Emergence', 177.

³⁹⁴ Diary of William Godwin for 1791-1792; 1792-1793, Bodleian Library, Oxford, MS. Abinger e. 4 and e. 5.

³⁹⁵ Ibid.

³⁹⁶ Craig Calhoun, *The Roots of Radicalism: Tradition, the Public Sphere, and Early Nineteenth*, Chicago and London: University of Chicago Press, 2012, 16.

³⁹⁷ William Nicholson, 'Preface', *Journal of Natural Philosophy, Chemistry and Arts*, 1(1797), Preface.

discourse would not fully consolidate in Britain until the second half of the nineteenth century, Nicholson nonetheless recognised its potential—due to his links to several ‘radical’ editors.³⁹⁸ Besides Holcroft, Nicholson also met Sampson Perry (1747–1823?), editor of *The Argus* and *The Statesman*, for whose apprehension a reward of 100l. was offered and who had been sentenced for libel against the House of Commons in 1782.³⁹⁹ Perry’s case signalled Nicholson how much attention and influence editorship was able to yield. After all, if the authorities and elites considered editorship dangerous, conducting a periodical was truly a powerful activity—and an instrument to overcome obstacles as forceful as Banks’ antagonism.

Steven Shapin has argued that Royal Society’s genteel codes of conduct and modes of sociability provided the context in which philosophical insights were not merely accomplished—but made credible and legitimate.⁴⁰⁰ Nicholson created an alternative and well-renowned form of philosophical sociability among British and foreign men of science. Because he did so as someone who had previously been rejected by the Society and whose socio-cultural background clashed with the established understanding of the gentlemanly man of science, Nicholson’s sole editorship could be considered an act of epistemic subversion—which would acknowledge its political and socio-cultural roots.

Nicholson and his publisher

Nicholson’s periodical started as a joint venture between him and the printer, publisher and bookseller George Robinson (1736–1801) of Paternoster-Row. Nicholson and Robinson had already published the popular *Dictionary of Chemistry* and the *First Principles of Chemistry* together.⁴⁰¹ Robinson was a ‘celebrated publisher’⁴⁰², known in his trade as the ‘king of booksellers, George Robinson the first’⁴⁰³. But he apparently was not involved with editorial day-to-day tasks: according to Nicholson, ‘[n]o bookseller has ever had power to employ or did employ any person in editing or interfering with the copy of the Journal’.⁴⁰⁴

³⁹⁸ John Bugg, *Five Long Winters: The Trials of British Romanticism*, Stanford: Stanford University Press, 2014, 84.

³⁹⁹ Anon., ‘Law of Libel’, *The Queen’s Messenger: A Weekly Gazette of Politics and Literature*, No. 1-30, July 1869, pp. 302-304, 304.

⁴⁰⁰ See Steven Shapin, *History of Truth*, Chicago: University of Chicago Press, 1994.

⁴⁰¹ William Nicholson, *First Principles of Chemistry*, London: Robinson, 1790. William Nicholson, *Dictionary of Chemistry*, London: Robinson, 1795.

⁴⁰² Charles Henry Timperley, *The Dictionary of Printer and Printing, with the Progress of Literature, Ancient and Modern*, London: Johnson, 1839, 936.

⁴⁰³ Richard Sher, *The Enlightenment and the Book*, Chicago and London: University of Chicago Press, 2006, 388.

⁴⁰⁴ William Nicholson, ‘Scientific News’, *Journal of Natural Philosophy*, 34(1812/3), p. 152.

Between 1797 and October 1801, the editor received at least £836 for his editorial work on the *Journal*, (which meant 60 to 68 numbers).⁴⁰⁵ Nicholson received roughly between £12 and £14 per issue, putting the income for his scientific editorship at £144-168 per annum, comparable to the annual wage of solicitors and barristers in London around 1800—yet less than what he earned for book authoring.⁴⁰⁶ But in 1801, the modalities of Nicholson’s and Robinson’s cooperation changed: the editor signed the agreement with the Robinsons (Robinson senior and junior) that they would remain

sole publishers of my Journal [...] with the Allowance of a Commission of five per Cent on the Sales’, the accounts to be settled every six months, Robinsons to supply the paper and pay ‘the small Expences [sic] of stitching &c [...] but I will myself pay for printing and Engraving without their being at all responsible.’⁴⁰⁷

Robinson’s decreasing financial involvement in the editorial project is somewhat reminiscent of Crell’s ambitions to keep publishers at bay to protect his editorial freedom. But this was not the case here. The sales of Nicholson’s *Journal*—around 750 copies per month—did not match Robinson’s expectations and the contract was amended accordingly.⁴⁰⁸ This step was less a strategic one by Nicholson but rather a necessity for him, to keep his sole editorship going.⁴⁰⁹ Only a handful of sources regarding his editorship seem to have survived among the papers of Robinson’s publishing company so that we lack further information on Nicholson’s editorial cooperation with his publisher.

Nicholson’s editorial resources

Nicholson’s authorial and journalistic experiences as well as French skills became resources, central to his editorship. Furthermore, several of Nicholson’s day-to-day activities were tasks essential to a philosophical editor, such as the visits to Banks’ *conversazioni* and other meetings at the President’s house. Nicholson used his existing access to philosophical networks and communities as resources for his journal, whereas the German editors did not have the same social resources, and had to rely on correspondence and networks-over-a-distance.

⁴⁰⁵ G. E. Bentley, Jr., ‘Copyright Documents in the George Robinson Archive: William Godwin and Others 1713-1820’, *Studies in Bibliography*, 35(1982), pp. 67-110, 93/4.

⁴⁰⁶ For his two-volumed *Dictionary of Chemistry*, Nicholson, according to Bentley, had received £420 in early 1790. *Ibid*, 94.

⁴⁰⁷ *Ibid*, 107.

⁴⁰⁸ Jonathan Topham, ‘Anthologizing the Book of Nature: The Circulation of Knowledge and the Origins of the Scientific Journal in Late Georgian Britain’, in: Bernard Lightman, ed., *The Circulation of Knowledge Between Britain, India and China: The Early-Modern World to the Twentieth Century*, History of Science and Medicine Library, 36, Leiden: Brill Academic Publishers, 2013, 119-152, 138.

⁴⁰⁹ William Nicholson, ‘Advertisement’, *Journal of Natural Philosophy*, 1(1797), Advertisement.

For example, Nicholson made it his habit to attend Royal Society meetings which were generally open to non-Fellows, as long as one had permission.⁴¹⁰ As an editor, he could use the gatherings to collect information and pen short pieces of philosophical intelligence, summaries and commentaries to include in his journal. Moreover, and in contrast to the German editors, Nicholson even had access to the articles destined for new volumes of the *Philosophical Transactions*. This was not only the case because Nicholson visited the philosophical get-togethers but also due to his close links with Fellows of the Royal Society, particularly Anthony Carlisle (1768—1840). Carlisle lived two doors down from the Nicholson family in Soho Square and was a close family friend.⁴¹¹

In contrast to Walch and Crell, Nicholson had a notable social network in place. His London acquaintances offered him access to ‘social sites, grouped around the Royal Society but not officially part of it’ which furnished the editor with even more philosophical intelligence and made it potentially easier to gain access to foreign periodicals from which he could excerpt pieces.⁴¹² Nicholson was in touch with leading French philosophers who sent him philosophical journals and intelligence from Paris.⁴¹³ For example, in a letter to the Royal Society’s Secretary, Charles Blagden (1748–1820), the renowned French philosopher, Claude Louis Berthollet (1748—1822), announced that he ‘[w]ould like to send first volume of "Memoires [de Physique et de Chimie] de la Societe d’Arcueil" for Blagden, Royal Society, Manchester Society, Mr Davy, Hatchett, Nicholson and Thomson but has no means to send them as yet’.⁴¹⁴ Nicholson seemed to belong to the small group of English men-of-science who were regularly kept abreast of new philosophical observations in Paris. But Nicholson’s advantage of a network of philosophical acquaintances did not only arise from his philosophical activities in the 1780s and 1790s—it was also a perk that came with his geographical location. In contrast to the geographical periphery of Walch and Crell, Nicholson’s lived in a European metropolis. London was a hub of national and international philosophical research—and the city’s ‘dominance of the scientific life of Great Britain increased’ from the 1790s onwards.⁴¹⁵

⁴¹⁰ Details regarding Nicholson’s permission remain unknown.

⁴¹¹ Nicholson jun., 71.

⁴¹² Fyfe et al., forthcoming. Maire Kennedy, ‘The Domestic and International Trade of an Eighteenth-Century Dublin Bookseller: John Archer (1782-1810)’, *Dublin Historical Record*, 49(1996), pp. 94-105, 94.

⁴¹³ Claude Louis Berthollet to Charles Blagden, September 27, 1807. Royal Society Collections and Manuscripts, Ref No CB/1/1/219.

⁴¹⁴ Ibid.

⁴¹⁵ J.N. Hays, ‘The London lecturing empire 1800-50’, in: Ian Inkster, Jack Morrell, eds., *Metropolis and Province*, London, New York: Routledge, 1983, 91-118, 91.

All in all, if one was pressed to name an incentive for the British first-generation editor, then this would be it: Nicholson did not need to establish an editorial infrastructure from scratch like Walch and Crell. He neither had to invest significant amounts of time nor money into his undertaking but could turn his day-to-day habits (as well as skills and publishing experiences) into editorial resources. This fact likely not only encouraged him to assume and maintain his sole editorship, but also make his editorship less costly on a day-to-day basis, saving, for example, expenses for postage and acquisition of foreign periodicals.

Nicholson's concept of editorship

In the preface to his first issue, Nicholson implied that his editorial authority was rather limited: 'whatever... the intentions of the Author or Editor', he wrote, 'Correspondents will arrange for themselves such materials as they think fit to publish'.⁴¹⁶ His aim could have been to downplay the role that he as editor would assume, to assure potential contributors of their autonomy and convince them that he would respect their wishes. But Nicholson's words also suggest that he wished to create a journal-based group of equals, like-minded men-of-science with whom he could cultivate philosophical discourse.

Furthermore, editorship, according to Nicholson's preface, implied 'impartiality and care'⁴¹⁷. The value of impartiality was not something as universally accepted and sought after among Nicholson's peers as it is today among scholars and scientists—but it was of particular importance to Nicholson. He had already pledged philosophical impartiality at the beginning of his *First Principles of Chemistry* (1790), seeking 'to exclude theoretical allusions' in order to 'keep clear of every system'.⁴¹⁸ 'It would be very advantageous to science', he continued in his well-received work, 'if this resolution, which I have adhered to with my best endeavours, were more generally adopted'.⁴¹⁹ Nicholson did not include a similar explanation in the preface to his journal. But his reason for emphasizing impartiality was likely his understanding that it helped to safeguard meritocracy and meritocracy played a particularly big role in his editorial undertaking.

Nicholson linked his sole editorship to work and merit, asking the readership in his preface 'to suspend its judgment till the actual performance shall afford the knowledge which is indispensable

⁴¹⁶ 'Preface'.

⁴¹⁷ Ibid.

⁴¹⁸ *First Principles*, vii.

⁴¹⁹ Ibid.

for this purpose'.⁴²⁰ Well-aware that his editorship lacked the backing of the Royal Society or, for that matter, any society, Nicholson considered it a valid alternative to make the quality of his editorial work the source of editorial credibility and philosophical authority.

Early sole editorship appears to have been closely linked to individual work and achievement—which is one of the central parallels between the English and German early editor-based periodicals. It was the chance for the editor to prove himself worth of philosophical renown and, in this function, was different from society-based periodicals which generally aimed at displaying and showcasing members' new work.

Nicholson's *Journal* and editorial practices

The *Journal* was printed monthly from April 1797 and produced in altogether two series of bound volumes. The first covered the years 1797-1801 as five quarto volumes, each running April through March except the fifth, which ran April through December 1801. The second series produced thirty-six octavo volumes across 1802-1813: three per year, covering the periods January-April, May-August, and September-December. The journal sold for 2s. 6d a month and contained around eleven articles per issue.⁴²¹

For most of his first two volumes, Nicholson reprinted articles. Like Carlisle, Kirwan and others, Nicholson harboured 'a firm belief in progress, and in the ability of useful knowledge to advance the state of mankind, provided it was diffused and popularized'.⁴²² His main editorial objective was *utility* of the pieces published. '[O]riginality must ... be subordinate to the less easy but more essential requisites of public utility and interesting research', he stressed in his preface.⁴²³ To fill his periodical with original papers 'would be a work of comparatively much less value to philosophers and the public' than a periodical combining the most useful observations from leading foreign and domestic transactions and men-of-science.⁴²⁴ He considered his journal a balance to the 'very limited circulation of academic Transactions', presenting his periodical as a 'public journal'.⁴²⁵

⁴²⁰ 'Preface'.

⁴²¹ W. H. Brock and A. J. Meadows, *The Lamp of Learning. Two Centuries of Publishing at Taylor & Francis*, London: Taylor & Francis, 1998, 90.

⁴²² Joel Mokyr, *The Enlightened Economy: Britain and the Industrial Revolution, 1700-1850*, London: Penguin Books, 2011, Chapter V.

⁴²³ 'Preface'.

⁴²⁴ Anon., 'A Journal of Natural Philosophy, Chemistry and Arts', *The Critical Review, Or, Annals of Literature*, 26(1799), pp. 283–289, 284.

⁴²⁵ 'Preface'. Note: although calling his periodical 'public', Nicholson's *Journal* addressed individuals with a good knowledge of philosophy and manufacturing. At the price of two shilling and six pence it also was not easily

Since Nicholson prioritised public utility over originality, his editorial strategies differed from those of German editors. Nicholson was neither a tireless writer of letters like Crell nor a ‘philosophical intelligencer’ who maintained a vast network of international correspondents like, for example, his friend Jean Hyacinthe de Magellan (1723–1790).⁴²⁶ Nicholson did not maintain his own vast network, but by being part of one, he could access its resources: Nicholson strategically cultivated his links with well-connected individuals like the Portuguese former cleric, who had been both a member of the Royal Society and a corresponding member of the French Academy of Sciences, and used them for his editorial purposes.

An illustrative example of Nicholson’s editorial approach involves Berthollet and Martinus van Marum (1750–1837). In July 1790, van Marum visited Jan Ingenhousz (1730–1799) in London and both called upon Nicholson. On this occasion, Nicholson demonstrated his improved glass cylinder machine ‘which Van Marum considered to be the most perfect of its kind’.⁴²⁷ During further visits of van Marum to London, the Dutch physician and inventor made it a rule to also meet Nicholson. Nicholson carried five pieces of van Marum in his *Journal*⁴²⁸—but despite their acquaintance and personal dialogue none of the five articles were submitted directly by van Marum. Four of them, Nicholson excerpted from French journals and one was sent to him by the aforementioned Berthollet. This case is exemplary for Nicholson’s editorial practice to rely on other publications and central ‘philosophical intelligencers’ as a main source of articles for his journal.

In 1800, Nicholson undertook a groundbreaking experiment: the successful decomposition of water. He published the details in his *Journal* which immediately became the main forum for the discourse on electrochemistry. Nicholson began to receive more submissions of original papers

available to lower classes. However, compared to the exclusivity of society transactions, Nicholson’s periodical can be considered ‘public’ in that it was available to everybody with enough money.

⁴²⁶ Maurice Crosland, ‘Relationships between the Royal Society and the Academie des Sciences in the Late Eighteenth Century’, *Notes and Records*, 59(2005), pp. 25-34, 27. Roderick Home, Isabel Malaquias, eds., *For the Love of Science: The Correspondence of J. H. de Magellan (1722–1790)*, in two volumes, Bern: Peter Land, 2017.

⁴²⁷ W. D. Hackmann, ‘The Design of the Triboelectric Generators of Martinus van Marum, F.R.S. A Case History of the Interaction between England and Holland in the Field of Instrument Design in the Eighteenth Century’, *Notes and Records*, 26(1971), pp. 163-181, 173.

⁴²⁸ Martinus van Marum’s four pieces in Nicholson’s *Journal*: ‘The combustion of Phosphorus in the vacuum of the air-pump’ (August 1797), ‘Experiments on the Electric Pile, made by him and Professor Psaff, in the Teylerian Laboratory at Haarlem, in November 1801’ (March 1802), ‘Containing an Account of some Experiments, showing the Method of extinguishing violent Fires with very small Quantities of Water, by Means of Portable Pumps. To M. Berthollet’ (June 1803), ‘Ritters Galvanic Experiments. To J. C. Delamtherie’ (July 1804).

than he could publish.⁴²⁹ His contributors extended the journal's profile: reprinted material was not the sole focus anymore—lively debate became another. This was in line with Nicholson's approach who stressed in his first preface: 'As the events present themselves, the proper mode of conduct will itself stand forward and leave no cause for hesitation.'⁴³⁰

Reaction of Banks and the Royal Society

Banks' philosophical correspondence from 1797 and the following couple of years does not include any mention of Nicholson.⁴³¹ The earlier apparently did not perceive sole editorship as a threat to the Society's or his epistemic authority—at least until Nicholson committed a notable blunder. Watts has discussed the incident of 1802, when 'Nicholson found he had accidentally printed two previously unpublished Royal Society papers in a single issue' of his *Journal*, thereby bringing Banks' wrath upon his editorship.⁴³² But the President calmed down quickly.

Banks generally did not oppose Nicholson's editorial endeavour. In fact, the President tended to be rather accommodating and cooperative: he furnished Nicholson with pieces for his journal and, in turn, used the publication as platform for announcing and generating more attention for his own projects, like the introduction of the Spanish merino sheep to the royal flock at Windsor. Banks appeared as a 'contributor' to Nicholson's *Journal* on a regular basis with at least one text per year and, altogether, fourteen pieces.⁴³³ It is telling that Banks did not protest having his name published in an editor-run journal since in so doing he—as a crucial philosophical authority—legitimised Nicholson's sole editorship and furnished it with additional credibility.

While Banks' opposition to the early editor-run journals was notably small, his strained relationship with Nicholson continued. This becomes, once again, apparent in the pieces Banks furnished him with: most of the letters Banks agreed to be published with Nicholson were devoted to arts rather than natural or chemical philosophy—whereas the pieces Banks allowed to appear in Alexander Tilloch's *Philosophical Magazine* were more often devoted to philosophy, not arts, and thereby somewhat closer to the material published in the *Transactions*.

⁴²⁹ Nicholson acknowledged 'the great accession of Original Correspondence', sometimes listing the titles of the papers that he was not able to insert immediately. See William Nicholson, 'To Correspondents', *Journal of Natural Philosophy*, 14(1806), 352.

⁴³⁰ 'Preface'.

⁴³¹ *Scientific Correspondence of Sir Joseph Banks*.

⁴³² Due to Nicholson's access to philosophical networks he must have seen one of the advance copies ('separate copies') issued to the authors of articles. Watts, 417.

⁴³³ For a list of Banks' articles see Appendix.

All in all, Nicholson and Banks found a way to co-exist in London's philosophical milieu. It appears that Banks only took notice of Nicholson if the latter was potentially advantageous or detrimental to the President's interests. Considering that the early 1800s saw notable changes to London's philosophical infrastructure (see Chapter six), Banks presumably did not consider sole editorship a central element of these on-going developments—or a challenge to his philosophical authority.

Similarity between Nicholson's *Journal* and the French model

Since there were no similar incentives for sole editorship in England as in the German lands, English commentators and reviewers assumed that Nicholson had adapted the idea from the French. Nicholson's periodical was generally perceived within the emulative, imitative context of eighteenth-century innovations. According to Joel Mokyr, this was the time of 'micro-inventions, which extended and consolidated earlier advances'.⁴³⁴ This kind of inventions 'often depended on 'analogical' thinking, in which inventors, consciously or subconsciously, transformed an idea they have already seen into something novel'.⁴³⁵ In so doing, inventors saw themselves as practicing the quality of 'imitation' that was not simply an evocation of objects but aimed to surpass the original in inventiveness.⁴³⁶ 'The idea of a scientific journal is not original', one reviewer of Nicholson's *Journal* conceded, 'the philosophers of the continent have long used such publications, for the purpose of communicating and diffusing their knowledge'.⁴³⁷

From the very beginning reviewers in general saw Nicholson's *Journal* as a work of imitation of the *Journal de physique* founded and conducted by François Rozier (1734—1793) and, in the late 1790s, edited by Jean-Claude Delamétherie (1743—1817).⁴³⁸ One reviewer contended that the English editor had surpassed his French peer, 'for, even in the *Journal de Physique*, private friendship, partiality, or influence, occasionally introduce trifling articles'—a trap which Nicholson successfully avoided, the reviewer went on to explain, arguably due to his priority on impartiality.⁴³⁹ The critic also remarked that the 'essays from foreign and English transactions are collected with the editor's usual care and discrimination'.⁴⁴⁰

⁴³⁴ Joel Mokyr, *The Gifts of Athena: Historical Origins of the Knowledge Economy*, Princeton: Princeton University Press, 2004, 84.

⁴³⁵ Joel Mokyr, 'The Intellectual Origins of Modern Economic Growth', *Journal of Economic History*, 65(2005), pp. 285-351, 295.

⁴³⁶ Maxine Berg, 'From imitation to invention: creating commodities in eighteenth-century Britain', *The Economic History Review*, 55(2002), pp. 1-30, 26.

⁴³⁷ Anon., 'Journal of Natural Philosophy, Chemistry and Arts', *The Monthly Review, Or, Literary Journal*, 29(1799), pp. 301—311, 304.

⁴³⁸ *Critical Review*, 283.

⁴³⁹ *Ibid.*

⁴⁴⁰ *Ibid.*, 286.

Despite the imitative character which reviewers ascribed to Nicholson's editorship, they acknowledged both the novelty and importance of his undertaking. As one of Nicholson's contemporaries ascertained, his *Journal* was 'the first of its kind' in Britain, for which 'Mr. Nicholson is rightly entitled to the thanks of the public'.⁴⁴¹ Another reviewer continued: 'Such a work was long wanted in this kingdom; for by means of the French Journal, we often received the first information of discoveries that were made even in our own country.'⁴⁴²

CONCLUSION

This chapter contributed to current scholarship particularly through its examination of Banks' role for Nicholson's editorship, demonstrating the President's complex and ambivalent influence. In addition to being an editorial antagonist, as Iain Watts has shown, Banks should also be considered as an enabler of sole editorship since he, indirectly, furnished Nicholson with some of the central editorial resources—such as access to new issues of foreign periodicals and books as well as exchange with leading natural philosophers at Banks' *conversazioni*. Even more, the conflict with Banks at the Society for the Improvement of Naval Architecture and the President's exclusion of Nicholson from the Royal Society was likely the reason for his sole editorship. This said, we have seen that Banks was also a contributor to Nicholson's *Journal*—which further complicates his influence on Nicholson's editorial undertaking. Generally speaking, Banks appears to have played a critical role for the advent of sole editorship in Britain, both as an enabling and inhibiting factor.

Walch's and Crell's cases suggested that early sole editorship was a means to counter social rather than geographic peripherality—Nicholson's case has confirmed this theory. Living in London, Nicholson was at the geographical heart of English natural philosophy—yet, he found himself excluded from the central philosophical infrastructure and discourse. Sole editorship allowed him to create and participate in a philosophical discourse. According to June Fullmer, Nicholson's contemporaries referred to his periodical as 'Nicholson's *Journal*' 'in tribute to Nicholson's editorial skills and scientific acumen'.⁴⁴³ The product of Nicholson's editorship indeed met with 'general approbation' among his contemporaries in London and beyond. Reviewers lauded it as an 'excellent Journal'.⁴⁴⁴ Nicholson won his audience over, earning their respect as a philosophical editor and a chemical experimenter. His sole editorship served him as an instrument for

⁴⁴¹ *Monthly Review*, 304.

⁴⁴² *Critical Review*, 283.

⁴⁴³ June Fullmer, *Young Humphry Davy: The Making of an Experimental Chemist*, Philadelphia: American Philosophical Society, 48.

⁴⁴⁴ *Critical Review*, 283.

overcoming social peripherality among English men-of-science and successful self-fashioning as a philosopher.

Even more, the *Journal* was a constant advertisement for Nicholson's broad expertise as well as a portfolio of his work and skills. As one of his anonymous obituarists reported, 'The manufacturers of the British Empire, observing the quantity of information and value of the observations of the editor, had recourse to Mr. Nicholson for instruction and advice upon the various projects of improvements'.⁴⁴⁵ Like in Crell's case, editorship also enhanced Nicholson's professional career.

But the national differences played out notably different. The German editors wanted to prove and display their specific philosophical expertise to fellow academics and state elites—publishing a mono-topical journal as well as original papers (instead of reprinting the work of others) was the way to do so. In contrast, Nicholson initially reprinted material and focused on a broad array of philosophical topics. Reprinting was both a crucial element of his epistemic subversion and a source of his editorial credibility, particularly in the early stages of his editorial undertaking.

Reprinting from various sources, including the *Philosophical Transactions*, Nicholson acted epistemically subversive because he made the exclusive discourse of the Royal Society more broadly available and, at the same time, combined it with other, less exclusive sources such as editor-run periodicals from France or the transactions of other English philosophical societies. On the pages of his periodical, Nicholson levelled FRS with foreign experimenters as well as members of English philosophical societies in the countryside—which invited comparison and comment on the men's philosophical achievements.

At the same time, reprinting was a source of Nicholson's editorial credibility since he reprinted, predominantly, from the most respected domestic and foreign philosophical publications, demonstrating not only closeness but also regular access to central philosophical organs and dialogues. Furthermore, Nicholson proved a particular philosophical understanding by reprinting and penning pieces on various topics, from Fata Morganas to the decomposition of water(—thereby also following a commercial rationale since a multi-topical journal could potentially draw in more readers than a mono-topical one).

⁴⁴⁵ 'William Nicholson', *European Magazine*, 86.

Lastly, we can interpret Nicholson's sole editorship as epistemic subversion also in a different way: by relying on impartiality and merit he established two additional sources of philosophical authority and credibility, which the Royal Society usually generated by birth (social background) and tradition. Put differently, the advent of sole editorship in England not only created a philosophical discourse and changed knowledge production—but it also influenced its normative foundation.

CHAPTER FOUR

ALEXANDER TILLOCH

JOURNALISTIC EXPERTISE AND PHILOSOPHICAL CURIOSITY - TWO ELEMENTS FOR A SUCCESSFUL EARLY SOLE EDITORSHIP

INTRODUCTION

“Seeing, with regret, that there was but one periodical publication in London [...] in which the man-of-science could embody his own discoveries or become acquainted with those of others, Dr. Tilloch projected, and established ‘The Philosophical Magazine’.”⁴⁴⁶ This is how an anonymous contemporary of Alexander Tilloch (1759–1825) depicted the commencement of Tilloch’s sole editorship in 1798.

In the context of this dissertation, Tilloch has to be acknowledged as an exception: in contrast to the other five editors, he became deeply involved with natural and experimental philosophy *after* he commenced sole editorship. Tilloch’s case suggests that early sole editorship did not necessarily need firm roots in philosophy—but that a well-developed journalistic infrastructure and the openness to engage with philosophical topics sufficed. This chapter will demonstrate the significant potential of sole editorship to self-fashion as a philosopher even when an individual started out without philosophical knowledge and connections.

This chapter will also discuss how Tilloch competed with Nicholson and, ultimately, beat him out of the field. This was possible, as will be shown, because Tilloch copied most of Nicholson’s editorial practices—but offered central editorial services more effectively to his audiences than his only competitor.

So far, scholars have looked at Tilloch with regards to his cooperation with publisher, and later editor of the *Philosophical Magazine*, Richard Taylor (1781–1858), particularly A.J. Meadows and Bill Brock.⁴⁴⁷ Tilloch has been portrayed as an ambitious inventor and journalist. This chapter will reintroduce him to us as a philosophical editor, more specifically as someone whose editorship

⁴⁴⁶ Anon., ‘Obituary Alexander Tilloch’, *The Annual Biography and Obituary*, 10(1826), pp. 320-334, 328.

⁴⁴⁷ William Brock, A.J. Meadows, *The lamp of learning: Taylor and Francis and the development of science publishing*, London: Taylor and Francis, 1998. William Brock, *The Case of the Poisonous Socks: Tales from Chemistry*, London: Royal Society of Chemistry, 2011. Mary Jo Nye, *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Discipline, 1800–1950*, Berkeley, London, Los Angeles: University of California Press, 1993.

brought to light his philosophical inclinations, and both prompted him to seek out as well as helped him to find access to London's central philosophical communities.

Due to the lack of respective correspondences, this chapter relies mainly on Tilloch's obituaries, the reviews of his periodical and other commentary of his contemporaries. Additionally, Tilloch's and Nicholson's periodicals serve as sources.

Tilloch's background

Tilloch was born on February 28th 1759, which made him five years younger than Nicholson and fifteen years younger than Crell. Put differently, the three men belonged roughly to the same generation. In contrast to Nicholson, Tilloch was born in Glasgow, Scotland. He was the son of a wealthy tobacconist and his father's money furnished Tilloch with financial security after his death in 1795, so much so that he did not have to work as an editor. Like Nicholson, Tilloch did not graduate from university—albeit he did matriculate at the University of Glasgow.

Natural philosophy had been part of the University's curriculum since 1577, almost since the University's very beginning.⁴⁴⁸ In 1727, it received its separate Chair.⁴⁴⁹ Yet, it does not seem that Tilloch's philosophical curiosity was spiked at university. But his time as a student was important for a different reason. Through attending university, Tilloch likely met the official university printer, Andrew Foulis (1756 – 1829), in 1784.⁴⁵⁰

Although Tilloch officially had not apprenticed with a printer, he was deeply interested in printing and worked with Foulis to improve the process of letterpress printing.⁴⁵¹ In late April of 1784, the year that Crell founded his *Annalen der Chemie*, they patented the idea of '[p]rinting books by plates instead of moveable types, by which a greater degree of accuracy, correctness and elegance will be obtained'.⁴⁵² Charles, third Earl Stanhope (1753–1816)—whom Nicholson defended during his conflict with Banks at the Society for the Improvement of Naval Architecture—, learned about

⁴⁴⁸ S. F. Johnston, 'The physical tourist - Glasgow: a heritage tour', *Physics in Perspective*, 8(2006), pp. 451-465, 453.

⁴⁴⁹ Ibid.

⁴⁵⁰ Anon., 'Obituary Alexander Tilloch', *The Gentleman's Magazine*, 95(1825), pp. 276-281, 276.

⁴⁵¹ Letterpress printing was mainly used to print books, posters and announcements rather than periodicals. See: Helmut Kipphan, 'Printing technologies with permanent printing master', in: Helmut Kipphan, ed., *Handbook of Print Media: Technologies and Production Methods*, Heidelberg: Springer, 2001, 203-448, 396.

⁴⁵² Bennet Woodcroft, *Subject-matter Index (made from Titles Only) of Patents of Inventions, From March 2, 1617 to October 1, 1852*, Part II, N to W, London: Edward Eyre and Spottiswoode, 1854, 600. For more on the printing technique see: Colin Clair, *A History of European Printing*, Ann Arbor: University of Michigan Academic Press, 1976, 371.

the invention and apparently acquired Tilloch's and Foulis' patent rights.⁴⁵³ In 1786, likely in order to cooperate with Stanhope, Tilloch moved to London. In so doing he joined many of his countrymen who emigrated from Scotland to the English capital, in search of work in the later decades of the eighteenth century.

His first months in London, Tilloch spent under Stanhope's roof, working on the patented invention.⁴⁵⁴ But he 'found him [Stanhope] a very fractious temper & that I could not possibly be happy with him', Tilloch complained to a friend and apparently moved out quickly.⁴⁵⁵ In London, he switched his line of work: '[s]ince I came here I have been chiefly employed [sic] in the accountant line', Tilloch wrote in January of 1789.⁴⁵⁶ 1789 would become a particularly important year in his life: he purchased the daily *The Star* with financial help from his father, together with other investors, and became its editor.

Journalism and Editorship

From the very beginning, Tilloch faced strong competition. *The Times* had been founded only a few years earlier, in 1785. The *Morning Chronicle* was older but, starting in 1789, underwent a successful transformation under another Scotsman, the editor James Perry (1756—1821).⁴⁵⁷ These two newspapers 'became a centrepiece of the British public sphere; a heterogeneous mix of such print media was available thereafter.'⁴⁵⁸ Tilloch demonstrated business acumen by carving out a niche for himself: he made *The Star* the 'first every-evening journal' which was 'something of a sensation'.⁴⁵⁹ And yet, Tilloch's unique selling point did not last long: the number of daily evening papers grew from one—Tilloch's *Star*—in 1790 to eight in 1810.⁴⁶⁰ In London, the number of all newspapers increased from nineteen in 1783 to fifty-two in 1811.⁴⁶¹

⁴⁵³ Frederick Kilgour, *The Evolution of the Book*, Oxford: Oxford University Press, 1998, 106/7. Commissioners for the Exhibition of 1851, *First Report of the Commissioners for the Exhibition of 1851*, Vol. 2, London: W. Clowes and Sons, 1852, 875.

⁴⁵⁴ Alexander Tilloch to Alexander Wilson, January 17, 1789, quoted after: Duncan Thomson, ed., 'The Letters of James and William Tassie to Alexander Wilson, 1778 to 1826', *The Volume of the Walpole Society*, 65(2003), pp. 1-87, 31.

⁴⁵⁵ Ibid.

⁴⁵⁶ Ibid.

⁴⁵⁷ Ivon Asquith, *James Perry and the Morning Chronicle 1790—1821*, PhD Thesis, University of London, 1973.

⁴⁵⁸ Craig Calhoun, *The Roots of Radicalism: Tradition, the Public Sphere, and Early Nineteenth*, Chicago and London: University of Chicago Press, 2012, 17.

⁴⁵⁹ Stanley Morison, *The English Newspaper: Some Account of the Physical Development of Journals Printed in London Between 1622 & the Present Day*, Cambridge: Cambridge University Press, 1932, 189.

⁴⁶⁰ Asquith, 715. A. Aspinall, 'The Social Status of Journalists at the Beginning of the Nineteenth Century', *The Review of English Studies*, 21(1945), pp. 216-232, 226. J. Feather, 'British Publishing in the Eighteenth Century: A Preliminary Subject Analysis', *Library* 6th ser. 8, 1986, 32-46. J. Feather, *A History of British Publishing*, London and New York: Routledge, 1988.

⁴⁶¹ Peter Jupp, 'The Landed Elite and Political Authority in Britain, ca. 1760-1850', *Journal of British Studies*, 29(1990), pp. 53-79, 71. A. Aspinall, 'The Circulation of Newspapers in the Early Nineteenth Century', *Review of English Studies*, 22(1946), pp. 29-43. S. Eliot, *Some Patterns and Trends in British Publishing, 1800-1919*, London: Bibliographical Society, 1994.

Despite the strong competition, Tilloch did not repeat the mistake of many of his peers: he was not driven into the 'political vortex' in order to attract more readers and pander to their opinions.⁴⁶² Which is all the more notable during in the politically charged context in the years after the French Revolution. The government reacted with libel and blasphemy legislation, making 'uncompromising criticism of the social order a criminal offence', which resulted in various sedition and treason trials, in which some of Nicholson's 'radical' friends were involved as well.⁴⁶³

Tilloch monitored his competitors and witnessed their problems. For example, even the more moderate newspapers, such as *The Morning Chronicle* mentioned above, had embraced radical politics in the early 1790s.⁴⁶⁴ Yet, it suffered falling sales at the end of the decade.⁴⁶⁵ Tilloch clearly wished to distinguish himself from the journalistic editors and authors whose flippancy and proneness to 'quite unashamedly ... change sides in politics for the sake of pecuniary advantage' was not only risky—but also garnered a bad reputation for journalists and journalism in general.⁴⁶⁶ Tilloch most likely wanted to prevent being associated with these 'persons [journalistic editors and journalists] of the basest, vilest and most infamous nature'.⁴⁶⁷

Tilloch's political opinions remained temperate and he seemed to have abstained from catering to some specific political camps and convictions, potentially well-aware that the moods of the public and the authorities were changing easily and quickly. To this end, he avoided dependency on political backers. He edited a self-supporting daily, capable of surviving and thriving on subscriptions and advertisement.⁴⁶⁸

But the 1790s were not only a period of political radicalism—but also a period when 'the modern configuration of writing, print, and silent reading first became natural'.⁴⁶⁹ The new technologies of printing, publication, and distribution enabled publishers and editors to cater to a wide range of readers' interests. As Jon Klancher put it, somewhat critically:

⁴⁶² Anon., 'Obituary Alexander Tilloch', *The Philosophical Magazine*, 65(1825), pp. 134—135, 135. For the politicization of newspapers see Hannah Barker, *Newspapers and English Society 1695-1855*, Abingdon: Routledge, 2000, 65—94 (Chapter: Politicians and the Press).

⁴⁶³ James Curran and Jean Seaton, *Power without Responsibility*, Eight Edition, New York: Routledge, 2018, 9.

⁴⁶⁴ Barker, 111.

⁴⁶⁵ Ibid.

⁴⁶⁶ Aspinall, 222.

⁴⁶⁷ Anna Grześkowiak-Krwawicz, 'Sensacja - informacja - komentarz: londyńska prasa informacyjna o polskich "rewolucjach" 1791 Roku', *Kwartalnik Historyczny Rocznik*, 116(2009), pp. 91-111, 94.

⁴⁶⁸ Simon Burrows, *French Exile Journalism and European Politics, 1792-1814*, Suffolk, Rochester: The Boydell Press, 90.

⁴⁶⁹ Clifford Siskin, 'Eighteenth Century Periodicals and the Romantic Rise of the Novel', *Studies in the Novel*, 26 (1994), pp. 26-42, 27.

Eighteenth-century journals had organized English audiences by forming the "reading habit," but after 1790 that habit became the scene of a cultural struggle demanding a new mental map of the complex public and its textual desires, a new way to organize audiences according to their ideological dispositions, their social distances, and the paradoxically intense pressure of their proximity as audiences.⁴⁷⁰

As a result, there was an 'explosion of print', mainly of 'newspapers, magazines, pamphlets and other printed ephemera', but also books.⁴⁷¹ As John Feather's outline suggests, the sciences occupied only a small corner of this literary market—between 6,000 and 7,000 philosophical books appeared in the eighteenth century—, yet they were a distinct and recognizable sector.⁴⁷² It is no coincidence that Enlightenment theorists not only conceptualised the literary and artistic genius, but now also considered the philosophical and inventive genius alongside the literary and the artistic one.⁴⁷³

According to James Raven, the '[g]reater stratification of the market resulted from the expansion in the literate population and particular professional, intellectual and leisure communities. The [...] market depended upon greater 'churn', requiring fresh titles to maintain its strength'.⁴⁷⁴ The increasing specialisation of audiences and periodicals went hand in hand during the late eighteenth century, leading, for example, to costly yet elegantly illustrated monthlies such as William Curtis' (1746—1799) *Botanical Magazine*.

This diversification of the periodical market had been already underway in the German lands as well as France, where, for example, the philosophical monthly *Observations sur la physique* provided philosophical intelligence and discoveries from all over France and abroad, followed by even more specialized journals such as the *Annales de Chimie* in 1789, modelled upon Crell's *Chemische Annalen*.⁴⁷⁵ England had specialized journals for agriculture, the arts and medicine.⁴⁷⁶ *The Repertory of Arts and Manufactures* (1794-1862), for example, reprinted philosophical papers

⁴⁷⁰ Jon Klancher, *The Making of English Reading Audiences, 1790-1832*, Madison: The Univ. of Wisconsin Press, 1987, 20.

⁴⁷¹ Carmen Casaliggi, Porscha Fermanis, *Romanticism: A Literary and Cultural History*, London and New York: Routledge, 2016, 42.

⁴⁷² John Feather, 'British Publishing in the Eighteenth Century: a preliminary subject analysis', *The Library*, 6(1986), pp. 32-46, 36.

⁴⁷³ Christine Macleod, *Heroes of Invention. Technology, Liberalism and British Identity 1750-1914*, Cambridge: Cambridge University Press, 2007, 53.

⁴⁷⁴ James Raven, *The Business of Books. Booksellers and the English book trade 1450—1850*, New Haven and London: Yale University Press, 2007, 337.

⁴⁷⁵ See *Lamp of learning*, 89f.

⁴⁷⁶ For a survey of the *Journal's* (short-lived) contemporaries, see Jon Topham, 'Anthologizing the Book of Nature: The Circulation of Knowledge and the Origins of the Scientific Journal in Late Georgian Britain.' In: Bernard Lightman, Gordon McQuat and Larry Stewart, eds., *The Circulation of Knowledge Between Britain, India and China: The Early Modern World to the Twentieth Century. History of Science and Medicine Library*, 36, Leiden: Brill Academic Publishers, 2013, 119—152.

from learned societies and original contributions alongside new patent specifications—but this one was focused on the practical side of philosophical knowledge, namely its relevance to and application in manufacturing.⁴⁷⁷

Journalistic reflections that led to Tilloch's sole editorship

Tilloch likely saw several potential advantages in sole editorship, all of which bore the promise of achieving social access to higher London strata. Sole editorship could help Tilloch to elevate his social standing as an editor, mainly by distancing him from other editors and authors of dubious periodical products. A philosophical periodical could help him to counter the bad reputations according to which 'journalism was [...] neither a dignified nor a reputable profession'—a public opinion that lingered around in the 1790s and up until the 1820s.⁴⁷⁸

Philosophical topics were generally embraced by the upper ranks—and the editorship of periodicals read by these social strata, for example the anti-Jacobin *Gentleman's Magazine*, was viewed as something very different from the editorship of a daily read by the lower middle ranks.⁴⁷⁹ The earlier acquainted their affluent and well-educated readership with philosophical topics such as botany, using mainly reviews but also original essays and short notices.⁴⁸⁰ Yet, these periodicals remained 'caviare to the general', as John Keats put it,—and their editors did not cater to the few individuals with strong backgrounds as experimental researchers.⁴⁸¹

The *Gentleman's Magazine*, the *London Magazine* and others featured articles and correspondence 'on subjects ranging from Biblical exegesis to corn'.⁴⁸² Their editors as well as keen observers of the periodical market—such as Tilloch—witnessed that increasingly specialised journals and magazines resonated with the reading population and novel periodicals found their niche audiences. These publications also indicated the rising willingness of the periodical market to explore new business models and take new risks.⁴⁸³ Tilloch wanted to be part of these developments, likely even more so since he lived in one of the 'two main publishing centres',

⁴⁷⁷ Ibid.

⁴⁷⁸ Aspinall, 216.

⁴⁷⁹ Ibid.

⁴⁸⁰ Theresa Kelley, *Clandestine Marriage: Botany and Romantic Culture*, Baltimore: Johns Hopkins University Press, 2012, 64.

⁴⁸¹ Ibid.

⁴⁸² S. Botein, J. Censor, H. Ritvo, 'The Periodical Press in Eighteenth-Century English and French Society: A Cross-Cultural Approach', *Comparative Studies in Society and History*, 23(1981), pp. 464–490, 479.

⁴⁸³ James Raven, *London Booksellers and American Customers 1748-1811*, Columbia: University of South Carolina, 2002, 7.

London and Edinburgh.⁴⁸⁴

Tilloch understood that '(f)lexibility and diversity of operation was usually the basis of survival' and improved his chances to compete and succeed in a speedily changing environment like the periodical market.⁴⁸⁵ Richard Hamblyn rightly observes that Tilloch 'was among the first to recognize the growing publishing possibilities afforded by the rise of [...] science'.⁴⁸⁶ He interpreted sole editorship and a philosophical journal as a promising journalistic niche.

The fact that there already was an editor-run journal, Tilloch most likely neither interpreted as 'the niche is full' nor as 'the market being big enough for two'. Instead—and considering the similarity between Tilloch's and Nicholson's editorial strategies—Tilloch probably aimed to strategically run Nicholson out of business, despite his lack of familiarity with natural philosophy.

Tilloch was a savvy print entrepreneur looking around the market, wondering about its opportunities. Besides pondering Nicholson's *Journal*, he likely also considered recent philosophical periodicals, wondering what sort of periodical might work—and which mistakes to avoid. In so doing, he came across John Aikin's (1747–1822) *Memoirs of Science and the Arts*.

John Aikin's *Memoirs*

Strictly speaking, Aikin's *Memoirs* seems to have been the oldest editor-run journal in England, founded in 1793. Therefore, we will take a closer look at the periodical. Aikin appears to have offered his readers the same as would Nicholson and Tilloch just a few years later: access to papers of learned societies and academies. So why did Aikin's *Memoirs* survive only until 1794? How did his sole editorship differ from Nicholson's and Tilloch's?

Aikin was a Unitarian physician and the father of the Aikin-brothers Arthur (1773–1854) and Charles Rochemont (1775–1847) whom Tilloch encountered at religious services and, later, at the Askesian Society, to which we will turn our attention shortly.⁴⁸⁷ Jon Topham carried out research on Aikin's philosophical editorship and concluded that Aikin's editorial 'project appears to have

⁴⁸⁴ James Raven, *Publishing Business in Eighteenth-Century England*, Woodbridge: Boydell & Brewer, 2014. David Stewart, 'Magazine and Literary Culture', in: Joanne Shattock, ed., *Journalism and the Periodical Press in Nineteenth-Century Britain*, Cambridge, New York, Melbourne, Delhi: Cambridge University Press, 2017, 31-46, 35.

⁴⁸⁵ Raven, *Publishing Business*, 63.

⁴⁸⁶ Richard Hamblyn, *The Invention of Clouds. How an Amateur Meteorologist Forged the Language of the Skies*, New York: Picador, 2001, 114.

⁴⁸⁷ Ian Inkster, 'Science and society in the metropolis: A preliminary examination of the social and institutional context of the Askesian Society of London, 1796–1807', *Annals of Science*, 34(1977), pp. 1-32, 12.

collapsed under the weight of its own ambition before a second volume was complete'.⁴⁸⁸ It might be worth adding that Aikin's project was not only too ambitious—but that Aikin was neither as profoundly familiar with philosophy as was Nicholson nor with journalism as was Tilloch. Even more, Aikin appears to have had little interest in natural philosophy, in contrast to Nicholson and, later, Tilloch.

Aikin felt at home with literary writing—and considered philosophy in a literary framework. In his *Essay on the Application of Natural History to Poetry*, for example, he criticised the condition of poetry as 'insipid' and repetitive, and put forward that nature and insights from natural history could help descriptive poets to achieve novel imagery and quality in their language.⁴⁸⁹ Aikin asked poets to turn to nature itself. His *Essay* foreshadowed the poetry of the Romantics. Projects related to the literary and poetical were at the centre of Aikin's endeavours.

Graduating MD at Leiden in 1784, Aikin returned to England to establish a medical practice at Great Yarmouth. Here he became involved with different religious factions rather than philosophical societies. In 1789 and 1790, condemning the fact that Dissenters were disadvantaged in office, Aikin published two pamphlets on this subject.⁴⁹⁰ Although Aikin published the two works anonymously, he soon was identified as their author and lost the support of most of his Church of England friends and patients. It is noteworthy that Tilloch did abstain from similar activities, probably with the same rationale with which he generally steered away from political topics in his daily.

Aikin's political publications, 'combined with his wholehearted approval of the French Revolution in its early stages and his rejection of any form of 'puffing and elbowing' to increase his practice, resulted in the ruin of his professional prospects in Yarmouth'—and in 1792 he moved with his family to London.⁴⁹¹ Here he worked mainly as author for respected periodicals such as the *Monthly Review* and enjoyed 'minor literary success'.⁴⁹² As Topham showed, Aikin also wrote pieces and biographies of philosophers but seems to never have been involved in philosophical research.

⁴⁸⁸ 'Anthologizing the Book', 130.

⁴⁸⁹ John Rowlett, 'Ornithological Knowledge and Literary Understanding', *New Literary History*, 30(1999), pp. 625-647, 625.

⁴⁹⁰ John Aikin, *The Spirit of the Constitution and that of the Church of England Compared*, London: Joseph Johnson, 1789. John Aikin, *An Address to the Dissidents of England on their Late Defeat*, London: Joseph Johnson, 1790.

⁴⁹¹ Diana Jones, 'Aikin, John (1713–1780)', *Oxford Dictionary of National Biography*, [accessed August 3, 2018] <https://doi.org/10.1093/ref:odnb/229>

⁴⁹² *Ibid.*

The first volume of *Memoirs* possibly only came into being due to Aikin's restless mind. 'Employment I must have', Aikin wrote to a friend, 'or I should die of thinking in a month.'⁴⁹³ This is why he probably entered sole editorship somewhat hastily. Aikin's lack of philosophical expertise or, for that matter, a basic familiarity with the scope of foreign society transactions and proceedings became apparent when he introduced his goal: 'It is their plan to notice every [Aikin's emphasis] article in all the principal publications of the kind throughout the learned world; to give analyses of them proportioned to their consequence; and to print at large such as are at the same time interesting and incapable of abridgement.'⁴⁹⁴ But Aikin's sole editorship had not been thoroughly thought-through and rested on shaky pillars. This becomes evident from the fact that he did not have a safety plan in place in case he would not be able to procure foreign transactions on time—despite the fact the he had to postpone his first issue due to difficulties acquiring copy.⁴⁹⁵ Aikin had clearly underestimated the infrastructural challenge which potentially played a role in his decision to give up sole editorship for good.

Additionally, it seems that Aikin did not harbour enough personal interest to continue sole philosophical editorship. In comparison, commenting on his first volume, Nicholson uttered disappointment about his *Journal* due to its underwhelming financial performance during its first year—yet, he continued his sole editorship nonetheless. Aikin and Nicholson edited merely three years apart from each other, yet with different personal interests and drives. As for Aikin and Tilloch, even though Tilloch arrived at sole editorship just like Aikin, namely without much experience with philosophical experiments, Tilloch's interest in natural philosophy would soon be sparked and become, most probably, one of Tilloch's long-term reasons for sole editorship.

Despite such personal differences, their public rhetoric—for example in the prefaces to their journals—was very similar: Aikin, Nicholson and Tilloch wished, first and foremost, to make their journals useful to the public. 'On the whole', wrote Aikin in his preface, 'as their [speaking of himself] attempt can claim no merit but that of utility they shall place all their expectations of public encouragement in rendering it as useful as possible.'⁴⁹⁶ Nicholson and Tilloch thought of Aikin's goal as timely and important—but approached it differently.

⁴⁹³ Lucy Aikin, *Memoir of John Aikin: M. D.*, Philadelphia: Abraham Small, 1824, 101.

⁴⁹⁴ John Aikin, 'Preface', *Memoirs of Science and the Arts*, 1(1793), iii.

⁴⁹⁵ John Aikin, 'Address to the public', *Memoirs of Science and the Arts*, 1(1793), Address to the public.

⁴⁹⁶ Aikin, 'Preface', iii.

In this sub-chapter, we see that, in the English cases, it was the degree of personal involvement as well as the respective expertise in philosophy and/or journalism that enabled a successful establishment and continuation of sole editorship. To gather and select philosophical information and intelligence and to efficiently compose them for publication were specialist tasks which did not only demand competence but also a high degree of motivation, as we witness with Nicholson and Tilloch. Without a clear-cut infrastructure that fostered and rewarded philosophical editorship, like it was the case in the German lands, sole editorship remained notably rare in Britain in the 1790s—and was closely tied to the personal interests of the editors.

How inventorship led Tilloch to sole editorship

Immediately preceding his philosophical sole editorship, Tilloch was involved in a project particularly time-intensive and dear to him—which had once again to do with printing, yet did not involve journalism. He invented a process to devise banknotes that could not be forged. He pitched his invention to the British Ministry in 1790, roughly four years after he arrived in London, but his pitch was unsuccessful.⁴⁹⁷ The French, however, showed interest in Tilloch's invention.⁴⁹⁸ In 1792, Tilloch even travelled to Paris, invited by the French authorities.⁴⁹⁹ The negotiations of terms and conditions under which Tilloch would agree to sell his invention to the French continued in 1793, but stopped that year after the British Correspondence with Enemies Act became law and Tilloch 'prudently declined all further intercourse with the French authorities'.⁵⁰⁰

On April 5, 1797, the same month that the first issue of Nicholson's *Journal* appeared, Tilloch made a second attempt to market his unforgeable banknote. He garnered high-ranking support to convince the Bank of England of the superiority of his money and submitted a testimonial of the quality of his invention, signed by nineteen individuals—including poet and painter William Blake (1757–1827) and the engravers to the king, James Fittler (1758–1835) and James Heath (1757–1834).⁵⁰¹ But Tilloch's proposal was denied yet again. Considering how eager the Scotsman had been to see this project through and having it accepted, the second rejection was a frustration that brought the banknote project to an end. The failure likely encouraged Tilloch to turn to a new project—and provides us some explanation for the point in time when Tilloch turned to sole editorship.

⁴⁹⁷ Edmund Burke, 'Obituary Alexander Tilloch', *Annual Register*, 67(1826), pp. 222–226, 223/4.

⁴⁹⁸ *Ibid.*

⁴⁹⁹ *Ibid.*

⁵⁰⁰ *Ibid.* 'Obituary', *The Gentleman's Magazine*, 277.

⁵⁰¹ Alexander Tilloch, 'Prevention of forgery', *The Philosophical Magazine*, 56(1820), 64.

How Tilloch's penchant for alchemy and the occult contributed to his sole editorship

According to the historian of Britain in the seventeenth and eighteenth centuries, Paul Kléber Monod, Tilloch was the 'perfect model of a practical, enlightened businessman of the late eighteenth century, but two details set him apart. First, he was a member of a small Calvinist Church, the Sandemanians, who held to a narrow interpretation of faith that depended on correct judgment; second, he was a committed devotee of the occult sciences'.⁵⁰²

Indeed, Tilloch's activities before the commencement of his sole editorship were far from what was considered natural philosophy and was carried out at the Royal Society as well as by experimenters like Nicholson during the 1790s. During these years—and despite his allegedly 'strong bias towards science and mechanics'⁵⁰³—Tilloch was close friends with poet and painter Blake and deeply engaged in Cabalistic as well as occult studies.⁵⁰⁴ In 1797, he became patron to Sigismund Bacstrom (1750—1805), a German scholar of alchemy.⁵⁰⁵ Tilloch paid him for carrying out alchemical investigations.⁵⁰⁶

A century earlier, some founders of the Royal Society including Robert Boyle (1627—1691) had taken alchemy seriously but there weren't many alchemists at the Royal Society by the 1790s. Alchemy appears to have fallen into disrepute so much so that critics used it to deride chemistry of the 1790s as alchemy and, according to Jan Golinski, altogether as deluded attempts 'to conjure with potentially dangerous spirits'.⁵⁰⁷

The questionable reputation of alchemy did not diminish Tilloch's interest in alchemical studies. In November 1797, merely seven months before issuing the inaugural issue of his *Philosophical Magazine*, Tilloch, for example, purchased the *Coronatio Naturae*, an alchemical manuscript from the seventeenth century, for the notably high price of 200 guineas (£210).⁵⁰⁸ The work was believed to be a guide for the creation of one of the most sought-after alchemical tinctures: the Philosopher's Stone, a substance that would transform base metals into precious ones, and even

⁵⁰² Paul Kléber Monod, *Solomon's Secret Arts. The Occult in the Age of Enlightenment*, New Haven and London: Yale University Press, 2013, 284.

⁵⁰³ William Anderson, *The Scottish Nation: Or, The Surnames, Families, Literature, Honours*, Vol. 3, Edinburgh and London: Fullarton & Co., 1867, 571.

⁵⁰⁴ Joscelyn Godwin, *Theosophical Enlightenment*, Albany: State University of New York Press, 1994, 120. Marsha Keith Schuchard, 'Blake and the Grand Masters, (1791-4)', in: Steve Clark, David Worrall, eds., *Blake in the Nineties*, New York: MacMillan, 1999, 173-192, 188.

⁵⁰⁵ Monod, 284.

⁵⁰⁶ Monod, 284.

⁵⁰⁷ Jan Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*, Cambridge, New York, Melbourne: Cambridge University Press, 1992, 179.

⁵⁰⁸ Monod, 231.

produce an elixir of life.⁵⁰⁹ According to Kléber Monod, Tilloch considered the work ‘very sound Hermetical Philosophy’ but concluded that ‘no light can be obtained from it for Practice’.⁵¹⁰

One of Tilloch’s anonymous obituarists acknowledged of his subject that ‘the occult sciences, *in early life* [emphasis added], at one time attracted much of his attention’, but claimed that ‘it was not long that he [Tilloch] wandered in those visionary regions’.⁵¹¹ ‘The magic’, the obituarist concluded, ‘of his delusive science soon ceased to operate’.⁵¹² Another anonymous obituarist was quick to assure the audience that Tilloch ‘soon saw the folly of pursuing phantoms, and, without loss of time, applied his talents to the cultivation of that which promised to be useful to mankind’.⁵¹³ Obituarists turned Tilloch’s life into a narrative of enlightenment: showcasing his move from occultism to philosophy.

Tilloch’s dedication to alchemy and occultism casts him in a different light than Walch, Crell and Nicholson—as somewhat detached from the ongoing studies and developments in philosophy and chemistry of his times. Yet, alchemy was probably not merely a form of escapism for the editor but an expression of both his interest in and some knowledge of chemical processes. It likely also fostered his curiosity for chemistry and philosophy in general.

Tilloch’s religiosity and editorial networking

Tilloch was not only attracted to the alchemical quest for eternal life, but also the religious one. Tilloch’s obituarist describes the seeming paradox in the following way: ‘In his religious views Dr. [he had received an honorary doctorate] Tilloch was what in general estimation would be deemed somewhat singular, but his opinions were generally understood to be of the Sandemanian kind.’⁵¹⁴ In the early 1820s, a few years before his death, Tilloch penned *Dissertations introductory to the Study and Right. Understanding of the Language, Structure and Contents of the Apocalypse*, focusing on the New Testament and trying to prove that ‘the Apocalypse was written at a much earlier period than’ his contemporaries believed.⁵¹⁵

Tilloch’s religious beliefs were strong enough to have prompted him to preach ‘occasionally to a

⁵⁰⁹ Bonhams, Bidding Catalogue Alchemy, Los 100, The Crowning of Nature, or Coronatio Naturae. Original alchemical manuscript on paper, ruled in red, with watermark of the arms of Schieland, March 2017.

⁵¹⁰ Paul Kléber Monod, *Solomon’s Secret Arts*, New Haven: Yale University Press, 2013, 231.

⁵¹¹ ‘Obituary, *Annual Biography*, 320.

⁵¹² Ibid.

⁵¹³ ‘Obituary’, *Gentleman’s Magazine*, 276.

⁵¹⁴ Ibid.

⁵¹⁵ Ibid, 279.

congregation who assembled in a house in Goswell-Street Road'.⁵¹⁶ Years later, this would also become the congregation of, arguably, the most famous English philosopher of Sandemanian belief, namely Michael Faraday (1791—1867). More important to Tilloch: the services in Goswell-Street Road were the place where the newspaper conductor would meet the young philosophers central for his sole editorship.

Tilloch's membership in the Askesian Society

Tilloch recruited his early network of philosophical advisors and contributors from a group of dissenters, including Unitarians and Quakers—by becoming a member of the Askesian Society in 1799.⁵¹⁷ The society had been founded in 1796, by a group of notably young men, and had been the initiative of William Allen (1770—1843), Richard Phillips (1778—1851) and William Hasledine Pepys (1775—1856).

At first glance, Tilloch, twice as old as some of the Askesians, seems an odd addition to the group whose members generally engaged with natural philosophy in occupational capacity. Allen, for example, was a chemist with his own pharmacy at 2 Plough Court, South of the Thames; Phillips had been apprenticed and worked as a chemist and druggist, and another member of the Askesian Society, the Quaker Luke Howard (1772—1864), had completed an apprenticeship in a pharmacy and joined Allen in his business.⁵¹⁸ Yet, Tilloch had something in common with the members of this group, besides his religious beliefs: among the Askesians were inventors, like himself, including the astronomer and optician Henry Lawson (1774—1855) who introduced, for example, a reclining medical chair, and the aforementioned Pepys, who also devised and created several medical and surgical instruments.⁵¹⁹

The many events and undertakings of the Askesian Society were likely useful to expand Tilloch's philosophical knowledge.⁵²⁰ Its members held a variety of lectures, ranging from theories on electro-chemistry and electricity to analysis and manufacture of gunpowder, with Tilloch himself giving at least one paper on *Inventions to Prevent Fire on Ships*, potentially influenced by his links

⁵¹⁶ Anon., *Chronicles of saint Mungo: or, Antiquities and traditions of Glasgow*, Glasgow: John Smith & Son, 1843, 354.

⁵¹⁷ Hugh Torrens, 'Dissenting science: the Quakers among the Founding Fathers', in: C.L.E. Lewis, S.J. Knell, eds., *The Making of the Geological Society of London*, London: The Geological Society. Special Publications, 317, 129–144, 139.

⁵¹⁸ n/a, 'Richard Phillips (1778–1851)', *Oxford Dictionary of National Biography*, [accessed August 1, 2018] <https://doi.org/10.1093/ref:odnb/392>. Leslie Stephen, G.F. Bartle, 'William Allen (1770–1843)', *Oxford Dictionary of National Biography*, [accessed August 7, 2018] <https://doi.org/10.1093/ref:odnb/392>. Jim Burton, 'Howard Luke (1772–1864)', *Oxford Dictionary of National Biography*, [accessed August 4, 2018] <https://doi.org/10.1093/ref:odnb/13928>. Torrens, 'Dissenting science', 136.

⁵¹⁹ Torrens, 'Dissenting science', 138ff.

⁵²⁰ Anon., 'Obituary William Hasledine Pepys', *The Gentleman's Magazine*, 201(1856), 521.

to Stanhope.⁵²¹ The social element was highly important to the 'Askesians' and they frequently combined their resources to carry out new research activities. Lawson, Pepys and Allen, for example, worked together on the topic of carbonic acid.⁵²²

Tilloch became a member of the Askesian Society, at a point when two of its founders, Allen and the printer as well as geologist William Phillips (1773–1828), commenced the British Mineralogical Society (1799–1806); 'although short-lived, it was highly organized and intensely active in the pursuit of economically oriented science'.⁵²³ It, among others, aimed to survey and analyse British mineral deposits.⁵²⁴ It appears that Tilloch was only a member of the Askesian Society but, nonetheless, participated in the research of the Mineralogical Society as well. In October 1801, for example, members of the Mineralogical Society decided to test the effect of oxygen on earths and metals: 'Pepys undertook this for iron, Allen for copper, Tilloch for antimony, Phillips for lead, and Sandman for silver.'⁵²⁵ The editor did not report about it in his journal, maybe because the research did not yield noteworthy insights. But we get an idea of how Tilloch learned and deepened his natural philosophical understanding and experimental practice—and became an active researcher. This invites us to rethink the role in which scholars have cast him so far, namely primarily as a journalist. Albeit not a ground-breaking philosopher, Tilloch most likely gained a firm grasp of chemical experimenting, thereby indirectly furthering the quality of his philosophical sole editorship since practical knowledge could help him with evaluating and selecting pieces for insertion in his periodical.

It is safe to assume that the gratitude which Tilloch expressed as he completed his first volume, was directed at the members of the Askesian Society, stating:

Having concluded our First Volume, we would be deficient in gratitude did we not return thanks to the Public, in general, for the favourable reception our labours have experienced; and to those Scientific Gentlemen, in particular, who have assisted us with Communications, as well as Hints respecting the future conducting of the Work.⁵²⁶

⁵²¹ Ian Inkster, 'Science and society in the metropolis: A preliminary examination of the social and institutional context of the Askesian Society of London, 1796–1807', *Annals of Science*, 34(1977), pp. 1-32, 18.

⁵²² William Allen, William Hasledine Pepys, 'On the Quantity of Carbon in *Carbonic Acid*, and on the Nature of the Diamond', *Philosophical Magazine*, 19(1808), pp. 216-227; William Allen, William Hasledine Pepys, 'On the quantity of carbon in carbonic acid, and on the nature of the diamond', *Philosophical Transactions*, 97(1807), pp. 267–292.

⁵²³ Paul Weindling, 'The British Mineralogical Society: a case study in science and social improvement', in: Ian Inkster, Jack Morrell, eds., *Metropolis and Province: Science in British Culture, 1780 – 1850*, Abingdon: Routledge, 1983, 120-150, 120. Torrens, 'Dissenting science', 139f.

⁵²⁴ *Ibid*, 120.

⁵²⁵ *Ibid*, 128.

⁵²⁶ Alexander Tilloch, 'Preface', *Philosophical Magazine*, 1(1798), Preface, A2.

Tilloch's membership in the Askesian Society and its helpfulness in positioning himself as a sole editor, is to some degree reminiscent of Crell and his cooperation with Nicolai: the support these two men received was nothing that they could have entirely planned, but what they actively sought out.

One of the most notable papers penned by Askesians and published in Tilloch's *Magazine* was 'On the Modifications on Clouds and on the Principles of their Production, Suspension, and Destruction' which Howard presented to the Society in December 1802 and which appeared in the *Philosophical Magazine* in 1803.⁵²⁷ The paper fostered Howard's lasting renown as a pioneer of meteorology and the philosopher who gave clouds a nomenclature as well as predictability—and benefitted the reputation of Tilloch's sole editorship.⁵²⁸

Howard wrote about the Askesian Society: 'I believe that many who attached themselves zealously to it have been indebted to these exercises for many advantages of a scientific character'.⁵²⁹ This was also true for Tilloch who, thanks to the young men, did not only receive a hand in positioning himself as sole editor but benefitted from his membership throughout the whole of his sole editorship, particularly because Howard and his peers went on to become respected men-of-science and Fellows of the Royal Society—yet maintained their links to Tilloch and continued publishing in his journal. Howard, for example, apparently published his last paper with Tilloch in 1821—shortly before Tilloch himself left the *Magazine* to his publisher Taylor—introducing his article with the words 'To Mr. Tilloch. My old and respected friend'.⁵³⁰

Tilloch's competitive strategies and tactics

Tilloch appears to have aimed to beat Nicholson out of the niche that he had established with his sole editorship—by filling gaps created by Nicholson's *Journal*. This approach is most easily illustrated by the full title of Tilloch's periodical when it first appeared: *The Philosophical Magazine comprehending the various branches of science, the liberal and fine arts, agriculture, manufactures and commerce*. Tilloch aimed to cover subjects that Nicholson paid less attention to, such as agriculture. An analysis of the two periodicals suggests that Tilloch also offered particularly more contributions on zoology, new discoveries, medicine and biographical accounts of domestic and

⁵²⁷ Luke Howard, 'On the Modifications of Clouds, and on the Principles of their Production, Suspension, and Destruction', *Philosophical Magazine*, 16(1803), pp. 97-107.

⁵²⁸ Helmut Kraus, *Die Atmosphäre der Erde: Eine Einführung in die Meteorologie*, Berlin, Heidelberg: Springer, 2003, 191.

⁵²⁹ A.W. Slater, 'Luke Howard, F.R.S. (1772-1864) and His Relations with Goethe', *Notes and Records*, 27(1972), pp. 119-140, 126.

⁵³⁰ Luke Howard, 'On the best means for conducting meteorological observations in different places and climates, so as to produce some uniformity in the modes of obtaining and summing up the results', *Philosophical Magazine*, 57(1821), pp. 81—83.

foreign men of science. Tilloch's variety of topics was enough to suggest to men-of-science that they received broader news and potentially more value for their money than when buying Nicholson's *Journal*.

This editorial strength was augmented by another of Tilloch's editorial strategies: he sold his periodical cheaper than Nicholson. Tilloch's seven sheets folded octavo was priced at two shilling while readers had to pay two shilling and six pence for Nicholson's *Journal*.⁵³¹ For cash-strapped buyers, Tilloch's *Magazine* was surely the more attractive alternative to Nicholson's *Journal*, also due to another editorial tactic: each issue of Tilloch's *Magazine* had roughly twice as many pages as an issue of Nicholson's *Journal*. Four issues of Tilloch (which Tilloch combined to one volume) had as many pages as nine issues of Nicholson's *Journal*, namely about 430 pages.

To sum up, Tilloch covered more subjects for less money which should be acknowledged as a potential editorial strength over Nicholson. Additionally, Tilloch also made his journal more widely and easily available in the English capital, namely through seven well-respected London-based booksellers, including Thomas Cadell (1742–1802) and John Murray (1778–1843). Moreover, Tilloch also included booksellers abroad, namely William Remnant (1749–1810) in Hamburg and booksellers were soon added in Dublin, indicating the extent of Tilloch's network in the print market as well as his ambition to position himself as philosophical sole editor not only in but also beyond England.⁵³² The wider presence and visibility of Tilloch's periodical likely contributed to his ultimate editorial success over Nicholson, when the latter ceased his sole editorship in 1813.

Tilloch's established network of publishers and booksellers abroad also seem to have afforded him another editorial advantage: access to more foreign periodicals. Tilloch offered reprints from over 40 periodicals, again more than twice as many as Nicholson. Tilloch, for example, published news from foreign societies and academies in Berlin, Stockholm, Petersburg, Paris, Batavia (today Jakarta) and the United States. Nicholson, in turn, only from Paris and the United States. The foreign editor-run periodicals which Tilloch employed for his sole editorship included journals from France, the German lands, Netherlands, Italy, Portugal, Norway, Sweden and Denmark. Nicholson offered articles from France, the German lands, Netherlands, Italy and Sweden.

⁵³¹ Watts, 'We want no authors', 409.

⁵³² Topham, 'Anthologizing', 141.

Furthermore, it was Tilloch rather than Nicholson who published big names such as Lavoisier and Watt. Whether this should be interpreted as a ‘marketing’ strategy to draw the attention of readers or whether Tilloch truly believed to contribute something new with the reprints of, for example, pieces of Lavoisier, who by then had been dead for half a decade, is not clear. It is, however, an eye-catching difference between the two journals which potentially helped Tilloch to spark the interest of and recruit new readers.

As we see, Tilloch’s central editorial strengths were offering more information more widely for less money as well as marketing his journal more emphatically. In other words, Tilloch showed more skill at journalism, distribution and marketing—as we might expect from an experienced journalistic editor. Initially an outsider to natural philosophy, Tilloch nonetheless commodified it to a higher degree than Nicholson.

Kinds of articles in Tilloch’s *Magazine*

Tilloch’s competitive offensive went as far as including exactly the same forms of articles in his *Magazine* as Nicholson did in his *Journal*:

I. Reprinted articles from foreign publications

The majority of pieces published in early issues of Nicholson’s *Journal* and the *Magazine* were articles drawn from other publications, mainly from foreign periodicals. The French *Annales de Chimie* was a central source of philosophical intelligence for both.

II. Reprinted articles from domestic publications

Publishing articles—or article excerpts—from the *Philosophical Transactions* was an editorial measure practiced by both Nicholson and Tilloch, yet Nicholson included notably more material from the Royal Society’s transactions in his journal, potentially due to his bigger philosophical network. The editors also extracted from other transactions, of societies in London and beyond.

III. Summaries/discussions of articles

These pieces were predominantly—but not exclusively—a feature of Nicholson’s *Journal*. On the one hand, they allowed editors to inform their readers about important novel observations and insights. On the other hand, the summaries avoided long and winded details and saved editorial space. These pieces should be considered original as they present previously unpublished editorial engagements with philosophical research.

IV. Reviews

Reviews generally seem to have played a lesser role and took up little space at the commencement of both journals, likely due to the availability of reviews in other periodicals such as the *Gentleman's Magazine*.

V. Original letters forwarded to the editor by the addressee

Most of the early original pieces were letters by British as well as foreign philosophers reporting new observations to a close friend or an important man-of-science such as Sir Joseph Banks. Banks forwarded letters—mainly from the Continent—to both Tilloch and Nicholson. It is not clear whether the authors of these letters were aware of their publication, left alone whether they approved of having their observations published.

VI. Original letters addressing the editor

Especially during the early existence of the two journals this form of contributions was the rarest one and arguably non-existent in the first three issues of both periodicals.⁵³³ It would appear that natural philosophers—even if they favoured the novel editor-run journals—were careful and preferred to see how they peers would react to the periodicals rather than to publish their observations with the two sole editors too hastily, thereby potentially risking their reputation. These letters, which were generally introduced with the sentence 'To the editor', can be considered original.

These forms of text indicate that Tilloch and Nicholson did not introduce any novel editorial form specifically for the sake of their sole editorship. Practices such as reprinting have been around among British journalistic editors for at least four generations.⁵³⁴ Both Nicholson and Tilloch relied on established journalistic forms—highly familiar to their readers—, but applied them to a new topic, philosophy.

Ultimately, Tilloch did not only copy the *form* but also the *narrative*: like Nicholson a year earlier, Tilloch emphasised in his preface to the very first issue that 'no Exertions shall be [left] wanting

⁵³³ Both periodicals included anonymous pieces which might have appeared somewhere else.

⁵³⁴ Here, the popular moral weeklies appear to have been a central model, the earliest of which were the *Tatler* (1709), the *Spectator* (1711) and the *Guardian* (1713). On the rise of the periodical see Iona Italia, *The Rise of Literary Journalism in the Eighteenth Century: Anxious Employment*, London and New York: Routledge, 2005. See also Chapter 'Newspaper Management and Editorial Strategies' in Hannah Barker, *Newspapers and English Society 1695-1855*, London and New York: Routledge, 2014.

on our part to render the Work useful to Society'.⁵³⁵ If one was pressed to look for a difference between the two prefaces, then it appears that Tilloch stressed the importance of using his *Magazine* to advance arts and manufacture.⁵³⁶ This, however, was a rhetoric rather than an actual difference between the two periodicals: looking at the contents, Tilloch and Nicholson both published pieces directed at manufacturers and the improvement of production processes—and, in so doing, also shared contributors as well as readers.

Tilloch's readers and contributors

Although no subscription lists seem to have survived, there is repeated commentary which suggests that Tilloch and Nicholson were generally read by the same people. In 1813, Nicholson, for example, addressed his readers:

my correspondents have complained, that the same academical papers and articles of information have appeared in my Journal as in that of Mr. Tilloch, and have requested me to consult with him upon the means of preventing the *Philosophical World* from receiving the same materials in both. Similar remonstrances have also been addressed to him.⁵³⁷

The fact that Tilloch shared his audiences with Nicholson indicates that the philosophical readership viewed the two men as very similar. Put differently, readers seem to have embraced Tilloch as a philosophical rather than a journalistic editor, or, to put it more carefully: sole editorship allowed Tilloch to be perceived as philosophically credible and knowledgeable by well-respected men of science. This speaks to the significant capacity of sole editorship to fashion oneself as a philosopher.

Like with Nicholson's case, we experience sole editorship as an instrument to compensate for perceived shortcomings such as a lack of formal education—but in Tilloch's case, the full potential of sole editorship's self-fashioning capacities becomes apparent, considering Tilloch's biographical background and his initial lack of philosophical knowledge. Yet, Tilloch successfully established himself as a sole editor considering that his audiences thought him a credible and apt facilitator of philosophical discourse.⁵³⁸

⁵³⁵ Tilloch, 'Preface', A2.

⁵³⁶ Ibid.

⁵³⁷ William Nicholson, 'To the public', *Journal of Philosophy*, 36(1813), 387.

⁵³⁸ Aspinall, 216.

A closer look at Tilloch's *Magazine* and Nicholson's *Journal* reveals that the two periodicals actually fostered two slightly different foci and thereby potentially small differences in audiences. While the central topic of Nicholson's *Journal* was electrochemistry, Tilloch's *Magazine* offered a particular insight into geology and mineralogy, which becomes apparent by looking at Tilloch's main contributors such as the 'celebrated Scottish ironmaster' David Mushet (1772–1847).⁵³⁹ "Mushet worked with the two leading geologists of the time: William Smith, the 'Father' of English Geology and John Farey, Smith's 'bulldog'."⁵⁴⁰ Yet, like in Nicholson's case, Tilloch's list of contributors included a number of FRS as well as the PRS himself.

Since the Askesian Society played an important role for Tilloch's *Magazine* in several ways, including as a source of editorial advice and philosophical knowledge, we should also ask to what degree Tilloch recruited his contributors from its members. According to Roger Cooter, the *Magazine* was the 'chief ideological organ' of the society.⁵⁴¹ But Tilloch did maintain boundaries between his journal and the society: none of his most frequent contributors were Askesians.

Tilloch published altogether nineteen articles which he explicitly introduced with the note 'Read before the Askesian Society' or connected in some other explicit way to the philosophical society. Six of these articles Tilloch penned himself and probably used the Askesian Society as a form of 'peer review' which bestowed some philosophical credibility upon his philosophical article. Apart from the nineteen papers, Tilloch routinely published pieces by Askesians without explicitly linking them to the Society and he did so until the Society's demise in 1807 (and beyond).⁵⁴² Due to potential fluctuations in membership, it is not possible to provide reliable numbers but focussing on the core group of Askesians as provided by the list of Hugh Torrens, Tilloch on average carried two articles by members of the Society in each of his issues, which means that Askesians contributed between nine and seventeen per cent content, depending on the number of articles of the respective issue.⁵⁴³ Put differently, Tilloch's *Magazine* was by no means the Society's transactions—but Tilloch relied on it as a regular source of contributions. Askesians also published

⁵³⁹ Cherry Lewis, 'David Mushet, John Farey and William Smith: Geologising in the Forest of Dean', *Earth Sciences History*, 35(2016), pp. 167–196, 167.

⁵⁴⁰ *Ibid.*

⁵⁴¹ Roger Cooter, *The Cultural Meaning of Popular Science*, Cambridge: Cambridge University Press, 1984, 60.

⁵⁴² For example, William Haseldine Pepys, 'Description of an improved chemical apparatus for preserving separate the gaseous products evolved in many processes', *Philosophical Magazine*, 11(1801), pp. 253–257. William Allen, William Haseldine Pepys, 'On the Quantity of Carbon in *Carbonic Acid*, and on the Nature of the Diamond', *Philosophical Magazine*, 29(1808), pp. 216–227. William Haseldine Pepys, 'Notice respecting the decomposition of sulphate of iron by animal matter', *Philosophical Magazine*, 38(1811), pp. 297–298.

⁵⁴³ Torrens, 'Dissenting science', 138f.

their work with Nicholson and did not submit their work exclusively to Tilloch, although it stands to reason that Tilloch enjoyed a more privileged relationship with them than Nicholson.

Tilloch experienced the same editorial development as Nicholson: after roughly the first two years, he began to receive original submissions, penned for his *Magazine*. But Tilloch seemed to have received fewer than Nicholson who generally published more original contributions in his *Journal*. These differences, however, were slight, resulting in, on average, one more original paper in an issue of Nicholson's *Journal* than in an issue of the *Magazine*. At best, 54 per cent of the contents of a *Magazine* issue and 62 per cent of a *Journal* issue were original—which points to the fact that reprinting remained a crucial editorial practice for both editors and the editorial priority of disseminating findings—and thereby making philosophy more useful to the 'public'—did not change over time.

Philosophical editing

Tilloch copied Nicholson's editorial practices. So much so that he, too, made it an editorial practice to attend meetings of various philosophical societies and report on the papers which were presented. This was possible for the two sole editors because '[m]eetings of the [Royal] Society were embedded in an informal but well-established framework of scientific sociability'—they were open to non-members with permission.⁵⁴⁴

Tilloch did not simply wish to sum up all the papers discussed before the Royal Society Committee: as sole editor, he approached these meetings strategically, knowing in advance which topics and authors were both most news-worthy and relevant to his readership. Here, we do not witness Tilloch as a journalist who simply liaised between the Royal Society and a public by repeating everything—but, through his selection of papers, as someone who actively shaped the public perception of the Royal Society and its philosophical achievements as well as his audience's understanding of the newest philosophical developments.

On April 1, 1811, for example, Tilloch noted: 'Dr. C. Wells communicated an account of Harriet Trest, a woman who has her left shoulder, arm, and hand as black as the blackest African, while all the rest of her skin is very white'.⁵⁴⁵ Tilloch complained that 'the length of these conjectures

⁵⁴⁴ Aileen Fyfe and Noah Moxham, 'Making public ahead of print: meetings and publications at the Royal Society, 1752–1892', *Notes & Records*, 70(2016), pp. 361–379, 366.

⁵⁴⁵ Brooke Hindle, *Early American science*, Sagamore Beach: Science History Publications, 1976, 163.

prevented the reading of a valuable paper by Professor Berzelius and Dr. Marcet'.⁵⁴⁶ The editor had a clear idea which topics were of foremost interest—these interests were sombre and philosophical rather than speculative, sensational and journalistic in nature.

Like Nicholson's case, Tilloch's, too, invites us to ponder the epistemic gravity of sole editorship and also provides insight on why Nicholson considered sole editorship as a meritocratic means to showcase his philosophical skill and understanding: as sole editors Tilloch and Nicholson were forced to undertake an apt interpretation and curate an understanding of what was relevant or irrelevant to the existing philosophical discourse and the advancement of natural philosophical research—this was a central requirement of sole editorship, but also the source of its influence on knowledge production.

CONCLUSION

Tilloch assumed sole editorship and adopted Nicholson's editorial strategies and tactics. He offered his audiences everything that Nicholson offered—but did so with more articles per issue and at a lesser price. In other words, Tilloch appears to have actively sought to push Nicholson out of the niche that Nicholson had created a year earlier—and managed to do so. Although potentially inferior to Nicholson in his philosophical knowledge and understanding, Tilloch asserted himself against his competitor by relying on commercial rationales and market forces.

Ultimately, Tilloch's closeness to the periodical market could have affected his and Nicholson's sole editorship negatively: after all, Tilloch demonstrated that a non-philosopher, but a man with ties to journalism, was not only able to quickly catch up on philosophical knowledge and understanding necessary for sole editorship (which Nicholson had acquired over decades) but was also able to maintain a philosophical journal over decades, thereby suggesting that sole editorship was not a notable philosophical achievement but the work of a 'journalist', who had meddled with the occult, alchemy and some unsuccessful inventions.⁵⁴⁷

Yet, several factors, such as the numbers of original contributions in Tilloch's and Nicholson's periodicals, do not suggest that Tilloch had a detrimental effect on his own and his competitor's sole editorship.⁵⁴⁸ On the contrary, sole editorship appears to have, to some degree, offset the

⁵⁴⁶ Kentwood Wells, 'William Charles Wells and the Races of Man', *Isis*, 64(1973), pp. 215-225, 217.

⁵⁴⁷ 'Obituary Alexander Tilloch', *Annual Biography*, 328.

⁵⁴⁸ *Ibid*, 331.

journalistic reputation since Tilloch became accepted as a philosophical experimenter, establishing himself among well-respected men of science. Although Tilloch was never elected a Fellow of the Royal Society, sole editorship allowed him to become acquainted with philosophy to the degree that an FRS remarked: '[h]ad he been admitted a member of that society, he would have been a very useful and efficient associate and, indeed, an honour to that learned body'.⁵⁴⁹

Tilloch used the notable number of transactions and philosophical periodicals, available to him through his journalistic network, in a manner that allowed him to re-fashion, from a journalistic to a philosophical editor. In the worst case, his editorial practice of reprinting could have been considered journalistic self-enrichment through philosophical achievements of respected men-of-science and have him shunned from philosophical circles in London. But Tilloch's case turns our attention to a particularity of philosophical sole editorship that ultimately likely protected him from negative allegations, namely sole editorship's capacity to foster philosophical sociability. Sole editorship, both in England and the German lands, demanded from an editor to interact with philosophers. For example, both Tilloch and Nicholson gathered philosophical intelligence at the *conversazioni* and meetings of the Royal Society. Men-of-science witnessed that Tilloch and Nicholson had to invest notable amounts of time and effort, such as taking notes and assessing the information, which made the sole editors somewhat immune against allegations of journalistic enrichment or other criticism. Walch and Crell also experienced philosophical sociability as a consequence of their sole editorship—although not face-to-face but mainly through new correspondents as we have particularly seen with in Crell's case.

⁵⁴⁹ Ibid, 333.

CHAPTER FIVE:
LORENZ OKEN
ROLE OF MONEY AND POLITICS IN THIRD GENERATION SOLE EDITORSHIP

INTRODUCTION

Oken 'needs to work for the publisher because this is his main income without which he could hardly sustain himself'.⁵⁵⁰ This quote is taken from an interview with Lorenz Oken in 1836 and pertains to Lorenz Oken's (1779—1851) editorship of *Isis* (1816—1850). When the interview appeared, Oken had been editing his *Isis*, as a monthly, for twenty years. He conducted his journal, in volumes of sometimes twelve and sometimes six issues, until 1850, less than one year before his death in 1851, first with the publisher Friedrich Arnold Brockhaus (1772—1823), then with Brockhaus' son, Heinrich (1804—1874).

In line with the interview—and in contrast to the existing studies on Oken's editorship⁵⁵¹—this chapter argues that Oken was neither motivated by academic self-fashioning nor mainly by the wish to be part of a *naturphilosophische* discourse, but by financial pragmatism. This case study will show that sole editorship furnished Oken with a pecuniary safety net and most likely balanced his unstable university career which—in contrast to Walch's and Crell's successful academic positions—consisted of three academic employments, first at Jena (1807-1819), then Munich (1827-1832) and, lastly, beyond the Heiliges Römisches Reich, in Zürich (1833-1851).

Oken's financial pragmatism showed in three ways, as this chapter will lay out. First, in his decision to lay down his professorship in 1819. By 1819, Oken had been including political pieces in *Isis* for roughly three years, his sovereign, Grand Duke Carl August—whom we have met in the first chapter on Walch—was pressured by Prussia, Austria and Russia to stop Oken's political commentary. Carl August set Oken an ultimatum: either his professorship at Jena or his

⁵⁵⁰ Quoted after Otto Clemen, 'Ein Besuch bei Lorenz Oken in Zürich im November 1836', *Archiv für Geschichte der Medizin*, 15(1923), pp. 147-152, 150.

⁵⁵¹ Katrin Stiefel, 'Zwischen Naturphilosophie und Wissenschaftspolitik: Zum Profil der *Isis* oder Encyklopädischen Zeitschrift von Oken als naturwissenschaftliches Publikationsorgan in den Jahren 1817 bis 1822', *Berichte zur Wissenschaftsgeschichte*, 26(2003), pp. 35—56. Claudia Taszus, 'Zwischen Naturwissenschaft und politischer Schriftstellerei: Lorenz Oken als Redakteur und Mitarbeiter der *Deutschen Blätter* von Brockhaus', in: Thomas Bremer, Christine Haug, Helga Meise, eds., *Verlegerische Geschäftskorrespondenz im 18. Jahrhundert. Das Kommunikationsfeld zwischen Autor, Herausgeber und Verleger in der deutschsprachigen Aufklärung*. Buchwissenschaftliche Beiträge 96, Wiesbaden: Harrassowitz, 2018, 283–303. Claudia Taszus, 'Okens *Isis*. Pressefreiheit, Restriktionen und Zensur in Mitteldeutschland in der ersten Hälfte des 19. Jahrhunderts', *Jahrbuch für Europäische Wissenschaftskultur*, 4(2008), pp. 205–241. Claudia Taszus, 'Lorenz Okens *Isis* (1816-1848). Zur konzeptionellen, organisatorischen und technischen Realisierung der Zeitschrift', *Blätter der Gesellschaft für Buchkultur und Geschichte*, 12/13(2009), pp. 85–154.

editorship—Oken could no longer carry out both. Financial pragmatism, it will be put forward, informed Oken's decision against the academic post.

Second, Brockhaus' ongoing editorial interferences as well as Oken's acceptance of Brockhaus' editorial interruptions and demands indicate that his editorship was too valuable for him to risk losing Brockhaus' support and, thereby, jeopardizing *Isis*. As will be shown, Brockhaus pushed the editor to include political pieces and did so until his death in 1823.

The third example of Oken's financial pragmatism and his editorship being his monetary safety net is the fact that the later decades of his work on *Isis* were marked by one central problem: a lack of original contributions. Albeit generally 22.5 per cent of all articles that Oken published annually in *Isis* were original (while the rest were reviews, summaries of society transactions and editorial information such as calls for papers), strong fluctuations are observable, especially comparing the years before 1824 to the later years of his sole editorship. In 1820, for example, 57.4 per cent of all articles published in *Isis* were original—in 1836, in turn, a mere 3.5 per cent.⁵⁵² A discussion of Oken's contributors as well as editorial policies will shed further light on his failure to make his periodical a central forum for men-of-science in general and *Naturphilosophen* in particular. This lack of interest on part of contributors—and readers as well—yet Oken's continuation of his editorship will further illustrate his financial need to keep *Isis* going.

More generally, this chapter will shed light on the role of money and politics in early sole editorship and illustrate that editor-run journals, in their second generation, were not necessarily becoming streamlined and fine-tuned to the communicative, professional and self-fashioning needs of German academics—nor of their monarchs. On the contrary: the editor-run journal could be utilized for political and monetary ends of its conductor (and publisher), outside of academia and potentially to the detriment of German monarchs.

This chapter is mainly based on 232 of Oken's letters to his two publishers at the Brockhaus company held at the Sächsisches Staatsarchiv at Leipzig, Germany. This chapter is indebted to Claudia Tazsus at the University of Jena: she transcribed all 232 letters of Oken and shared her work with me which I then translated into English. (The original German quotes from Tazsus'

⁵⁵² Roman Göbel, 'Das wissenschaftliche Profil der Isis oder Encyclopädische Zeitung von Lorenz Oken in ihrem gesamten Erscheinungszeitraum von 1817 bis 1848', Master's Thesis, Friedrich-Schiller-Universität Jena, 2012, 45.

transcriptions are available in the Appendix.) Taszus is arguably the scholar who has looked most thoroughly at Oken's editorship so far, publishing a number of papers. This chapter on Oken will pick up where Taszus' research stopped: it does not only focus on the early years of the cooperation between Oken and Brockhaus but extends the period of inquiry to the whole existence of the *Isis*. Furthermore, it sheds light on the financial meaning of *Isis* for Oken that neither Taszus nor other scholars have discussed yet.

This chapter also analyses and discusses a number of findings from Roman Göbel's quantitative investigation of *Isis* in the context of his MA thesis which, so far, have not been interpreted and discussed.

Oken's Biography

Oken was born on August 1, 1779, shortly before Walch died and roughly one year after Crell had published the very first issue of his *Chemisches Journal*. Oken belonged to the first generation of German academics who came of age with both society- and editor-run journals, albeit he likely encountered them only once he arrived at university. He was born into a peasant family in a village in Swabia which, at the time before Napoleon's invasion, was under Habsburgian control. A local pastor saw potential in young Oken and supported his school education. After Oken had lost his parents, apparently to a typhus epidemic that had ravaged the village, in 1793, he left home and entered the Franciscan Gymnasium at Offenburg. In fall 1800, Oken matriculated at the University of Freiburg where he received a scholarship because his 'progress in the sciences had been very distinguished, as in all the subjects taught he had stood in the uppermost class *causa eminentia*'.⁵⁵³ At Freiburg, Oken earned a medical degree in the same year as Crell gave up his sole editorship, namely in 1804.

While still a student, Oken discovered his interest in *Naturphilosophie*. Around the time when he had enrolled at university, Friedrich Wilhelm Joseph Schelling (1775—1854) had put forward his idea that philosophical inquiries should not limit themselves to the descriptive method of natural historians but one that would offer an explanation of the multifold forms and kinds of life.⁵⁵⁴ One of the methodological elements that distinguished *Naturphilosophen*, in turn, from natural

⁵⁵³ Alexander Ecker, *Lorenz Oken: a biographical sketch or In memoriam of the centenary of his birth*, London: Kegan Paul, Trench & Co, 1883, 7. Pierce C. Mullen, 'The Romantic as Scientist: Lorenz Oken, *Studies in Romanticism*', *Romanticism and Science*, 16(1977), pp. 381-399, 383.

⁵⁵⁴ Quoted after: Olaf Breidbach and Michael Ghiselin, 'Lorenz Oken and "Naturphilosophie" in Jena, Paris and London', *History and Philosophy of the Life Sciences*, Vol. 24(2002), pp. 219-247, 220. For morphology see: Ernst Mayr, *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*, Cambridge and London: Belknap Press of Harvard University Press, 1982, 458. Lynn Nyhart, *Biology Takes Form: Animal Morphology Universities, 1800-1900*, Chicago, London: University of Chicago Press, 1995.

philosophers in general was that the later described and worked with hypotheses—*Naturphilosophen* in line with Schelling aimed at finding the underlying and unifying laws of nature, its ‘first principles’.⁵⁵⁵ Oken adopted Schelling’s doctrines and devoted himself to the ‘fundamental problem of deriving the world’s diverse productions from the inviolable unity of matter and from first principles’.⁵⁵⁶

Oken brought out his first work on the subject, *Grundriß der Naturphilosophie, der Theorie der Sinne und der darauf gegründeten Classification der Tiere* in 1802, in which he ‘consistently attempted to apply Schelling’s ideas to biological data’.⁵⁵⁷ Here, Oken undertook a classification of animal life, drafting five categories.⁵⁵⁸ In this early book, which he printed at his own expense, Oken already noted in line with Schelling and other *Naturphilosophen* that ‘[t]he organic whole was the basis for all scientific endeavour, which was not limited to the plant and animal kingdoms, but necessarily included the relationship between humankind and the state’.⁵⁵⁹ Yet, Oken would turn to socio-political subjects only later, in the 1810s.

Oken left Freiburg for Würzburg in 1804, a choice likely informed by the fact that Schelling taught at Würzburg: from 1803 to 1806, Schelling was ordinary professor and, albeit only four years older than Oken, met him in educational capacity. Oken attended Schelling’s lecture in the winter term of 1804/5.⁵⁶⁰ The two men seem to have quickly developed a mentor-mentee relationship.⁵⁶¹ ‘In the lecture on Philos. I have about 150 students this winter’, Schelling wrote to a friend in

⁵⁵⁵ Sibille Mischer, *Der verschlungene Zug der Seele: Natur, Organismus und Entwicklung bei Schelling, Steffens und Oken*, Würzburg: Königshausen und Neumann, New York: Springer, 1999, 40.

⁵⁵⁶ William Coleman, *Biology in the Nineteenth Century: Problems of Form, Function and Transformation*, Cambridge: Cambridge University Press, 1977, 25.

⁵⁵⁷ Olaf Breidbach, ‘Lorenz Oken and Naturphilosophie in Jena, Paris and London’, *History and Philosophy of the Life Sciences*, 24(2002), pp. 219-247.

⁵⁵⁸ Lorenz Oken, *Grundriß der Naturphilosophie, der Theorie der Sinne und der darauf gegründeten Classification der Tiere*, Frankfurt: Eichenberg, 1802.

⁵⁵⁹ Myles Jackson, ‘The State and Nature of Unity and Freedom. German Romantic Biology and Ethic’, in: Jane Maienschein, Michael Ruse, eds., *Biology and the Foundations of Ethics*, Cambridge: Cambridge University Press, 1999, 98-112, 101. For the concept that nature is a unity and entity that not only includes flora and fauna but also human societies see: Wolfdietrich Schmied-Kowarzik, ‘Die existentiell-praktische Einheit von Mensch und Natur. Zur Bedeutsamkeit der Naturphilosophie Schellings für die Ökologiedebatte’, in: *Natur und Subjektivität. Zur Auseinandersetzung mit der Naturphilosophie des jungen Schelling. Referate, Votel und Protokolle der II. Internationalen Schelling-Tagung Zürich 1983*, Stuttgart-Bad Cannstatt: Frommann-Holzboog Verlag, 1985, 375-388. Wolfdietrich Schmied-Kowarzik, ‘Die existentielle Grundlage unserer Naturerkenntnis und die Produktivität der wirklichen Natur. Einleitende Bemerkungen zur Naturphilosophie Schellings’, in: *Tätiger Mensch – tätige Natur*, Kasseler philosophische Schriften 6, Kassel: GhK-Bibliothek, 1983, 13-34.

⁵⁶⁰ Sigrun Bielfeldt, *Selbst Oder Natur: Schellings Anfang in Russland*, in: *Arbeiten und Texte zur Slavistik*. München: Verlag Otto Sagner, 2008, 53. Jörg Jantzen, ‘Schelling, Friedrich Wilhelm Joseph von’, *Neue Deutsche Biographie*, 22(2005), pp. 652-655.

⁵⁶¹ Lorenz Oken to Matthias Keller, December 18, 1804. Universitätsbibliothek Freiburg, Breisgau; Oken NL 45; Signatur: NL 45/A35. See also: Clemens Maria Tangerding, *Der Drang zum Staat. Lebenswelten in Würzburg zwischen 1795 und 1815*, Köln, Weimar, Wien: Böhlau, 2011, 80-109.

December 1804, 'among them also Dr Oken, an excellent person, a pure soul and an analytical mind'.⁵⁶²

Officially, however, Oken did not study under Schelling. Instead, he conducted research under the famous anatomist and embryologist Johann Josef Ignaz von Döllinger (1770–1841), under whose supervision Oken investigated the formation of intestines in animal embryos.⁵⁶³ This work constituted the topic of his habilitation on morphology at Göttingen⁵⁶⁴, where Oken was sent by Schelling.⁵⁶⁵ Completing his habilitation in 1805, Oken was promptly appointed *Privatdozent* (unsalaried lecturer) of medicine.⁵⁶⁶ But because he 'had not [...] paid the fees for formal admission to his faculty', he was not formally included in the catalogue of lecturers.⁵⁶⁷ In the end, Oken was unable to make a living in Göttingen.⁵⁶⁸

His financial situation forced him to consider abandoning his academic career altogether, but as Oken confessed in a letter: 'I have no disposition towards a practical life'.⁵⁶⁹ Ultimately, Oken did not have to leave behind academia. In July 1807, he received an offer from the University of Jena, to lecture physiology as an extraordinary professor of medicine.⁵⁷⁰ His crucial supporter was Schelling,⁵⁷¹ who had been an extraordinary professor at Jena from 1798 to 1803.⁵⁷²

⁵⁶² Schelling to Adam Karl August Eschenmayer, December 22, 1804. Quoted after Werner Gerabek, 'Lorenz Oken und die Medizin der Romantik. Die Würzburger Zeit des Naturforschers (1804-1805)', in: Olaf Breidbach, Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779-1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001, 52-72, 57.

⁵⁶³ Andrea Gambarotto, 'Lorenz Oken (1779-1851): Naturphilosophie and the reform of natural history', *British Journal for the History of Science*, 50(2017), pp. 329-340, 334. Mullen, 383. On the influence of Schelling on Döllinger's work see: Robert Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*, Chicago, London: University of Chicago Press, 2002, 191f.

⁵⁶⁴ Morphology, in the German lands first established by Johann Wolfgang von Goethe and Karl Friedrich Burdach, was devoted to the form and structure of flora and fauna. See: Johann Wolfgang von Goethe, *Zur Naturwissenschaft überhaupt, besonders zur Morphologie: Erfahrung, Betrachtung, Folgerung, durch Lebensereignisse verbunden*, Stuttgart: Cotta, 1817. Karl Friedrich Burdach, *Ueber die Aufgabe der Morphologie*, Leipzig: Dyk'sche Buchhandlung, 1817.

⁵⁶⁵ Gambarotto, 334.

⁵⁶⁶ Mullen, 384.

⁵⁶⁷ Ecker, 19.

⁵⁶⁸ Ibid.

⁵⁶⁹ Oken's letter (date and addressee unavailable), quoted after: Ecker, 18. Emil Kuhn-Schnyder, *Lorenz Oken, 1779-1851: erster Rektor der Universität Zürich*, Zürich: Rohr, 1980, 19. Manfred Zittel, 'Lorenz Oken und Goethe – Die Geschichte einer heillosen Beziehung', in: Olaf Breidbach, Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779-1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001, 149-182, 150.

⁵⁷⁰ Erteilung einer außerordentlichen Professur bei der medizinischen Fakultät an Dr. Oken zu Göttingen, Friedrich-Schiller-Universität, Archiv, Rektor und Senat, Archivalien-Signatur: 567, Bestandssignatur: Bestand A Datierung: 1807 – 1812.

⁵⁷¹ Oken to Schelling, November 3, 1807. N/A, *Aus Schellings Leben: in Briefen. 1803 - 1820*, Vol. 2, Leipzig: Hirzel, 1870, 106f, 43f.

⁵⁷² Otto Pfeleiderer, *Friedrich Wilhelm Joseph Schelling: Gedächtnißrede zur Feier seines Secularjubiläums am 27. Januar 1875*, Stuttgart: Cotta, 1875, 15.

After three years at Jena, Oken became Hofrath, a Court Councillor like Walch with some administrative duties, and, in 1812, was made ordinary professor of natural history.⁵⁷³ He became a popular lecturer, teaching on 'health and disease, Natural History, Zoology, Botany and Geognosy' and his 'lectures soon came to be the best attended in the university'.⁵⁷⁴ But much of his time at the little town of Jena with its roughly 4,700 inhabitants Oken also devoted to his research and publishing projects, such as his three-part *Lehrbuch der Naturphilosophie* (1813—1826).⁵⁷⁵

One of Oken's central projects commenced at Jena was the foundation of the the Society of German Natural Researchers and Physicians ('Gesellschaft Deutscher Naturforscher und Ärzte', GDNÄ): in 1821, Oken used *Isis* to organize the GDNÄ's first annual meeting and, witnessing the popularity of his undertaking, hoped his *Isis* could benefit from its close links to the GDNÄ.⁵⁷⁶ But by 1827/8 the society developed in ways which Oken criticized and prompted him to withdraw from its activities.⁵⁷⁷ However, Oken's initiative, made possible through *Isis*, survived him: today, the GDNÄ is still in existence and considered one of the most prestigious scientific and medical societies in Germany.

Arguably Oken's most important undertaking at Jena, the commencement of his sole editorship, reached back to his first political manuscript, *Neue Bewaffnung, neues Frankreich, neues Theutschland* with which he contacted Brockhaus, hoping the well-known publisher would be interested in publishing it.

Oken's first contact and early cooperation with Brockhaus

Oken first reached out to Brockhaus the same day that Napoleon abdicated and signed the Treaty of Fontainebleau, on April 11, 1814—the perfect moment for the kind of book Oken pitched his future publisher: 'I offer [my manuscript] for your publication because I think that this work suits your company for which your excellent Deutsche Blätter are exemplary'⁵⁷⁸, Oken wrote to

⁵⁷³ 'Lorenz Oken', *The Imperial Dictionary of Universal Biography*, III(1857), pp. 473-474, 474.

⁵⁷⁴ Ecker, 25f.

⁵⁷⁵ Ibid, 20. Katja Deinhardt, *Stapelstadt des Wissens: Jena als Universitätsstadt zwischen 1770 und 1830*, Veröffentlichungen der Historischen Kommission für Thüringen, Kleine Reihe, vol. 20, Köln, Weimar, Wien: Böhlau, 2007, 44. Karen Hagemann, *Revisiting Prussia's Wars against Napoleon*, Cambridge, New York: Cambridge University Press, 2015, 96.

⁵⁷⁶ (See Appendix.) Lorenz Oken to Arnold Brockhaus, January 12, 1832. Sächs. StA Leipzig, Verlag F. A. Brockhaus [hereafter only shelfmarks will be provided], Nr. 294, Bl. 190r-v.

⁵⁷⁷ Oken and Brockhaus published a critique of the GDNÄ in 1828: Johann Jakob Sachs, *Die Versammlung der deutschen Naturforscher und Aerzte in Berlin i. J. 1828 kritisch beleuchtet*, Leipzig: Brockhaus, 1828. Oken greenlighted the publishing of Sachs' manuscript in: Oken to Brockhaus, December 28, 1828. Nr. 294, Bl. 149r-150r.

⁵⁷⁸ Oken to Brockhaus, April 11, 1814. Nr. 294, Bl. 1r-v.

Brockhaus, and continued: ‘The manuscript covers everything regarding the military borders and the future constitution of Germany’.⁵⁷⁹ The pitch of his *Neue Bewaffnung, neues Frankreich, neues Theutschland* appears to have been the first contact between Oken and Brockhaus, and the manuscript Oken’s first foray into political authorship.

So far, Oken had brought out his *naturphilosophische* works with local publishers like Joseph Anton Göbhardt (†1813) in Würzburg and the renowned Friedrich Johannes Frommann (1765—1837) in Jena.⁵⁸⁰ Göbhardt had a scholarly focus including publishing Georg Wilhelm Friedrich Hegel’s *Phänomenologie des Geistes*, while Frommann published broadly, including political treatises, commentaries and other forms of political works.⁵⁸¹

Oken, however, preferred to commence his political authorship with Brockhaus, due to his notable predilection with Brockhaus’ *Deutsche Blätter*, a ‘committed, partisan German-national magazine with an early-liberal character’ that appeared since November 1813.⁵⁸² It reported on political developments in the German territories, particularly about the Napoleonic Wars. This periodical is more suitably described as a newspaper (with two to three sheets per issue) rather than a magazine. It initially appeared four times, since April 1814 three times a week.⁵⁸³

The periodical was not only important to Oken but also a central project for Brockhaus. The publisher was so invested in it that he risked his own life and was present at the ‘Völkerschlacht’ at Leipzig in October 1813 as, what we call today, an ‘embedded journalist’, to pen the battle reports for his *Deutsche Blätter* himself.⁵⁸⁴ During and after crucial battles, Brockhaus sold as many as 4,000 copies of his *Deutsche Blätter*.⁵⁸⁵ Such high numbers were a notable success: even the ‘bestseller’ *Hamburgischer Correspondent*—the most frequently read German daily with usual sales of, at least, 10,000—had been selling mere 5.850 issues since early 1812, mainly due to the French

⁵⁷⁹ Ibid.

⁵⁸⁰ Lorenz Oken, *Die Zeugung*, Bamberg and Würzburg: Joseph Anton Goebhardt, 1805. Lorenz Oken, *Über das Universum als Fortsetzung des Sinnensystems: Ein pythagoräisches Fragment*, Jena: Friedrich Frommann, 1808.

⁵⁸¹ Georg Wilhelm Friedrich Hegel, *Phänomenologie des Geistes*, Würzburg: Joseph Anton Göbhardt, 1807. Frank Wogawa, ‘“Etwas theurer muß der Druck auf jeden Fall bey uns seyn”-Die Frommannsche Verlagsbuchhandlung in Jena in der ersten Hälfte des 19. Jahrhunderts’, in: Werner Greiling, Siegfried Seifert, eds., *Der entfesselte Markt: Verleger und Verlagsbuchhandel im thüringisch-sächsischem Kulturraum um 1800*, Leipzig: Leipziger Universitätsverlag, 2004, 177-218, 209.

⁵⁸² Karen Hagemann, *Revisiting Prussia’s Wars against Napoleon*, Cambridge, New York: Cambridge University Press, 2015, 96.

⁵⁸³ Heinrich Eduard Brockhaus, *Friedrich Arnold Brockhaus. Sein Leben und Wirken*, Vol. 1, Leipzig: Brockhaus, 1872, 337.

⁵⁸⁴ Kirsten Belgum, ‘Censorship and Piracy: Publishing and State Control in Early Nineteenth Century Germany’, in: Johanna Hartmann and Hubert Zapf, eds., *Censorship and Exile*, Göttingen: V&R unipress, 2015, 121-136, 124.

⁵⁸⁵ Brockhaus, *Friedrich Arnold Brockhaus*, 353.

occupation and censorship.⁵⁸⁶ With the exception of the *Correspondent*, generally even the most popular German newspapers did not sell more than between 4,000 and 5,000 copies.⁵⁸⁷ The excellent sales of *Deutsche Blätter* likely affirmed Brockhaus' devotion to the paper. Both the pecuniary success as well as the energy and effort Brockhaus invested in his political periodical are important for us because *Isis* was the official successor to *Deutsche Blätter*: Brockhaus' passion for his *Blätter* help us to understand why the publisher would come to interfere with Oken's editorship of *Isis*.⁵⁸⁸

Like Oken, Brockhaus was a fervent patriot who embraced the idea of a unified Heiliges Römisches Reich and was dedicated to liberal political values such as the freedom of the press up until his death in 1823.⁵⁸⁹ Despite the similarities in their political views and they shared passion for the *Deutsche Blätter*, Oken and Brockhaus ran into disagreements within a month after Brockhaus received Oken's introductory letter: the two men could neither agree on an appropriate honorarium for Oken's *Neue Bewaffnung, neues Frankreich, neues Theutschland* nor on the terms of publishing.⁵⁹⁰ So much so that Oken, in the end, published his political work with a local printer at Jena.⁵⁹¹

In early 1816, Brockhaus planned a new series of his *Deutsche Blätter* for which he was recruiting liberal academics, including some professors at Jena who would contribute articles on a regular basis. More concretely, Brockhaus contacted the theologian Friedrich August Koethe (1781—1850), the famous historian Heinrich Luden (1778—1847) and Oken. Despite invested authors like Oken, the new series of *Deutsche Blätter* did not survive long. The Napoleonic Wars and occupation had had, one way or another, an impact on all Germans who, therefore, had harbored an avid interest in news on these two topics. But once Napoleon was in exile on St Helena and the Wiener Congress continued its work, political news became once again less relevant to some

⁵⁸⁶ Jürgen Wilke, 'Medien - und Kommunikationsgeschichte um 1800. Erscheinungsformen, Determinanten, Grundfragen', in: Werner Greiling, Franziska Schulz, eds., *Vom Autor zum Publikum. Kommunikation und Ideenzirkulation um 1800*, Presse und Geschichte - Neue Beiträge, Vol. 49, Bremen: edition lumiere, 2010, 37-52, 47. Holger Böning, *Periodische Presse, Kommunikation und Aufklärung. Hamburg und Altona als Beispiel*, Bremen: Edition Lumière, 2002.

⁵⁸⁷ Bernhard Giesen, *Intellectuals and the Nation: Collective Identity in a German Axial Age*, Cambridge: Cambridge University Press, 1998, 74. Mark Hewitson, *Absolute War: Violence and Mass Warfare in the German Lands, 1792-1820*, Oxford: Oxford University Press, 2017, 82. Böning, *Periodische Presse*.

⁵⁸⁸ Official announcement of *Isis: Deutsche Blätter*, 3(1816), 637.

⁵⁸⁹ Utz Haltern, 'Politische Bildung und bürgerlicher Liberalismus. Zur Rolle des Konversationslexikons in Deutschland', *Historische Zeitschrift*, 223(1976), pp. 61-97, 72f. Taszus, 'Zwischen Naturwissenschaft', 283.

⁵⁹⁰ (See Appendix.) Oken to Brockhaus, May 14, 1814. Nr. 294, Bl. 5r-v.

⁵⁹¹ Lorenz Oken, *Neue Bewaffnung, neues Frankreich, neues Theutschland*, Jena: Cröcker, 1814.

audiences. Oken, nonetheless, urged Brockhaus not to give up his periodical but to ‘continue it, in which form it might happen’.⁵⁹²

Becoming an editor and early phase of sole editorship (1814—1816)

Oken had a very clear idea of the ‘form it might happen’: he wanted to transform Brockhaus’ political *Blätter* into his own periodical which would—similarly to an encyclopedia—cover all fields of knowledge, through the *naturphilosophische* prism. In early March 1816, Oken wrote to Brockhaus that one could simply ‘withdraw everything political from the d. B. [*Deutsche Blätter*]’ and thereby turn it into *Encyclopädische Blätter*.⁵⁹³ The professor made clear that he would become the editor, explaining Brockhaus: ‘You should do nothing but cover the costs of print and mailing. The business of mailing would be done from here, if you like, under my very responsibility. This way we don’t end the thing [*Deutsche Blätter*] completely.’⁵⁹⁴

Here, we witness yet another approach to sole editorship: turning an already existing political newspaper into a philosophical monthly. The periodical would be devoted to educating the audiences on a broad array of topics, in line with Schelling’s *naturphilosophisches* concept and with a particular focus on natural historical subjects. However, Oken did not mention the central role he envisioned for *Naturphilosophie* and philosophy when he pitched his idea to Brockhaus.⁵⁹⁵

Oken planned to take over editorship from Brockhaus and—crucially—to forego political topics. Somewhat surprisingly, he seems to have truly believed that the audiences of the *Deutsche Blätter* would remain loyal and go on to read the new periodical—despite the fact that Oken aimed to change the focus of the *Blätter* entirely.⁵⁹⁶ ‘And even if the paper would not attract a bigger audience’, Oken mused in his letter to Brockhaus, ‘the one it currently has, is sufficient’.⁵⁹⁷ Maybe even more surprising, Brockhaus did not need much persuasion and quickly agreed to Oken’s offer: on March 31, 1816, Brockhaus’s company drew up a contract for the *Encyclopädische Blätter*, the periodical’s tentative title.⁵⁹⁸

⁵⁹² (See Appendix.) Oken to Brockhaus, March 2, 1816. Nr. 294, Bl. 17r-v.

⁵⁹³ Ibid.

⁵⁹⁴ Ibid.

⁵⁹⁵ Ibid.

⁵⁹⁶ Ibid.

⁵⁹⁷ Ibid.

⁵⁹⁸ Oken came up with the official title *Isis oder Encyclopädische Blätter* in July 1816. Oken to Brockhaus, July 20, 1816. Nr. 294, Bl. 24r-25v.

Oken started devising his *Isis*—and he apparently did so with a learned audience in mind who would engage with the periodical not merely for entertainment: he stressed that each issue needed an indication to which volume it belonged as well as the year and month it appeared—so that his readers could both find the articles in past issues more easily and could also cite and provide the source more accurately.⁵⁹⁹ ‘I have used so many periodicals for my studies and therefore have thoroughly experienced which layout is needed for an easy look-up, search, citation, etc. that I believe to surely have a say in this’, Oken explained.⁶⁰⁰ It seems that Oken envisioned his sole editorship to play a particular role for academics and researchers.

But before Oken could publish his first issue, he already ran into conflict with a colleague at the University of Jena, namely Heinrich Karl Abraham Eichstädt (1771—1848). Eichstädt had originally furthered Oken’s appointment as professor.⁶⁰¹ As the dean at the University of Jena, it was officially him who had made Oken ‘professor med.[ico] extraord.[inario]’ in 1807. Ilse Jahn goes as far as calling Eichstädt Oken’s protector.⁶⁰² But this appears to be a euphemistic description of their relationship, when one takes into account the events that ensued in July 1816.

At that time, Eichstädt—who was, like his predecessor Walch, a professor of rhetoric and poetry—edited the *Jenaische Allgemeine Literatur-Zeitung*. The *Literatur-Zeitung* was a daily, consisting mainly of reviews that covered a broad array of topics, from theology to obstetrics and apiculture.⁶⁰³ But another central element besides reviews was academic news: the *Literatur-Zeitung* informed its readers about what was happening at the University of Jena, including new publications by its staff, new appointments, awards and obituaries.⁶⁰⁴ In 1812, Eichstädt referred to the roughly 600 ‘Mitarbeiter’ (co-workers) devoted to the *Literatur-Zeitung* which explains how he managed both his editorial as well as academic tasks.⁶⁰⁵

The *Literatur-Zeitung*, however, was not Eichstädt’s private undertaking—it was a state-backed periodical. Its founders were Johann Wolfgang Goethe (1749—1832) and State Minister Christian Gottlob Voigt (1743—1819). Goethe and Voigt were jointly responsible for educational matters and the supervision of all institutions of science and arts in Saxe-Weimar Eisenach—and the paper

⁵⁹⁹ (See Appendix.) Oken to Brockhaus, July 16, 1816. Nr. 294, Bl. 22r-23r.

⁶⁰⁰ Ibid.

⁶⁰¹ Jahn, 78.

⁶⁰² Ibid, 81.

⁶⁰³ Oscar Fambach, ‘Ein Goethesches Zeitungsunternehmen als Vorbild unserer Zeit’, *Euphorion*, 419/425(1950), 422.

⁶⁰⁴ Ibid.

⁶⁰⁵ Information received through the Harald Fischer Verlag GmbH, Erlangen, Juli 2017.

was one of their instruments. Voigt and Goethe informed Eichstädt in 1804 ‘not to adopt a forceful political opinion’ in the *Literatur-Zeitung*.⁶⁰⁶ Instead, Goethe, for example, welcomed articles that depicted the University of Jena in a pioneering role or as particularly active community of scholars.⁶⁰⁷ The *Literatur-Zeitung* was a means to make the university and its staff’s achievements more widely known, in order to present the state in a favourable light and Carl August as well as his court and subjects as highly cultured and sophisticated.

Due to the periodical’s importance for his socio-cultural as well as political self-fashioning, Carl August bestowed the ‘privilegium exclusivum’ on the *Literatur-Zeitung* and its editor Eichstädt in 1804. According to this privilege, Eichstädt held the exclusive right of publishing reviews in Saxe-Weimar-Eisenach—no other periodical was allowed to carry reviewing articles.⁶⁰⁸ Oken, it appears, had not been aware of this privilege, leading to the following incident in mid-July 1816, which he shared with Brockhaus:

Just imagine. On Saturday, Eichstädt gets wind of the *Enzyklopädische Blätter*⁶⁰⁹. He goes to Schreiber [Oken’s printer] and demands with a quite commanding voice to give him [Oken’s emphasis] an offprint. Schreiber in fear, Eichstädt wants to harm him [...], goes to him and says, he does not have any offprint left and that he cannot give out anything without my permission. E[ichstädt] tries everything he can through threats etc., but without any luck. [...] The whole printing office in uproar and terror. They all thought, Eichstädt would swallow them. I laughed, calmed them down [...] On Monday at 5 o’clock he [Eichstädt] drove to Weimar to see Minister von Voigt whose favourite and minion he is. [...] I laugh at this craziness, but I must be careful.⁶¹⁰

In line with Oken’s nonchalant report of the incident, the rest of Oken’s letter does not betray fear of repercussions or other worries.⁶¹¹ A few days after Eichstädt’s travel to Weimar, local authorities at Jena issued a special announcement, a *mandatum serenissimi speciale*, to the University, reminding the staff that no one was to interfere with the privilege granted to the *Literatur-Zeitung* and Eichstädt.⁶¹² Oken, however, was aware that this privilege violated his rights as guaranteed by the new constitution: the Weimar constitution of May 5, 1816 furnished Oken

⁶⁰⁶ Christian Gottlob Voigt to Heinrich Carl Abraham Eichstädt, September 6, 1804. Thüringer Universitäts- und Landesbibliothek Jena, En I, Bl. 156-157v.

⁶⁰⁷ Gerhard Müller, “... eine wunderbare Aussicht zur Vereinigung deutscher und französischer Vorstellungsarten.” Goethe und Weimar im Rheinbund’, in: Hellmut Seemann, ed., *Europa in Weimar: Visionen eines Kontinents*, Stuttgart: Wallstein Verlag, 2008, 256–276, 267.

⁶⁰⁸ Stefan Höppner, *Natur und Poesie. Romantische Grenzgänger zwischen Literatur und Naturwissenschaft*, Würzburg: Königshausen & Neumann, 2017, 727.

⁶⁰⁹ Oken introduced the official title of his periodical, *Isis oder Enzyklopädische Blätter*, in a letter to Brockhaus from July 20, 1816. Nr. 294, Bl. 24r-25v.

⁶¹⁰ (See Appendix.) Oken to Brockhaus, July 16, 1816. Nr. 294, Bl. 22r-23r.

⁶¹¹ Ibid.

⁶¹² Ecker, 38.

with freedom of the press—it was the first German body of law that granted freedom of the press.⁶¹³

Not only did Eichstädt's privilege jeopardize Oken's constitutional right, it also made his sole editorship nearly impossible: 'Now, except by breaking my word of honour as pledged to my customers—without reviews [...] the *Isis* cannot appear', Oken wrote.⁶¹⁴ But the Weimar government threatened him with a fine of 50 Thaler if he decided to ignore the 'privilegium exclusivum' and publish a review.⁶¹⁵ This infuriated the liberally minded Oken.

He contacted the authorities, not only quoting his rights as per Constitution, but also providing a list of ways in which his soon to be published periodical would differ from Eichstädt's *Literatur-Zeitung*:

I will [...] proceed to show that even with Eichstädt's existing privilege my *Isis* poses no concern whatsoever, for 1st, it is not a daily paper; 2nd, not a critical one; 3rd, not a journal of general literature; 4th, not even a literary journal, but 5th, an ordinary journal devoted to some special departments of knowledge; and consequently 6th, the *Isis* has nothing to do with Eichstädt's undertaking, does not interfere with it, much less threaten it, however he may cherish the ridiculous presumption that it may do so; so that I am accordingly, 7th, despite the privilege, justified in inserting in my journal special reviews gathered from contributors to special departments.⁶¹⁶

The law, as it turned out, was on Oken's side—albeit somewhat silently: after weeks went by without any answer, Oken accidentally learned that the matter was decided in his favour and against Eichstädt's privilege.⁶¹⁷ He went ahead and began to issue reviews. 'Finding that he was not punished, he began to look upon the whole affair as pretty well done with, and took no more notice of Eichstadt'.⁶¹⁸

The first issue of *Isis* appeared on August 1, 1816 and contained an extensive explanation of Oken's editorial agenda. It, for example, laid out an ambitiously broad focus: Oken wanted to provide original contributions, *Abhandlungen*, on natural history, physics, chemistry, comparative anatomy, physiology, medicine as well as technology and economy.⁶¹⁹ This were the core subjects of his editorship. Yet, as the sole editor of an encyclopedic periodical, he explicitly welcomed a

⁶¹³ Johann Wolfgang von Goethe (T-J. Reed, ed.), *The Flight to Italy: Diary and Selected Letters*, Oxford: Oxford University Press, 1999, 156.

⁶¹⁴ Ecker, 39.

⁶¹⁵ Ibid.

⁶¹⁶ Ibid, 40f.

⁶¹⁷ Ecker, 41.

⁶¹⁸ Ibid.

⁶¹⁹ Lorenz Oken, 'Expedition der *Isis* in Jena', *Isis*, 1(1816), columns 3–8, 5.

number of other fields of inquiry, including history (particularly the German Middle Ages), travelling, art and archaeology.⁶²⁰ Oken drew a line at poetry, rhetoric, philosophy and statesmanship, all of which would be included only sparsely.⁶²¹

Oken's sole editorship and politics (1816-1824)

Unfortunately, the contract between Oken and Brockhaus from 1816 does not seem to have survived, but it, most likely, did not specify any details regarding the new periodical's contents. This becomes evident from the vastly different roles that editor and publisher ascribed to publishing political pieces. When announcing the *Encyclopädische Blätter* in the last issue of the *Deutsche Blätter*, Brockhaus presented the new periodical as a 'parliament hall' in which everybody could speak freely on all topics.⁶²² It would be the 'the only [periodical] in Germany which can promise such a freedom', Brockhaus stressed.⁶²³ Meanwhile, Oken's understanding seems to have been that he, the editor, had the ultimate say regarding all contents and did not include any political pieces when drafting the first four numbers and sending them to his publisher.

These early drafts, however, were not at all what Brockhaus had in mind—and he did not allow Oken to go to press.⁶²⁴ Instead, Brockhaus, according to Oken, bombarded the editor with demands to include political commentary.⁶²⁵ A conflict between editor and publisher ensued. Oken's rationale behind the first four issues of *Isis* was the following: 'I would send off the first four issues. So that the general opinion becomes what it is supposed to become: namely, a) that *Isis* is a scientific periodical, b) that it is primarily a *naturphilosophische* one.'⁶²⁶ Brockhaus did not give in, although we do not know how exactly he sought to change Oken's mind.⁶²⁷

Ultimately, Oken penned political pieces and remarks and included them in the earliest numbers of *Isis*. This early political commentary mainly mirrored his conflict with Eichstädt. In the very first number, for example, he published an excerpt of the *Statutes of the Weimar Constitution* which referred to the freedom of the press.⁶²⁸ In the second number, Oken announced that '[t]he progress of the *Isis* shall teach us whether we actually have freedom of the press, or whether it is

⁶²⁰ Ibid.

⁶²¹ Ibid.

⁶²² Arnold Brockhaus, 'Ankündigung der Encyclopädischen Blätter', *Deutsche Blätter*, 3(1816), pp. 636-638, 637.

⁶²³ Ibid.

⁶²⁴ Oken to Brockhaus, September 27, 1816. Nr. 294, Bl. 26r-29r.

⁶²⁵ Ibid.

⁶²⁶ (See Appendix.) Ibid.

⁶²⁷ The respective letters of Oken (from July 26 and August 6, 1816) which could shed more light on this matter, apparently went missing.

⁶²⁸ 'Aus dem Grundgesetz über die Landständische Verfassung des Großherzogthums Sachsen-Weimar-Eisenach', *Isis*, 1(1816), column 1.

to be made a farce of by means of literary privileges and their arbitrary explanation and interpretation.’⁶²⁹ In the sixth number, Oken issued an essay-contest pertaining to the question whether publishing privileges are acceptable in states with laws that guarantee the freedom of the press.⁶³⁰ Oken devoted his number nine in its entirety to an open critique of the Weimar Constitution.⁶³¹ In so doing, Oken seems to have found a way to express his own frustration and appease his publisher.

But Voigt and Goethe felt offended. In late October 1816, Oken wrote to Brockhaus, sharing the difficulties and tribulations he faced due to the political pieces in *Isis*: ‘I have already had a lot of displeasure. Just imagine, the government, the Ministers, and even the nobility in Weimar are completely angry [Oken’s emphasis] because of my essay on the constitution. A meeting of ministers took place which advised the Grand Duke to intervene, as sovereign, in a domineering manner, yes, there was even talk of [my] dismissal [Oken’s emphasis].’⁶³²

But Grand Duke Carl August did not go this far yet. A central reason for this might be that Goethe’s and Voigt’s dislike of Oken was not shared by the monarch, whom we have encountered, much younger, in chapter one. Compared to most other German heads of states, Carl August was a particularly liberal-minded monarch.⁶³³ In fact, Oken’s relationship with his sovereign had started out on a notably good footing—a much better than his with Goethe’s. When, for example, Oken reached out to Goethe to gain access to the state’s natural historical collections—Walch’s included—which were under Goethe’s supervision in Weimar, Oken ran into problems which were emblematic for his relationship with Goethe:⁶³⁴

I have now six weeks ago begged Goethe in the most courteous manner for a renewal of the permit, and have to this hour remained without any answer. Meanwhile, I lecture in my auditorium, which I can do very well, as I am still occupied with the mineralogical and zoological parts of my course; but, when I come to the zoological portion, I shall be obliged to close the college doors in the middle of the term.⁶³⁵

Oken assumed to know the reason for Goethe’s behaviour, continuing to Schelling:

⁶²⁹ Cover, *Isis*, 2(1816), column 9.

⁶³⁰ ‘Preisaufrage’, *Isis*, 6(1816), column 43.

⁶³¹ *Isis*, 9(1816), columns 65-72.

⁶³² Oken to Brockhaus, October 22, 1816. Nr. 294, Bl. 30r-31v.

⁶³³ Peter Merseburger, *Mythos Weimar: Zwischen Geist und Macht*, München: Pantheon, 2013, 154-157. Jahn, 75.

⁶³⁴ Oken’s problems with Goethe persisted for decades, the origin of which was the fact that Goethe had developed a skull theory in the 1790s, but kept it secret, while Oken came up with a similar theory in the 1800s and introduced it to the public by way of lectures, ultimately receiving priority over Goethe. See: Edith Zehm, Sebastian Mangold, Ariane Ludwig, eds., *Johann Wolfgang von Goethe: Tagebücher: Historisch-kritische Ausgabe, im Auftrag der Klassik Stiftung Weimar*, Vol. 7, Weimar, Stuttgart: Metzler Verlag, 2014, 921.

⁶³⁵ Oken to Schelling, December 19, 1809. Quoted after: Ecker, 132f.

Goethe had spread [the rumour] that I did not mean to leave things in their old order in the collection but intended to arrange them after my own ideas. A clumsy lie, which owed its origin to the fact of my famulus [meaning: servant, assistant] ... having somewhat displaced some specimens—which had, however, never been arranged in an orderly way.⁶³⁶

The problems with Goethe and Voigt led Oken to appeal to the Grand Duke, who furnished him with direct access to his private collections.⁶³⁷ But his relations with Goethe and Voigt were characterized by Oken's deep disdain for the two men, which he shared with Schelling as early as 1809: 'You know better than I do what a vain man Goethe is. He would like every man to be fashioned after his own model, and yet, at the same time, be his humble servant. The young Professor Voigt [...] is, as you likewise know, a weak, foolish individual.'⁶³⁸ Oken's dislike of the two ministers yet his positive relationship with Carl August offer an additional explanation why the editor, in 1816, included political commentary according to his publisher's wish: on the one hand, Oken felt provoked by Goethe, Voigt and Eichstädt's privilege, on the other hand, he felt protected by Carl August—and did as Brockhaus asked him to. But the editor stressed that he did not want to include more than two political pieces a month.⁶³⁹

1817: Wartburgfest: Escalation of conflict between Oken and the Weimar authorities

In October 1817, groups from various Burschenschaften—'student organizations which sometimes represented the vanguard of nationalism'⁶⁴⁰—from 'Berlin, Erlangen, Giessen, Göttingen, Halle, Heidelberg, Jena, Kiel, Leipzig, Marburg, Rostock, Tübingen, and Würzburg'⁶⁴¹ marched to Eisenach, roughly 100 kilometers west of Jena. They came together for the Wartburgfest. Here, they celebrated two anniversaries: the tricentennial of Martin Luther's protest against Rome and the victory over Napoleon at the *Völkerschlacht* at Leipzig in 1813. 'Honour, freedom, fatherland' was the theme at Wartburg.⁶⁴² Nearly six hundred students as well as professors came together.⁶⁴³ They gathered for three days in and close to Eisenach. From 17 to 19 October, the attendees visited the local shrines, held and listened to speeches, and discussed

⁶³⁶ Ibid.

⁶³⁷ Mullen, 390.

⁶³⁸ Oken to Schelling, December 19, 1809. Quoted after: Ecker, 131.

⁶³⁹ (See Appendix.) Oken to Brockhaus, October 22, 1816. Nr. 294, Bl. 30r-31v.

⁶⁴⁰ Mullen, 391.

⁶⁴¹ Ecker, 172.

⁶⁴² Hans Massmann, 'Kurze und wahrhaftige Beschreibung des großen Burschenfestes auf der Wartburg bei Eisenach', Eisenach: n/a, 1817, 30.

⁶⁴³ Dietrich Georg von Kieser, 'Das Wartburgfest am 18. October 1817. Nach Actenstücken und Augenzeugnissen', Jena: Frommann, 1818, 29.

the future of Germany.⁶⁴⁴ Oken had been invited by his students to represent the University of Jena.⁶⁴⁵ He, too, gave a speech during the Fest.⁶⁴⁶

The editor published both a report on the Fest as well as his speech in *isis* in late October and still did not fear any repercussions. After all, Saxe-Weimar-Eisenach was one of the 'freest of states'.⁶⁴⁷ But, at the same time, it was one of the smallest states in the Confederation and Carl August was soon taking pressure from crucial German forces, namely Prussia and Austria, because of the Wartburgfest.⁶⁴⁸ A political convention like the Fest, could, according to these central German actors, lead to conspiracy, political uprising and radical acts such as regicide.⁶⁴⁹ Oken's report in *Isis* fueled their worries, especially his mentioning of a fire, in which the students had burned symbols of antiliberal governmental agents, for example, the books of the Russian consul August Kotzebue (1761—1819).⁶⁵⁰

And so, the day after the Wartburg-issue of *Isis* appeared, it was confiscated. The authorities also informed Oken that further legal action would be taken against him.⁶⁵¹ 'I did comply since it is my principle never to resist the authorities'⁶⁵², he commented in a letter to Brockhaus and reported to his publisher a few days later in more detail: 'Due to its press laws, the Weimar government has been driven into a corner by Austria and Prussia so much that it has to make an example and find a victim, to show the [two] powers that we do not have complete press freedom here in order to appease these powers. And I am chosen to be this victim'.⁶⁵³

Oken felt like a scapegoat—yet he continued to use his sole editorship for political commentary. While the official inquiry against him was carried out, he penned new articles, in which he referred to the three great political powers Prussia, Austria and Russia: 'to foreign governments freedom of the press is a literal eyesore'.⁶⁵⁴ His articles did not go unnoticed by the public: his case was widely reported by general audience media in Saxe-Weimar-Eisenach, such as the *Weimar*

⁶⁴⁴ Mullen, 392.

⁶⁴⁵ Ibid, 28.

⁶⁴⁶ Kieser, 28. For Oken's speech at Wartburg see Ecker, 173—178.

⁶⁴⁷ G. A. Kertesz, 'Notes on Isis von Oken, 1817-1848', *Isis*, 77(1986), pp. 497-503, 501.

⁶⁴⁸ Ibid.

⁶⁴⁹ Mullen, 392.

⁶⁵⁰ Hermann von Rotteck, Carl von Rotteck, *Geschichte der neuesten Zeit, enthaltend die Jahre 1815 - 1840*, Pforzheim: Finck, 1841, 463.

⁶⁵¹ Oken to Brockhaus, November 29, 1817. Nr. 294, Bl. 52r-v.

⁶⁵² (See Appendix.) Ibid.

⁶⁵³ (See Appendix.) Oken to Brockhaus, December 1, 1817. Nr. 294, Bl. 71r-v.

⁶⁵⁴ Mullen, 393.

Oppositions-Blatt oder Weimarische Zeitung—so much so that the Weimar government claimed Oken had garnered broad support of the population.⁶⁵⁵

In December 1817, Oken was summoned to Weimar and interrogated from nine in the morning to five in the afternoon.⁶⁵⁶ Yet, it took the authorities five months before they decided Oken's case and punishment: on April 18, 1818, the Weimar government found Oken guilty of slander and insubordination and sentenced him to three months in prison or, alternatively, a sixty-Thaler fine which was more than two months of Oken's salary as a professor.⁶⁵⁷ Oken paid the fine anyway—how he could afford it remains unclear.⁶⁵⁸

On March 23, 1819 things went from bad to worse for Oken: a student from Jena, Karl Sand (1795—1820), stabbed the aforementioned Kotzebue to death. According to Pierce Mullen, 'Oken clearly shared the guilt because he was the intellectual father of this kind of development'.⁶⁵⁹ Oken's friend, Count Alexander von Keyserling (n/a), wrote to him on March 27:

A very serious incident has just occurred in our neighborhood which I cannot avoid mentioning to you, although by this time you will probably have heard of it [...] The act does not seem to be the result of any personally bitter feelings or excited state of mind, but to spring from some secret association, the center of which is said to be at Jena.⁶⁶⁰

Sand appeared to have confessed, while dying, that there was a list with ten more names—ten conservative politicians—who should also be eliminated.⁶⁶¹ The German rulers believed Sand acted in the context of a German-wide conspiracy. Keyserlingk went on to warn Oken that if there was a conspiracy and its origins lay in Jena then, most obviously, 'Weimar, at Russia's demand, will surely be occupied and administered either by Prussia or Saxony, that the University of Jena will be disrupted, and that an entire change of the charters of German Universities' would be some of the dire consequences.⁶⁶² Unfortunately, Oken's letters to Brockhaus during this political turmoil do not seem to have survived.

⁶⁵⁵ Lorenz Oken, 'Ueber Okens Urtheil von Oken', *Bremer Zeitung*, March 26, 1818. For example: 'Kurze Nachrichten', *Oppositions-Blatt oder Weimarische Zeitung*, 6(1818), 629. 'Deutschland', *Allgemeine Zeitung*, 15 February, No.46 (1818), 183.

⁶⁵⁶ Ecker, 53.

⁶⁵⁷ Lorenz Oken, 'Ueber Okens Urtheil von Oken', *Bremer Zeitung*, March 26, 1818.

⁶⁵⁸ One somewhat obvious source of money, namely his father in law, the Jena Privy Councillor and physician Johann Christian Stark (1753—1811), had died several years earlier. Considering that Stark had at least five children it is not clear how much Louisa, Oken's wife, inherited and whether she was able to help her husband pay the fine—or whether Brockhaus helped his editor.

⁶⁵⁹ Mullen, 394.

⁶⁶⁰ Quoted after Ecker, 160/1.

⁶⁶¹ Ibid.

⁶⁶² Ibid, 161.

Russian representatives tried to force the Weimar government to take action against national and liberal elements at Jena, and Oken, expecting his dismissal from the University, was already looking for another academic appointment, namely at his alma mater in Freiburg.⁶⁶³ However, the government of Baden refused to grant him a position, because of the Kotzebue-murder and the political uproar which he had orchestrated with his sole editorship.⁶⁶⁴ The *Allgemeine Zeitung*, in turn, reported that Oken would receive a professorship at Bonn where a new university had been founded which appears to have been a mis-information, since Oken confessed in a letter to his biographer's father, Alexander Ecker sen., that he had not received a call to Bonn.⁶⁶⁵

Apparently due to the pressure of Russia, Prussia, Austria and other German states, Grand Duke Carl August temporarily suspended *Isis* from being published in Saxe-Weimar-Eisenach and on May 11, 1819, the monarch asked the senate at the University of Jena to communicate Oken his ultimatum: either his sole editorship or his professorship—Oken would not be allowed to conduct his periodical as an academic at the University of Jena. The ministers and advisors surrounding Carl August, including Goethe and Voigt, seemed to believe that Oken would choose his professorship and, hence, considered the ultimatum a quick and comparably simple solution to the tricky situation.⁶⁶⁶

Oken had three days and then decided in favour of his sole editorship. Unfortunately, the letters he sent Brockhaus between February 18 and September 9, 1819 seem to be missing so that we cannot say whether he sought his publisher's advice and, if so, how Brockhaus reacted. It appears that we only have Oken's official statement towards the senate and his comments in *Isis* which do suggest that it had not been an easy decision and political fervor was not running high: Oken showed understanding and thanked his former colleagues—and did not mention political motives or goals explicitly.⁶⁶⁷

In June 1819, he was formally dismissed from his position.⁶⁶⁸ Next, the government prohibited the printing of *Isis* in Weimar. Oken continued the printing of his periodical in Rudolstadt, the neighboring principality of Schwarzburg-Rudolstadt in the South of Saxe-Weimar-Eisenach.⁶⁶⁹ He

⁶⁶³ Mullen, 394.

⁶⁶⁴ Ibid.

⁶⁶⁵ 'Deutschland', *Allgemeine Zeitung*, April 10, 1818, 400. Quoted after Ecker, 153.

⁶⁶⁶ Höppner, 728.

⁶⁶⁷ Lorenz Oken, 'Seiner Magnifizenz dem Herrn Prorektor', *Isis*, 5/6(1819), column 8.

⁶⁶⁸ 'Oken's Dienstentlassung', Leipzig, F. A. Brockhaus, or supplement to *Augsburg Allg. Zeitung*, 1819, No. 148-49. *Isis*, 1819, 801. Mullen, 394.

⁶⁶⁹ Kertesz, 501.

remained in Jena until 1827, without academic employment, sustaining himself mainly through editorship as well as authorship.

Oken appears to have been so dependent on Brockhaus' good will—and money—that he continued to include political commentary and essays. This was necessary because Brockhaus tended to strategically withhold both money for producing *Isis* as well as Oken's salary if the editor did not do as the publisher wanted.⁶⁷⁰ In some cases, Oken did not pen the political pieces himself but printed ones submitted by Brockhaus. In early 1821, for example, Brockhaus sent Oken two articles censored in Leipzig which Oken was supposed to publish in *Isis*. 'I have to pull chestnuts out of the fire', Oken replied. 'But I will do it.'⁶⁷¹ This kind of editorial cooperation continued until Brockhaus' death in 1823. Then his son Heinrich took over the publishing of *Isis* and the correspondence with Oken. He, however, was not particularly interested in the journal's contents. It was with Heinrich Brockhaus that Oken experienced editorial freedom for the first time—and that we can truly speak of Oken's sole editorship. In his first number for the year 1824, Oken announced on the cover: 'So that nobody undertakes any attempts in vain, it is herewith stated that in future no political essays will be included in *Isis*.'⁶⁷²

With Oken's sole editorship we encounter a form of journal conducting that became politically charged and, therefore, highly risky to his academic, professional but also private reputation, suggesting that sole editorship was not necessarily an advantage and a reliable instrument of self-fashioning—even after it had been around for almost half a century, it was fraught with challenges and socio-cultural dangers.

Sole editorship as sole income (1819—1827)

Depending on the sales of *Isis*, Brockhaus paid Oken between 800 and 1,000 Reichsthaler per year for the editorship of *Isis*—Oken received at least 66 Reichsthaler per month.⁶⁷³ As an ordinary professor Oken earned notably less, namely mere 289 Reichsthaler per annum and 24 Reichsthaler per month.⁶⁷⁴ With the money he earned at the university, Oken, nonetheless, had belonged to the highest earners in Jena—but not among his academic colleagues. Some other professors

⁶⁷⁰ (See Appendix.) Oken to Brockhaus, July 24, 1820. Nr. 294, Bl. 96r-98v; 1 Bl.

⁶⁷¹ (See Appendix.) Oken to Brockhaus, January 8, 1821. Nr. 294, Bl. 106r-v; 1 Bl.

⁶⁷² *Isis*, 9(1824), Cover.

⁶⁷³ Brockhaus stated that he would pay Oken 800 Reichsthaler a year, in monthly installments of 66 Reichsthaler, if the sales of *Isis* remained around 500 copies per issue and would not go up. Oken would receive 1,000 Reichsthaler if the sales improved to 750 copies. Oken to Brockhaus, November 2, 1818. Verlag F.A. Brockhaus, Nr. 294, Bl. 67a-b.

⁶⁷⁴ Deinhardt, 66.

earned notably more, such as the theologian Johann Philipp Gabler (1753—1826) who received 928 a year.⁶⁷⁵

Additionally, Oken had received a small income as a Hofrat (court councilor) but the Weimar government likely withdrew this privilege when charging and convicting Oken of slander and insubordination in 1818. Another source of income available to Oken was the money he received from students who audited his lectures, the so-called *Kollegelder*. But despite being one of the most popular professors at Jena, Oken likely did not earn much through lecturing since both the student numbers at Jena were falling and the students' interest in Natural History was likely somewhat limited. Unfortunately, archival material at the University of Jena does not include information on lectures prior to 1825, so that no numbers can be provided.

It appears that Oken was truthful when he wrote to a friend in 1819: 'The *Isis* brings me in at present more than any government could give me as salary'.⁶⁷⁶ So much so that Oken, in fact, had been toying with the idea of giving up his professorship and focusing on his sole editorship in early 1818, when facing problems with Eichstädt, Goethe and Voigt.⁶⁷⁷ 'I strongly, and in all friendship, advise you against giving up your place of living and even your employment for it', wrote Brockhaus in March 1818.⁶⁷⁸ By 'it' the publisher meant Oken's sole editorship. Ultimately, in 1819, Oken did not listen to his publisher's advice. 'I must, by all means, keep this institute [sole editorship] of mine going', he announced in 1819. '[F]rom an economical point of view, the *Isis* must not be allowed to come to grief.'⁶⁷⁹

According to Göbel's quantitative study, in the journal's earlier years, Oken had received increasingly more original submissions.⁶⁸⁰ But once the political turmoil surrounding Oken's editorship began to subside in 1819, contributors and readers of *Isis* were changing their behavior—and were submitting fewer papers.⁶⁸¹ At this point, Oken balanced the drop in original papers, by printing fewer but longer contributions rather than multiple short ones. It therefore seems that despite some observable shifts in submissions in 1819, Oken still had reason to believe that his sole editorship was the wiser financial choice than his academic work.

⁶⁷⁵ Ibid.

⁶⁷⁶ Quoted after: Ecker, 153.

⁶⁷⁷ Brockhaus to Oken, March 15, 1818. Nr. 138, Bl. 27r; 1 Bl.

⁶⁷⁸ Ibid.

⁶⁷⁹ Oken to Ecker, without a date, probably 1819. Quoted after: Ecker, 153.

⁶⁸⁰ Göbel, 82.

⁶⁸¹ Ibid.

Additionally, as always, Oken was devoted to another publishing project besides his sole editorship. ‘At present I am engaged in publishing a smaller book on popular Natural History, for schools, educational establishments, etc.’, he wrote to a friend in 1819.⁶⁸² Ultimately, the project became the book *Naturgeschichte für Schulen* that Oken published in 1821.⁶⁸³ In contrast to some of his earlier publishing projects, Oken did not finance this one himself: Brockhaus brought out the book, and Oken received 650 Reichsthaler and 100 free copies of the book which was printed with a run of 2,000.⁶⁸⁴ This financial success likely strengthened Oken’s conviction that living by his pen would provide the necessary income and his decision to Carl August’s ultimatum had been the right one. His next book project would be the volume on botany that was still missing from his *Lehrbuch der Naturgeschichte* trilogy—and which he would go on to complete while still at Jena, printing it, however, at his own expense in 1825.

How prevalent or rare was Oken’s situation in the German lands? After all, as shown in the first chapter, sole editorship had generally been closely linked to German civil servants within and without academia. To better understand Oken’s situation of making a living through sole editorship and authorship, we briefly turn to his contemporaries with similar walks of life. During the first decades of the nineteenth century, it was becoming more and more common for well-educated men to choose either editorship or authorship or both over civil service. Considering that civil servants of lower and middle ranks generally earned between 300 and 500 Reichsthaler in the German lands, working with commercial publishers offered attractive options.⁶⁸⁵ Garlieb Helwig Merkel (1769—1840), for example, gave up his position as secretary at the Danish court to become an author in Berlin.⁶⁸⁶ Karl Ludwig von Woltmann (1770—1817) declined a professorship at the famous university at Göttingen in favour of editing the periodical *Geschichte und Politik*.⁶⁸⁷ And Friedrich Buchholz (1768—1843) stepped down from his teaching position at the Ritterakademie (Brandenburg at the Havel), and also went to Berlin, to make his living as an author.⁶⁸⁸ This was not only the case in Prussia, but a phenomenon observable throughout the German territories.⁶⁸⁹ Working with publishers such as Justus Perthes (1749—1816), an author

⁶⁸² Oken to Ecker, without a date, probably 1819. Quoted after: Ecker, 153.

⁶⁸³ Lorenz Oken, *Naturgeschichte für Schulen*, Leipzig: Brockhaus, 1821.

⁶⁸⁴ Oken to Brockhaus, April 19, 1820. Nr. 294, Bl. 94r-95v; 1 Bl.

⁶⁸⁵ Iwan-Michelangelo D’Aprile, ‘Verflochtene Sattelzeitgeschichten. Journalistische Zeitgeschichtsschreibung um 1800’, in: Elisabeth Décultor, Daniel Fulda, eds., *Sattelzeit. Historiographiegeschichtliche Revisionen*, Berlin and Boston: De Gruyter 2016, 178-197.

⁶⁸⁶ Johann Friedrich von Recke, ‘(Garlieb Helwig) Merkel’, in: *Allgemeines Schriftsteller- und Gelehrten-Lexicon der Provinzen*, Vol. 3, Mitau: Johann Friedrich Steffenhagen und Sohn, 1831, 206-214, 207f.

⁶⁸⁷ D’Aprile, 186.

⁶⁸⁸ Ibid.

⁶⁸⁹ Ibid.

could receive as much as 20 Reichstaler per sheet for a 20-sheet book manuscript—as an ordinary professor around 200 Reichstaler a year.⁶⁹⁰

These, of course, are individual cases and should not be interpreted *pars pro toto*. But in contrast to older assumptions such as Hans-Ulrich Wehler's,⁶⁹¹ more recent studies, particularly on the history of journalism, do suggest that making a living by authorship and editorship in the Germanies was comparable to Britain: it was by no means an established and secure line of work—but it was not a rarity for well-educated men anymore to live by their pen during the first half of the nineteenth century.⁶⁹²

Compared to his editing and authoring peers, Oken, however, was more of an exception than the rule. According to a study by journalism historian Jörg Requate, the majority of individuals working as authors and editors remained in this line of work all their life (47 per cent)—and only a minority, namely 5.5 per cent⁶⁹³, went on to academia.⁶⁹⁴ This makes Oken one of the rare cases among his German contemporaries living by their pen, since he would return to academia in 1827.

What prompted Oken to take this step, considering that sole editorship was his source of income? It seems that Oken's interpretation of living by the pen was a strong motivating factor for his return to academia. Oken believed that it was because 'I am seen not to write for money, that they respect me; and so it comes about that the highest individual treats me as upon an equality with him'.⁶⁹⁵ Editing and authoring as an academic appears to have been looked upon favorably because it was seen as a service to the state and one's monarch—not as private enrichment. This is why Oken appears to have been motivated to distance himself from the idea that he was a *commercial* editor. Returning to academia would, once again, make him an *academic* editor. Upholding the appearance of a selfless civil servant and researcher interested in furthering the sciences and the state appear to have played an important role of early sole editorship.

⁶⁹⁰ Marcus Conrad, 'Kostenfaktoren beim Publikationsprojekt der „Allgemeinen Welthistorie“ im Verlag Gebauer in Halle (1744-1814)', *Archiv für Geschichte des Buchwesens*, 68(2013), pp. 105-118, 107.

⁶⁹¹ Hans-Ulrich Wehler, *Deutsche Gesellschaftsgeschichte, 1815-1845/49*, Vol. 2, München: CH Beck, 1987, 532.

⁶⁹² André Haller, *Dissens als kommunikatives Instrument*, Bamberg: University of Bamberg Press, 2013, 103. Bernd Blöbaum, *Journalismus als soziales System: Geschichte, Ausdifferenzierung und Verselbständigung*, Opladen: Westdeutscher Verlag, 1994, 88.

⁶⁹³ Unfortunately, Requate does not provide information about how many of these 5.5 per cent had been previously already professors.

⁶⁹⁴ Jörg Requate, *Journalismus als Beruf: Entstehung und Entwicklung des Journalistenberufs im 19. Jahrhundert. Deutschland im internationalen Vergleich*, Göttingen: Vandenhoeck und Ruprecht, 1995, 178.

⁶⁹⁵ Ecker, 122.

With Oken's case, we encounter a new role of sole editorship: namely not as a means to further academic career or one's well-established reputation but as a temporary 'in lieu of' academic employment—and an important safety net in this particular line of work during the first half of the nineteenth century.

Maintaining sole editorship over decades (1824—1850)

Judging from Oken's letters to Heinrich Brockhaus, receiving enough print-worthy original pieces was the single biggest editorial challenge that Oken faced once he set aside publishing political material—and this challenge appears to have continued throughout the decades until the very end of Oken's sole editorship. Göbel's quantitative investigation elucidates the problem: during the later decades of Oken's editorship, the percentage of original contributions printed in a volume of *Isis* was, at best, 23.6 per cent—half of the amount published during the journal's early years.⁶⁹⁶

This second part of the chapter will expand the available scholarship putting forward that Oken's journal was not a central communicative instrument for a particular scientific demographic and did not carry an important role for German academics. Instead, Oken perceived his sole editorship as a financial necessity and therefore kept it running and invested significant effort to overcome challenges—like the crucial one of receiving enough original contributions.

In the course of Oken's editorship, according to Göbel at least 495 individuals submitted original pieces. Based on the frequency of contributions, we can distinguish between three groups: one group of twenty men (four per cent), namely the most frequent contributors besides Oken himself, who published ten or more articles; a second group of individuals who penned less than ten but more than one contributions during the roughly three decades, consisting of 129 individuals (twenty-six per cent); while the remaining 346 authors (seventy per cent) published merely once in Oken's periodical.

The small group of Oken's most frequent contributors included eight professors, seven civil servants, two theologians/pastors, and four other individuals, including an explorer and a nobleman. All authors held academic degrees. This group was intergenerational, with younger and older contributors than Oken, albeit the younger ones, namely students, made up the slightly

⁶⁹⁶ Göbel, 47.

biggest part of eleven (fifty-five per cent), Oken's generation the somewhat smaller part of eight contributors (forty per cent) and the older generation the smallest, namely mere one individual (five per cent). Considering the long duration of Oken's editorship, the small presence of older contributors than Oken and bigger involvement of younger academics appear somewhat plausible, since rising age might have made it more difficult for individuals older than Oken to contribute to *Isis*.

The group of Oken's most frequent contributors was notably stable and immune to fluctuations: only two of the twenty most frequent contributors submitted articles over a short time span (roughly two years) and then moved on to other things or died, as was the tragic case of Johannes Wagler (1800-1832), who was killed in a gun accident. Most of the individuals, however, remained involved for at least one decade. While this was generally beneficial for Oken, the problem—even with his most frequent contributors—was that they did not contribute enough. Oken tried to change this in various ways. Throughout the first decade of his editorship, the editor neither provided payment nor any other kind of rewards to contributors. He explained his editorial rationale in the inaugural issue of *Isis*:

Since everybody can review as much as he likes, since thanks to *Isis* everybody has the opportunity to bring his ideas, beliefs, findings, wishes, achievements in front of a, hopefully, broad community, since here everybody finds a way to access the state of scholars, [...] since nobody will have to pay to get published [...]; so nobody will receive a honorarium for his work. This way, we want avoid lazy and trade-like contributors, especially reviewers for rent.⁶⁹⁷

In 1826, however, Oken was forced to introduce a reward-system to encourage more submissions: he gave out free copies of *Isis* to all its contributors.⁶⁹⁸ This measure resulted in a temporary increase in original submissions.⁶⁹⁹ However, ultimately, his policy backfired because the editor did not merely hand out one-time author-copies. Instead, he decided that those who contributed once, would receive new issues of *Isis* on a regular basis.⁷⁰⁰ This step, most probably, aimed at strengthening his bonds with his contributors—but it did not work out the way Oken had hoped. A decade later, in 1837, the editor criticized that individuals would pen contributions only once, and then receive free copies for three to four years before contributing again.⁷⁰¹ This was also the

⁶⁹⁷ *Isis*, Issue I, 1817, Cover.

⁶⁹⁸ Oken to Brockhaus, February 29, 1827. Nr. 294, Bl. 135r-v.

⁶⁹⁹ Ibid.

⁷⁰⁰ Oken to Brockhaus, January 16, 1837. Nr. 294, Bl. 234r-v.

⁷⁰¹ Ibid.

case with some of Oken's most frequent contributors.⁷⁰² Oken had hoped for a more regular and numerous participation of his peers, including his most frequent contributors. The faulty reward-system prompted Oken to change his editorial policy yet again.⁷⁰³ He decided to remunerate authors.⁷⁰⁴ And in early 1837, Oken announced in *Isis* to pay his authors four Kronen a sheet.⁷⁰⁵ This was, however, too small an amount to raise the number of original submissions.

The fact that even some of Oken's liveliest authors did not contribute as often as the editor hoped for led Oken to work with some tricks in order to get new submissions. One of them, accidentally sabotaged by Brockhaus, became the topic of Oken's letter to his publisher:

[I] Wrote Wagner that you do not have the order to send him a free copy since I asked you oftentimes to tell everybody: 'as soon as something new [written] by you appears in *Isis*, you will get them [free copies] delivered'. Now I do not have any choice but to send Wagner the whole volume 1835 in order to not antagonize him and lose his contributions for which I wanted to press him.⁷⁰⁶

When working with free copies, Oken apparently did not only hand them out but also withheld them strategically, in order to create an incentive for new original contributions. There is no sign that the other five editors in this thesis worked with such tricks and Oken's need for these measures suggests that his periodical generally was not considered the go-to media outlet to share one's important natural historical or *naturphilosophische* findings and communicate with eminent peers.

Oken did not create an important instrument of scientific discourse. This becomes also apparent when we take a closer look at the backgrounds of Oken's most frequent contributors. What exactly shall we be looking for? Walch's periodical was sought after by one particular demographic, mainly clergymen. Crell's *Chemische Annalen*, in turn, attracted various demographics—but they generally shared the interest in one particular discourse, namely the phlogiston theory. When looking at Oken's most frequent contributors, we will be looking for traces of similar 'unity of demographic' or 'unity of scientific focus'—if we find such hints, we can assume that *Isis* was held together by philosophical interests of contributors and readers rather than Oken's financial needs.

⁷⁰² Examples: Carl Friedrich Naumann published one article in 1831 and then again in 1834. Heinrich Carl Küster published a piece in 1835, the next one in 1840. Johann Jakob Kaup contributed an article in 1834 and the following one in 1844.

⁷⁰³ Oken to Brockhaus, January 16, 1837. Nr. 294, Bl. 234r-v.

⁷⁰⁴ Ibid.

⁷⁰⁵ *Isis*, Issue X, 1837, Cover.

⁷⁰⁶ (See Appendix.) Oken to Brockhaus, March 3, 1836. Nr. 294, Bl. 227.

The clergyman and ornithologist Christian Ludwig Brehm (1787—1864) was an author. In the 1820s, he penned five books and founded the ornithological journal *Ornis oder das neueste und Wichtigste der Vögelkunde*. Brehm was a pastor in the village of Renthendorf with roughly 440 inhabitants so that publishing afforded him with the opportunity to overcome his geographical isolation.⁷⁰⁷ The Staatsrath and veterinarian Ludwig Heinrich Bojanus (1776—1827) seems to have used *Isis* to discuss some minor topics he had previously briefly mentioned in his books.⁷⁰⁸ The teacher, educator and civil servant Bernhard Heinrich Blasche (1766—1832) contributed pieces on natural history as a free-time activity.⁷⁰⁹ Franz Wilhelm Sieber (1789—1844), in turn, was a traveler with medical inclinations: *Isis* offered him the chance to garner attention for his travelogues.⁷¹⁰ None of these men were followers of Schelling's *Naturphilosophie*.

Among Oken's most frequent contributors was also Joachim Heinrich Jäck (1777—1847), a Cistercian and librarian, who used *Isis* to make the library under his auspices—a former abbey library that had merged with the university library at Bamberg—better known to the public as well as draw attention to the collections of other libraries.⁷¹¹ And the professor of philosophy and theology, Jakob Salat (1766—1851), an author of books that were harshly criticized by proponents of Schelling, contradicted Oken's *naturphilosophische* convictions.⁷¹² Oken and Salat became acquainted when Oken moved to Munich to assume his professorship in 1827 which suggests that personal sympathy might have been involved in the editor's decision to publish Salat's pieces.

In contrast to Walch and Crell, Oken's journal seems to have lacked a unifying element. The fact that *Isis* catered to a multitude of personal (free-time) and professional interests suggests that his editorship did not provide a central communicative instrument to a particular scientific community. This is insofar surprising as *Isis* was the only *naturphilosophische* (in Schelling's tradition) periodical devoted to science—Oken had a monopoly. Yet, we must not forget that, in 1848, his periodical was but one of about 700 (society and editor-run) scientific periodicals—Oken was facing severe competition.⁷¹³

⁷⁰⁷ Karl Ernst Adolf von Hoff, *Neueste Kunde von dem Königreiche Sachsen*, Vol. 20, Weimar: F.J. Bertuch Landes-Industrie-Comptoir, 1819, p. 85.

⁷⁰⁸ Victor Carus, 'Bojanus, Ludwig Heinrich', in: *Allgemeine Deutsche Biographie* [hereafter ADB], 3(1876), pp. 84-85.

⁷⁰⁹ B., A., 'Blasche, Bernhard Heinrich', in: *ADB*, 2(1875), p. 693.

⁷¹⁰ Ernst Wunschmann, 'Sieber, Franz Wilhelm', in: *ADB*, 34(1892), pp. 177-179.

⁷¹¹ Ferdinand Geldner, 'Jäck, Heinrich', in: *Neue Deutsche Biographie* [hereafter NDB], 10(1974), p. 261.

⁷¹² Adam Siegfried, 'Salat, Jakob', in: *NDB*, 22(2005), pp. 361-362.

⁷¹³ Andreas Daum, *Wissenschaftspopularisierung im 19. Jahrhundert: Bürgerliche Kultur, naturwissenschaftliche Bildung und die deutsche Öffentlichkeit, 1848—1914*, 2. ed., München: Oldenbourg, 1997, 337.

Finally, a telling indicator that Oken's sole editorship was not particularly attractive as an scientific instrument to his peers were the decreasing numbers of buyers. In 1816, *Isis* sold monthly around 1,500 copies but Oken was unable to maintain such a high number of sales. Twenty years later, its sales plummeted to 200 copies and would not recover anymore.⁷¹⁴ And yet, as Oken told his interviewer in 1836, he was unable to stop. 'He needs to work for the publisher', journalist Clemen observed in his piece, 'because this is his main income without which he could hardly sustain himself.'⁷¹⁵

CONCLUSION

In this chapter, we encountered sole editorship as main income as well as a safety net for an individual without an academic employment—and, at the same time, as an academic liability: Oken's case presents a sole editorship which became politically charged and had a disruptive rather than beneficial effect on an academic career.

The first half of the nineteenth century saw increasing discipline-building and the establishment of scientific research structures as well as increasing academization.⁷¹⁶ But Oken's case suggests that editor-run journals neither easily became a part of these developments nor unequivocally fostered them. On the contrary, by serving ends such as, in Oken's case, monetary needs and political ideologies, sole editorship could undermine governmental, academic and scientific interests.

Nonetheless, Oken was convinced that sole editorship and academic employment should go hand in hand: he seemed to believe that editorship while being a professor had a different character than editing without any such employment—one was an academic and scientific, the other a commercial activity. Like Walch and Crell, Oken perceived sole editorship not as an element of the periodical market but as the dignified contribution to scientific and academic knowledge production. Despite this belief, Oken's case shows that early sole editorship did not have to carry actual utility for academia and scientific researchers to survive over several decades: as long as an

⁷¹⁴ Tazsus, 'Lorenz Okens Isis', 132.

⁷¹⁵ Ibid.

⁷¹⁶ Jakob Vogel, *Ein schillerndes Kristall: eine Wissensgeschichte des Salzes zwischen Früher Neuzeit und Moderne*, Köln, Weimar, Wien: Böhlau, 2008, (Chapter II). Rudolf Stichweh, *Wissenschaft, Universität, Professionen. Soziologische Analysen*, Frankfurt/Main: Suhrkamp, 2004. Rudolf Stichweh, 'Professionen und Disziplinen: Formen der Differenzierung zweier Systeme beruflichen Handelns in modernen Gesellschaften', in: Klaus Harney, ed., *Professionalisierung der Erwachsenenbildung. Fallstudien – Materialien – Forschungsstrategien*, Frankfurt/Main: Lang, 1987, 278-336. Rüdiger von Bruch, *Gelehrtenpolitik, Sozialwissenschaften und akademische Diskurse in Deutschland im 19. und 20. Jahrhundert*, Stuttgart: Frank Steiner Verlag, 2006, (Part I).

editor was as well-known and popular (mainly with his students) as Oken, he was able to maintain sole editorship for a notably long period. Oken's case suggests that after the advent of sole editorship, its development was by no means a straightforward one: it no longer appears to have served the goal of self-fashioning as a philosopher—instead, academics like Oken seem to have approached it with different expectations and goals.

**CHAPTER SIX:
WILLIAM BRANDE**

FACING IRRELEVANCE:

SECOND GENERATION SOLE EDITORSHIP IN INSTITUTIONAL AND COMMERCIAL CONTEXT

INTRODUCTION

During their meeting on January 8, 1816, the Managers of the Royal Institution⁷¹⁷ of Great Britain (henceforth Institution) '[r]esolved. That in execution of the Bye Law a Journal [...] be regularly published [...] [and] That Mr Brande be requested to undertake the office of Editor, and to employ such Assistants as he may find requisite.'⁷¹⁸ Less than three months later, on March 31, 1816—the day that Brockhaus drafted the contract for Oken's editorship—the first issue of the *Journal of Science and the Arts* came out.⁷¹⁹ It ran until 1830 and carried original pieces, reprints and summaries from both editor-run and society-based periodicals as well as reviews. In other words, editor William Thomas Brande (1788-1866) offered the same kind of articles as the two other London-based science editors at that time, namely Tilloch and Thomas Thomson (1773–1852).⁷²⁰ But Brande, in fact, created a novel niche-periodical: he published a quarterly instead of a monthly and he officially edited it at the Institution while making John Murray II (1778—1843) his publisher, so that his sole editorship combined institutional and commercial forces. Brande's editorial experiment failed nonetheless. This chapter will discuss the reasons for this failure, arguing that Brande, although not including political pieces like Oken, also employed editorial practices that were potentially detrimental to the establishment and consolidation of sole editorship.

The chapter will start out by suggesting that Brande, like Oken, did not assume sole editorship to self-fashion as a man of science—he was already a respected professor situated at the center of scientific discourse and sociability when he became editor. However, he was not as successful and popular as his predecessor at the Institution, Humphry Davy (1778–1829), which was likely the trigger for Brande's editorship: since Brande could not garner the attention of London's upper

⁷¹⁷ On the history of the Royal Institution see, for example, Frank James, *'The Common Purposes of Life': Science and Society at the Royal Institution of Great Britain*, London and New York: Routledge, 2002.

⁷¹⁸ Managers' Minutes, January 1816, VI: 78 VI: 79, Archives of the Royal Institution of Great Britain.

⁷¹⁹ In 1819, the journal's name changed to *Quarterly Journal of Literature, Science and the Arts*. The renaming was likely a tactic to boost sales by creating a seeming (yet unfounded) link between the bestselling *Quarterly Review* and Brande's periodical, both of which were published by John Murray II. The journal once again slightly changed its title when Brande changed publishers: working with Henry Colburn (1784/5–1855) from 1827 to 1830, it was titled *Journal of Literature, Science, and Art*.

⁷²⁰ Note: Nicholson had died in 1815; Thomas Thomson had founded his periodical in 1813.

classes through exciting experiments, rhetoric and charisma at the Institution's theatre, he likely considered sole editorship a way to address this audience, as well as his scientific peers.

His journal allowed Brande to reach out to both addressees—but what for? As the chapter will show, Brande lacked a clear long-term concept of what he wished to actually achieve for himself by way of sole editorship. This conceptual vacuum poses a stark contrast to men like Nicholson who had a refined understanding of their editorial goals. Brande filled the conceptual vacuum with commercial objectives of publisher Murray: the editor pursued good sales and the general popularity among his upper-class audiences. But Brande was neither a skilled nor a diplomatic editor. This led to a number of blunders which will be introduced here and illustrate the structural deficiency of his editorial undertaking. Ultimately, Brande's editorial inability rendered his periodical irrelevant in the eyes of his two stakeholders, Murray and the Institution, as well as his audiences.

In a recent article—and the only scholarly work so far existing on sole editorship in Britain in the 1810s and 1820s—Jon Topham has observed that sole editors including Brande had to create one single editorial product for two different audiences, namely the general and the scientific readerships, and usually failed in this endeavor.⁷²¹ This chapter will extend Topham's study, by demonstrating that Brande's approach, and personality, as well as Murray's relative lack of interest in the publication as a commercial proposition were to blame for the journal's ultimate failure.

All in all, this last chapter will show that in its second generation, sole editorship was used differently than in its first. Furthermore, following its advent, sole editorship's development was not straightforward and its potential as a scientific instrument not self-evident, neither to sole editor Brande nor his peers, which was likely to some part due to Brande's editorial blunders, inability and ambiguity. Early sole editorship was a novel phenomenon in Britain that, as the chapter will show, by the 1810s and 1820s had not fully asserted itself yet—and editors like Brande potentially undermined rather than furthered it.

Although Brande's name comes up regularly today, mainly due to his professorship at the Institution, he has received notably little scholarly attention and less than a handful of studies

⁷²¹ Jonathan Topham, 'The scientific, the literary and the popular: Commerce and the reimagining of the scientific journal in Britain, 1813–1825', *Notes and Records*, 70(2016), pp. 305–324, 311.

exist on his scientific activities.⁷²² Historians of science have tended to turn either to Brande's predecessor Davy or his successor Michael Faraday (1791–1867), but Brande himself has generally been overlooked. So much so, that this chapter is the first study of his editorial routines and challenges. It is based on letters of Brande to one of his most frequent contributors, Andrew Ure (1778–1857), as well as to publisher Murray. Additionally, it is informed by an investigation of Brande's contributors as well as the contents of the journal.

Note: During the 1810s, British men-of-science as well as the broader public were changing their terminology, from 'philosophical' and 'philosophy' to 'scientific' and 'science'. This chapter mirrors this change by switching to 'scientific' and 'science'.

THE ROYAL INSTITUTION WITHIN THE CHANGING SCIENTIFIC CONTEXT

The philosophical infrastructure of London during the 1790s, which we have encountered through Nicholson and Tilloch, differed greatly from the scientific one of the 1810s, when Brande commenced his editorship. During the first decades of the nineteenth century, communities devoted to scientific research diversified rapidly, resulting in 'an altered geography of knowledge production' that spanned north of the Thames, in the City of London and Westminster.⁷²³ Societies such as the British Mineralogical (1799), London Chemical (1806) and Geological (1807) were among the earliest precursors of the changing scientific infrastructure—and their number increased considerably throughout the early decades of the nineteenth century.⁷²⁴

The Institution was an example par excellence for the on-going developments. Founded in London in March 1799 upon an initiative of Benjamin Thompson, Count Rumford, (1753–1814), Banks, Henry Cavendish, and 55 other men-of-science and noblemen, the Institution was arguably the most high-profile of the novel metropolitan institutions.⁷²⁵ It developed on a grand numerical scale. Within eight years of its foundation it included 374 hereditary Proprietors, who were

⁷²² For Brande's lecturing activities at the Institution see Elizabeth Haigh, 'William Brande and the chemical education of medical students', in: Roger Kenneth French, Andrew Wear, eds., *British medicine in an age of reform: Conference Papers*, London and New York: Routledge, 1991, 186–202. For the history of Brande's family and Brande's biography see CH Spiers, 'William Thomas Brande, leather expert', *Annals of Science*, 25(1969), pp. 179–201. For Brande's chemical achievements see Aubrey Tully, *The Chemical Studies of William Thomas Brande, 1788–1866*, MSc Thesis, University of London, 1971.

⁷²³ Jon Klencher, *Transfiguring the Arts and Sciences. Knowledge and Cultural Institutions in the Romantic Age*, Cambridge: Cambridge University Press, 2013, 44.

⁷²⁴ Peter Reed, *Acid Rain and the Rise of the Environmental Chemist in Nineteenth-Century Britain*, New York: Routledge, 2016, 26. On the different forms of scientific memberships that a respected man-of-science could assume in the early nineteenth century and their implications see, for example, Frederick Kurzer, 'William Hasledine Pepys FRS: A Life in Scientific Research, Learned Societies and Technical Enterprise', *Annals of Science*, 60(2003), pp. 137–183.

⁷²⁵ Henry Bence Jones, *The Royal Institution, Its Founder and Its First Professors*, London: Longmans, Green, and Company, 1871, 134.

responsible for its management, and more than 500 each of Life and Annual Subscribers (paying members).⁷²⁶ Due to the fact that membership could be bought and members were not elected like at the Royal Society, the Institution also fostered a higher social diversity, with Subscribers not only belonging to higher upper classes but also to affluent middle-classes. Landed proprietors with metropolitan residences, such as Banks, came together with industrialists, London bankers and cultural connoisseurs, who were involved as library patrons.⁷²⁷

Regular, institutionalized and well-respected scientific lecturing in London was largely restricted to the Institution, particularly before 1826 and the foundation of University College London: the Institution catered to the interests and needs of physicians, small and grand scale manufacturers, students and apprentices in various fields including pharmacy, passionate experimenters, established men-of-science and interested civil servants such as officers of the Royal Navy.⁷²⁸

The Institution's success spawned imitators, the most famous of which were the London Institution, the Russell Institution and the Surrey Institution.⁷²⁹ But none of these had acquired the Royal handle as had the Institution (June 1799) and had been granted the Royal Charter (January 1800), which is little surprising considering that the Institution had been founded by central men-of-science including Banks who 'ensured from the start that there were strong links between the Institution and the Royal Society'.⁷³⁰

But Banks' and Count Rumford's influence on the Institution vanished throughout the early 1800s. The two men found themselves increasingly left out of crucial decision making, with Banks lamenting that the Institution 'had fallen into the hands of the Enemy & is now perverted to a hundred uses for which you [Count Rumford] and I never intended it'.⁷³¹ Banks referred to Sir Thomas Bernard (1750–1818), one of the founders and influential patrons, who had garnered support among the Managers and Members, and steered the Institution away from Banks' and Rumford's original goal, namely to make it a space of scientific exploration. Instead, Bernard and

⁷²⁶ Patrick Unwin and Robert Unwin, 'Humphry Davy and the Royal Institution of Great Britain', *Notes and Records*, 63(2009), pp. 7-33, 7.

⁷²⁷ *Ibid.*, 26.

⁷²⁸ J. B. Morrell, 'London Institutions and Lyell's Career: 1820-41', *The British Journal for the History of Science*, 9(1976), pp. 132-146.

⁷²⁹ Anon., 'Surrey Institution', *The New Monthly Magazine*, 9(1823), 15.

⁷³⁰ Bernard Lightman, 'Refashioning the Spaces of London Science: Elite Epistemes in the Nineteenth Century', in: David Livingstone, Charles Withers, eds., *Geographies of Nineteenth-Century Science*, Chicago and London: University of Chicago Press, 2011, 25–50, 28. James, 2.

⁷³¹ Quoted after Gascoigne, *Banks*, 222.

his supporters made it a space of scientific education and amusement for London's fashionable elites.⁷³²

It was not only the spaces in which scientific research, education and lecturing took place that multiplied in the early nineteenth century—the number of scientific specializations increased, too. A vivid example of this is the diversification of chemistry which was now subdivided into, for example, animal chemistry, mineralogical and analytical chemistry, practical chemistry as well as medical chemistry.

This 'diversity' posed new challenges to a sole editor—challenges that the first-generation journal conductors, Nicholson and Tilloch, had not faced in the late eighteenth century: according to Topham, Brande and his peers had to present a multi-faceted scientific persona which was both 'original and authoritative, exhibiting both genius and expertise'.⁷³³ On the first glance, Brande fitted this description.

BRANDE'S BIOGRAPHICAL BACKGROUND

Brande was born in 1788, at the height of Crell's editorial success with his *Chemische Annalen* and a decade before Tilloch would assume sole editorship. Despite being born into a prosperous family, Brande did not attend university. He trained as an apothecary with his father, Augustus Everard Brande (1746—1834), who was apothecary to Queen Charlotte (1744—1818). The Brande family had been attached to the royal court, serving the Hanoverian monarchs since their arrival in London in the early eighteenth century.⁷³⁴

The Brande family appeared to have had a couple of notable links with eminent men of science.⁷³⁵ According to Leslie Matthews, the 'scientific experiments of Robert Boyle led him to Germany and there he acquired at least some part of the closely guarded secret process for manufacturing phosphorus then being undertaken by one of the Brande family of apothecaries in Hanover'.⁷³⁶ Augustus Everard Brande, in turn, employed at least one experimenter in his pharmacy who would go on to make a name for himself, namely the German Friedrich Accum (1769—1838). Accum, a

⁷³² Henry, 263.

⁷³³ Jonathan Topham, 'Scientific Publishing and the Reading of Science in Nineteenth-Century Britain: A Historiographical Survey and Guide to Sources', *Studies in History and Philosophy of Science*, 31A (2000), pp. 559-612, 50.

⁷³⁴ Leslie Matthews, 'London's Immigrant Apothecaries, 1600-1800', *Medical History*, 18(1974), pp. 262-274, 269. Hanspeter Höcklin, 'Auch die britischen Hofapotheker kamen aus Hannover. Die Personalunion und die Apothekerfamilien Jäger und Brande', *Hannoversche Geschichtsblätter*, 66(2011/2012), pp. 139-162, 160.

⁷³⁵ For an exhaustive history of Brande's family see Spiers.

⁷³⁶ Matthews, 265f.

friend of Nicholson and frequent contributor to his *Journal*, had studied and worked at the Brande pharmacy in Hanover before moving to London to join Brande senior in 1793.⁷³⁷

Brande grew up in a home where experimental chemistry and pharmaceutical knowledge were part of the everyday-life, whether in spoken or written form. His father both published and translated scientific works.⁷³⁸ Scientific journals were likely present in the house, too—including Crell's periodicals, because Brande's father provided a postal address for one of Crell's editorial agents, a Mr Glendenberg.⁷³⁹

In 1801, Everard Brande retired from the court and moved to Chiswick where Brande met Charles Hatchett (1765—1847). The chemist and manufacturer, known today as the discoverer of niobium (Nb), had also a small chemical manufacturing business.⁷⁴⁰ Under Hatchett's patronage, Brande visited lectures, including Humphry Davy's at the Institution, and conducted original chemical research.⁷⁴¹ In 1805, Hatchett, who was Fellow of the Royal Society, presented Brande's first paper to the Society.⁷⁴² It was published in 1806, when Brande turned eighteen.⁷⁴³ This marked the beginning of Brande's extraordinary rise among London's men-of-science. None of the other five editors had a comparably rapid and successful rise from such an early age.

From 1806 until 1813, Brande published altogether nine pieces in the *Transactions*. He became a Fellow of the Society in 1809, at the age of 21. Four years later he received the Society's Copley medal, for his findings on alcoholic content of wine and other beverages.⁷⁴⁴ In 1811, Brande was appointed Professor of Chemistry and Materia Medica at the Apothecaries' Company which had been established to supply the medical profession and the public with unadulterated chemicals and to prepare drugs with scientific accuracy.

⁷³⁷ Höcklin, 160.

⁷³⁸ For example: Augustus Everard Brande, *Experimentation and Observations on the Angustura Bark*, London: Geo. Stafford, 1791. Augustus Everard Brande, *Des Ritter Baronet Johann Pringle's Beobachtungen über die Krankheiten der Armee*, Altenburg: Richterische Buchhandlung, 1772.

⁷³⁹ Crell to Black, September 25, 1784. Robert Anderson, Jean Jones, eds., *The Correspondence of Joseph Black*, Volume One, Farnham, Burlington: Ashgate, 2012, letter 368, p. 733.

⁷⁴⁰ Frank A. J. L. James, 'Brande, William Thomas (1788–1866)', *Oxford Dictionary of National Biography*. [<https://doi.org/10.1093/ref:odnb/3258>, accessed Feb 2, 2016]

⁷⁴¹ Ibid.

⁷⁴² William Thomas Brande, 'Chemical Experiments on Guaiacum', *Philosophical Transactions*, 96(1806), pp. 89-98.

⁷⁴³ Ibid.

⁷⁴⁴ James, 'Brande'.

In his early twenties, Brande was already a highly accomplished man-of-science and a 'rising star among the chemical lecturers of London'.⁷⁴⁵ Hatchett, who was one of the Managers at the Institution as well, likely pushed Brande's career once again when Davy retired in 1813: it was probably him who suggested to make Brande Davy's successor and the second Professor of Chemistry at the Institution.⁷⁴⁶ The Managers presumably thought Brande a highly promising candidate for a professorship—they likely hoped that Brande would become the next 'Davy' and attract London's high society to his lectures as had his predecessor. Brande assumed his professorship at the age of twenty-five.

In so doing he was lucky: in the early decades of the nineteenth century, only '[f]ew men-of-science [...] enjoyed a salaried position'.⁷⁴⁷ The government supported the Astronomer Royal and his assistants, and military men engaged in scientific enterprises such as the Ordnance Survey. In some cases, 'trade simply afforded an income that made a scientific avocation possible, as stockbroking did for the astronomer Francis Baily'.⁷⁴⁸ But the Institution sustained a few paid posts for men-of-science from its beginnings. Brande was one of the few to find both a form of scientific patronage, namely Hatchett's support, as well as scientific employment. In contrast to the four German and British first-generation editors, Brande did not need sole editorship as a means to establish himself among men of science. But journal conducting was likely supposed to serve him as an instrument of self-fashioning, too—to balance his lack of charisma and talent as lecturer to London's elites and his general standing as a man of science.

EDITORSHIP'S USEFULNESS FOR BRANDE AND THE INSTITUTION

Brande gave his chemical lectures at the Institution three times a week from October to April each year, a total of some eighty lectures annually.⁷⁴⁹ Up to 120 students paid Brande four guineas each as enrolment fee.⁷⁵⁰ He turned one third of the money over to the Institution for the use of their premises. This was in addition to the Institution's numerous public lectures on a variety of subjects that Brande delivered.⁷⁵¹ But these lectures were nowhere nearly as successful as Davy's. Although 'his experiments never failed' and 'he sustained the attention of his audience', Brande

⁷⁴⁵ James Sumner, *Brewing Science, Technology and Print, 1700–1880*, London and New York: Routledge, 2016, 143.

⁷⁴⁶ Haigh, 188.

⁷⁴⁷ J. N. Hays, 'The London lecturing empire, 1800–50', in: Ian Inkster and Jack Morrell, eds., *Metropolis and Province. Science in British Culture, 1780–1850*, London, Melbourne, Sydney: Hutchinson, 1983, 91-119, 92.

⁷⁴⁸ Hays, 92.

⁷⁴⁹ Haigh, 194.

⁷⁵⁰ Ibid.

⁷⁵¹ Ibid.

was 'never brilliant or eloquent'.⁷⁵² Brande's contemporaries commented on him: 'Mr. Brande is an able experimentalist, but has made no brilliant discoveries, nor is his elocution, as a lecturer, equal to that of his predecessor.'⁷⁵³

Such comments likely led Brande to realise that he could not replace a flamboyant and colourful lecturer like Davy. Brande's situation with Davy is somewhat reminiscent of Crell and his older colleague, the highly popular Beireis, against whom Crell asserted himself by way of editorship. For Brande, sole editorship bore the promise of curating a relation with the same public that had admired Davy and, moreover, being able to create an additional presence for himself among men of science.⁷⁵⁴

The journal was Brande's idea and he pitched it to his two central stakeholders, which suggests that he felt prompted to augment his professional career. After all, his limited appeal as lecturer translated into limited public interest, less popularity and media attention and, ultimately, smaller numbers of paying supporters for the Institution—and a potentially smaller income for himself.

The Institution depended partly on life subscribers and, partly, on annual subscribers who would attend the public lectures as well as other institutional events such as public experiments, frequent the library and the reading rooms, and peruse the collections of models and minerals which the Institution had to offer to its paying members. During the early decades of its existence, the Institution was repeatedly threatened by financial collapse. According to Patrick and Robert Unwin, 'the underlying causes of near bankruptcy were systemic',⁷⁵⁵ but individual events—such as the postponement of Davy's lectures in 1808 due to his severe illness—contributed to the Institution's funding crises.⁷⁵⁶ Financial difficulties flared up again around the time when Brande became Professor. But in contrast to Davy, Brande could not secure significant financial backing from the affluent Londoners and in 1814 a new subscription initiative was launched to ensure the Institution's survival.⁷⁵⁷

⁷⁵² Frederick Pollock, *Personal Remembrances of Sir Frederick Pollock*, London: Macmillan, 1887, 244.

⁷⁵³ Anon., 'Brande, William Thomas', *The Georgian Era: Voyagers and travellers. Philosophers and men of science*, London: Vizetelly, Branston, 1834, 504.

⁷⁵⁴ Innes Keighren, Charles Withers, Bill Bell, *Travels into Print. Explorations, Writing, and Publishing with John Murray, 1773-1859*, Chicago and London: University of Chicago Press, 2015, 198.

⁷⁵⁵ Patrick Unwin and Robert Unwin, 'A Devotion to the Experimental Sciences and Arts': The Subscription to the Great Battery at the Royal Institution 1808-9, *The British Journal for the History of Science*, 40(2007), pp. 181-203, 183.

⁷⁵⁶ John Ayrton Paris, *The Life of Sir Humphrey Davy*, London: Henry Colburn and Richard Bentley, 1831, 187.

⁷⁵⁷ Unwin, 'Davy', 26.

The Minutes of the Managers' meetings do not specify which arguments Brande put forward to convince the Managers of his editorship, but several seem plausible. For example, in late 1815, a struggle for priority ensued between Davy and the engineer George Stephenson (1781–1848), regarding the miners' safety lamp. The race between the two men forced Davy to use print media in an unusual way for a highly regarded man-of-science like himself: he published his original observations in Tilloch's newspaper *The Star* and requested permission from the Royal Society to publish the final draft of his paper in Tilloch's *Philosophical Magazine* rather than to wait until March 1816, at the earliest, before the piece would appear in the *Transactions*. According to Frank James, 'Davy was clearly in a quandary about how best to deal with Stephenson'.⁷⁵⁸

Brande witnessed the priority conflict and likely arrived at the conclusion that having a journal at one's disposal would have made things easier for Davy. Controversy on scientific issues was not confined to scientific periodicals but permeated the general periodical press, including the *Edinburgh Review and Quarterly Review* as well as 'strait-laced religious weeklies'.⁷⁵⁹ But with an 'in-house' publication, Davy could have published his findings timely and in a potentially more dignified manner, for example as a special issue with all the space he required to explain his work in detail. Davy completed his work on the Safety Lamp in October and November 1815 and published the results in the December issue of Tilloch's *Philosophical Magazine*—while Brande declared his interest in editorship in January 1816.⁷⁶⁰ Brande could offer the Managers a timely example of an advantage of curating an Institution-based periodical.

BRANDE'S CHOICE OF MURRAY

Murray and Brande had not worked with each other prior to 1816. Conveniently for Brande, the publisher lived and worked at 50 Albemarle Street. The Institution, in turn, was situated at 21 Albemarle Street.⁷⁶¹ Murray's home likely drew Brande's attention, since it was the meeting point of London's literary elite:

[i]t was down those famous stairs, after their first meeting, that Scott and Byron, lame poets both, walked arm in arm; it was through the windows of the recent dining-room [...] that, because of the great rush of the booksellers for copies, the volumes of the third and fourth cantos of Childe Harold [1812] were passed, there being no room at the doorway; it was in

⁷⁵⁸ Frank A.J.L. James, 'How Big is a Hole?: The Problems of the Practical Application of Science in the Invention of the Miners' Safety Lamp by Humphry Davy and George Stephenson in Late Regency England', *Transactions of the Newcomen Society*, 75(2005), pp. 175–227, 209.

⁷⁵⁹ Sally Shuttleworth and Geoffrey Cantor, 'Introduction', in: Geoffrey Cantor, Sally Shuttleworth, George Smith, eds., *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*, Cambridge and London: MIT Press, 2004, 10.

⁷⁶⁰ James, 'Safety Lamp', 192.

⁷⁶¹ Murray Publishing Company, *John Murray, 50 Albemarle Street, 1768-1930*, John Murray: London, 1930, 5.

the fireplace of the drawing-room on the first floor, in 1824, [...] that Byron's own unpublished Memoirs were burnt.⁷⁶²

In contrast to the publishers Taylor and Thomas Longman (1771–1842), Murray did not specialize in scientific literature.⁷⁶³ His company was known for publishing poets such as Byron and famous authors, including Jane Austen. But travel and exploration literature made a considerable amount of Murray's publications.⁷⁶⁴ The sales of this genre depended, as Bill Bell, Innes Keighren and Charles Withers have shown, on the credibility and respectability of a publishing house.⁷⁶⁵ Murray likely expected that publishing a journal so closely linked to the Institution would buttress these crucial features and contribute to his company's reputation.

When Brande approached Murray in early 1816, the later was also a highly successful publisher of periodicals, most prominently his *Quarterly Review* (1809-1967). According to Murray's Booksellers Book, the *Review* sold around 10,000 copies during the 1810s and 1820s.⁷⁶⁶ Additionally, the periodical 'helped secure and influence as well as expanding Murray's circle of friends'.⁷⁶⁷ The publisher likely expected that Brande's Institution journal would work similarly to his benefit.

At 7 shillings and 6 pence an issue, the journal he was about to publish with Brande would again address mainly affluent readers. Although the price was somewhat comparable to Nicholson's and Tilloch's since three of their monthly issues cost at least six shillings, many scientific readers would have found 7s 6d too expensive. Let alone the fact that Brande's periodical provided, in some way, a lesser service: Brande's readers got between 50 and 60 articles a year for their money; Tilloch's more than twice as many. This mirrors Brande's aim to address high society rather than provide services to his scientific peers.

THE QUARTERLY JOURNAL: GOAL

⁷⁶² Ibid, 7-9.

⁷⁶³ For details on the Murray publishing house see P. J. Anderson, J. Rose, eds., 'British Literary Publishing Houses, 1820–1880', *Dictionary of Literary Biography*, vol. 106, Detroit and London: Gale Research, 1991. S. Bennett, 'John Murray's Family Library and the Cheapening of Books in Early Nineteenth-century Britain', *Studies in Bibliography*, 29(1976), pp. 139–66.

⁷⁶⁴ Keighren, 5.

⁷⁶⁵ Ibid, chapter 3.

⁷⁶⁶ John Murray Booksellers Book, National Library of Scotland, Ms. 42883, page openings: 1-10, 120-125 and 151-153.

⁷⁶⁷ Keighren, 28.

Topham has rightly observed that Brande wished to form a commercial niche for his periodical by neither focusing solely on the delivery of transactions of the Institution nor providing monthly 'scientific intelligence'.⁷⁶⁸ In the preface to his first issue, Brande explained:

The permanent records of Science are chiefly preserved in the Transactions of learned Societies; and are principally confined to the labours of their Members only. The monthly publications, edited by individuals, furnish an account of what may be regarded as the News of Science. It is proposed that the present JOURNAL [sic] shall appear only four times a year; and in this period of activity in Science and Literature, it may be presumed that a sufficiency of useful information respecting the Sciences and the Arts of Life may be collected, to give interest and importance to a quarterly publication.⁷⁶⁹

Brande's cooperation with a fashionable publishing house influenced his approach to his editorship. Brande wanted to distinguish his editorship from that of Tilloch and Thomson: a scientific quarterly was something novel. Quarterlies were generally more expensive, especially the two most prestigious ones, the *Edinburgh Review* and Murray's *Quarterly Review*, addressing mainly the affluent reader, albeit at six shilling both costed less than Brande's *Quarterly*. The quarterlies had established themselves at the top of the periodical market hierarchy, being known as well-written and well-edited.⁷⁷⁰ In the early decades of the nineteenth century, they served as important opinion makers to the upper strata of British society. According to Brande '[a]ll leading works [...] now appear quarterly.'⁷⁷¹ In the course of the nineteenth century, quarterlies would become 'centres of scientific discussion'.⁷⁷²

The format of the quarterly seems to have been the appropriate medium for the editorial goal that Brande put forward in his preface, namely to 'enhance the reputation of British Science'.⁷⁷³ He wished to do so by offering a 'retrospective outline of the progress of those principal branches of Science'.⁷⁷⁴ The Institution seemed a suitably impressive body at which to issue such a periodical. According to Brande, the Institution's 'list of Members contains Names celebrated throughout Europe for high literary and scientific attainments; and the Establishment [...] had already contributed most essentially to the progress of Chemical knowledge'.⁷⁷⁵

⁷⁶⁸ Topham, 'The scientific, the literary and the popular'. Iain Watts, "'Current' Events: Galvanism and the World of Scientific Information, 1790–1830", PhD Thesis, Princeton University, 2015, 16.

⁷⁶⁹ 'Advertisement', ii.

⁷⁷⁰ Geoffrey Alan Cranfield, *The Press and Society: From Caxton to Northcliffe*, Abingdon, New York: Routledge, 2013, 167.

⁷⁷¹ William Thomas Brande, *A Dictionary of Science, Literature, and Art*, London: Longman, Brown, Green, and Longmans, 1842, 1051.

⁷⁷² Melinda Baldwin, 'The Shifting Ground of Nature: Establishing an Organ of Scientific Communication in Britain, 1869-1900', *History of Science*, 1(2012), pp. 125–154, 145.

⁷⁷³ 'Advertisement', iii.

⁷⁷⁴ William Thomas Brande, 'Preface', *The Quarterly journal of science and the arts*, 5(1818), pp. i–xx, i.

⁷⁷⁵ 'Advertisement', iii-iv.

Brande's experimental and inventive approach to the format and goal of the editor-run periodical speaks to the malleability of sole editorship but also suggests that he did not view journal conducting as a scientific instrument for, for example, fostering scientific discourse, as Nicholson and Tilloch before him—but rather in commercial terms, dovetailing with Murray's expectations.

BRANDE'S EDITORIAL CORE GROUP

Considering that Brande wished to present the progress of British science, his contributors were not necessarily the men one might deem worthy of this task: altogether, 236 individuals contributed to the *Quarterly Journal* throughout its existence, roughly one third of them (86) were Fellows of the Royal Society but only 58 of these men either had or would go on to contribute to the *Philosophical Transactions*. Additionally, only for 42 contributors to Brande's *Quarterly* we can say for sure that these men were members (including Managers and Subscribers) of the Institution.

Brande prioritized original papers over reprinting material. But of Brande's 236 contributors merely 28 individuals contributed more than once⁷⁷⁶—and only four men, in addition to himself, penned more than ten articles during the journal's existence of fourteen years. None of these four men was a leading scientist. Brande was unable to recruit leading researchers of his day to pen articles for his periodical on a regular basis. Ultimately, his periodical did not showcase outstanding achievements but generally offered minor observations. Undermining his own editorial goal, even Brande preferred to publish his important work with the *Philosophical Transactions* and did not go on to pen a second article on the same topic for his *Quarterly*.⁷⁷⁷

We have seen in Oken's case that despite having a core group of avid contributors, none of these individuals could have been considered an editorial assistant. In Brande's case we witness the opposite. Brande's core group of the most frequent contributors included Andrew Ure, John Frederic Daniell (1790–1845), Michael Faraday, and John MacCulloch (1773–1835). All but MacCulloch were involved in Brande's editorial undertaking not only through submitting articles and reviews but also in other capacities such as collecting minor news for the miscellanea. Therefore, for these three men the term 'editorial assistant' seems more suitable. However, as we will see, two of them, Ure and Daniell, were ascribed a more important role: it appears that Brande

⁷⁷⁶ Of the 28 men, less than a half, namely ten, were Fellows of the Royal Society when they published their first piece with Brande and five of them would go on to become FRS.

⁷⁷⁷ For example, William Thomas Brande, 'Observations on an astringent vegetable substance from China', *Philosophical Transactions*, 107(1817), pp. 39–44.

considered them to some degree his assisting editors, involving them in considerations of editorial strategy and tactics.

Faraday was the only one who, as Brande's official assistant at the Institution, appears to have received a regular honorarium from Murray for his editorial work—while Ure and Daniell were, most likely, paid like all of Brande's authors, namely per article. Ure and Daniell, both members of the Institution, participated in Brande's undertaking on a voluntary basis, whereas Faraday's involvement in the periodical arose from his employment at the Institution and had been greenlighted by its Managers.⁷⁷⁸

The Scotsman Ure was a professor of chemistry, natural science and materia medica at the Andersonian Institution in Glasgow. Shortly before becoming the head of the Glasgow Observatory in 1808, Ure went to London, 'commissioned to make the scientific arrangements'.⁷⁷⁹ On this occasion he met Brande.⁷⁸⁰ His earliest contribution to the *Quarterly Journal* was *On Sulphuric Acid and the law of progression followed in its densities at different degrees of dilution* (1817), which was, according to his anonymous biographer, 'remarkable as an example of the useful application of logarithms to Chemistry'.⁷⁸¹

Although Brande never officially or, for that matter, in any of the surviving private letters to Ure, made the Scotsman his assistant editor, he curated the impression in their correspondence. Brande, for example, generally spoke of the *Quarterly* as 'our Journal' and he depended on Ure 'for a regular ... article'.⁷⁸² Furthermore, Brande trusted Ure to be his eyes and ears in the North: 'Our last number is universally liked & has been more generally read than any other similar publication. What is thought of it at Glasgow?'⁷⁸³ In another letter, Brande stressed: 'Let us work hard & make the Journal popular [Brande's emphasis]'.⁷⁸⁴

⁷⁷⁸ Managers' Minutes, January 1816, VI: 78 VI: 79.

⁷⁷⁹ Anon., *Dr. Andrew Ure. A slight sketch*, repr. from 'The Times' and various other Periodicals of 1857, London: n/a, 1874, 7.

⁷⁸⁰ *Ibid*, 7.

⁷⁸¹ *Ibid*, 8f.

⁷⁸² Brande to Ure, November 17, 1821. Royal Institution Archives, Directors' Papers: William Thomas Brande, Folder A: 1819 – 1849, RI MS AD/03/D/02.

⁷⁸³ We do not have the actual numbers to verify or falsify Brande's comment and we also cannot say for sure which periodicals he compared to his own. Most probably, he meant the *Edinburgh Philosophical Journal*, founded in Edinburgh in 1819 and edited jointly but unsuccessfully by Robert Jameson and David Brewster. Brande also could have meant the *Philosophical Magazine* which Tilloch would leave to Taylor the same year that Brande was writing his letter, namely in 1822. Tilloch's *Magazine* sold around 1,000 copies a month. In 1822 Brande still sold more than 1,000 copies of his periodical—but was a quarterly while Tilloch's was a monthly and so one should take Brande's comment, if he referred to Tilloch, with a grain of salt.

Brande to Ure, February n/a, 1822. RI MS AD/03/D/02.

⁷⁸⁴ *Ibid*, December n/a.

The second of Brande's assistant editors was John Frederic Daniell, two years junior to Brande. The son of a barrister, he did not attend university, instead pursued mainly his scientific interests and worked on inventions. Daniell attended Brande's lectures at the Anatomical School in Great Windmill Street in 1812 and became close friends with his teacher. Brande was his proposer at the Royal Society to which Daniell was admitted in 1814. Also through Brande, Daniell began a lasting connection with the Institution, namely as one of its Managers in 1816. In 1824, Daniell turned to business and worked as the director of the Continental Gas Company. But he did not maintain this employment for long. He returned to one of his central interests, chemistry: in 1831 he became the first professor of chemistry at King's College London.

Daniell likely assisted Brande with editorial tasks out of his personal interest in chemistry, meteorology and other scientific topics as well as his personal friendship with Brande. We lack the sources to pinpoint what exactly Daniell's editorial tasks were, but he contributed altogether 22 articles under his name to Brande's periodical—more than Ure who published 15 pieces with Brande.⁷⁸⁵ *The Encyclopedia Britannica* of 1877 ascribed Daniell an even more central role in the editorial undertaking: 'He studied chemistry under Professor Brande, in conjunction with whom he started in 1816 the journal [...] *Quarterly Journal of Science and Art*.'⁷⁸⁶ This statement, however, cannot be corroborated by the Managers' Minutes which name Brande as both the creator and only editor.⁷⁸⁷

While Brande's editorial cooperation with Daniell and Ure took its origin in personal sympathy, Faraday was linked to Brande and his editorship in professional capacity. When Brande commenced his sole editorship in 1816, Faraday was his assistant. In 1821, Faraday was appointed acting superintendent of the Institution.⁷⁸⁸ Faraday took care of *Miscellaneous Intelligence* which included brief and minor news, on Mechanical Science, Chemical Science, Natural History, General Literature, Fine Arts and Miscellaneous Subjects.⁷⁸⁹ For this work Brande suggested Murray to pay Faraday £15.⁷⁹⁰

⁷⁸⁵ Albeit the actual number of contributions in both cases was likely higher, considering that reviews in the *Quarterly Journal* appeared anonymously.

⁷⁸⁶ Anon., 'Daniell, John Frederick', in: *The Encyclopedia Britannica*, Vol. VI, Edinburgh: Adam and Charles Black, 1877, 808.

⁷⁸⁷ Managers' Minutes, January 1816, VI: 78 VI: 79.

⁷⁸⁸ Frank A.J.L. James, 'Michael Faraday (1791–1867)', *Oxford Dictionary of National Biography*, <https://doi.org/10.1093/ref:odnb/9153P>, [accessed Feb 2, 2016].

⁷⁸⁹ Brande, 'Preface', i–xx, xviii–xix.

⁷⁹⁰ Brande to Murray, Note between January 25 and July 31, 1820. NLS-JM, Ms.40142, folios 196-255.

Similarly to Oken, the majority of whose core group of contributors were former students, acquaintances and friends, Brande managed to form an editorial core group only of people he knew personally, namely friends and colleagues, and failed to attract regular contributions from anyone not personally involved. This also includes his most avid contributor, the Scotsman MacCulloch. From 1816 until 1818, he was the President of the Geological Society of London, where he likely met Brande, who was a member, and formed a friendship with him.⁷⁹¹

MacCulloch surveyed Scotland and published its map (posthumously).⁷⁹² During the Napoleonic Wars he was responsible for analyzing the purity of sulphur and nitrate shipments for the gunpowder mills and he checked the efficacy of gunpowder delivered from them. When the Belgian limestone wore out in 1809, MacCulloch was assigned to locate British limestone reserves, thus began his salaried geological fieldwork which informed most of his papers for Brande.⁷⁹³ In 1820, MacCulloch became physician to Prince Leopold, later king of the Belgians—but continued contributing to the *Quarterly Journal*.

BRANDE'S CORE CONTRIBUTORS DRAWING NEGATIVE ATTENTION AND UNDERMINING EDITORIAL GOALS

Brande's core contributors were not only motivated by helping him—but also by furthering their scientific standing. In so doing, they committed several blunders. Faraday, for example, published his 'On some new electro-magnetical [sic] motions and on the theory of magneticism' in the *Quarterly Journal* in 1821. After a few weeks, he was accused of stealing ideas from William Hyde Wollaston (1766–1828) and not crediting the chemist for his findings.⁷⁹⁴ 'I hear every day more and more of those sounds, which, though only whispers to me, are I suspect spoken aloud amongst scientific men, and which, as they in part affect my honour and honesty, I am anxious to do away with', Faraday wrote to a friend.⁷⁹⁵ While we lack the sources to find out how Brande, Murray and the Institution reacted to this, it stands to reason that the incident, at least temporarily, could have cast negative light not only on Brande but also either on Murray or the Institution or both.

⁷⁹¹ A.J. Bowden, 'Geology at the crossroads: aspects of the geological career of Dr John MacCulloch', in: Cherry Lewis, Simon Knell, eds., *The Making of the Geological Society of London*, Special Publication 317, London: Geological Society, 2009, 255-277, 277.

⁷⁹² N. H. Trewin, ed., *The Geology of Scotland*, Fourth Edition, London: Geological Society, 2002, 29.

⁷⁹³ G.C. Hull, 'Five Eighteenth-century medical polymaths', in: C.J. Duffin, R.T.J. Moody, C. Gardner-Thorpe, eds., *A History of Geology and Medicine*, Special Publication 375, London: Geological Society, 2013, 395-408, 405.

⁷⁹⁴ Sir Harold Hartley, 'A letter from Richard Phillips, FRS (1778–1857) to Michael Faraday, FRS (1791–1867)', *Notes and Records*, 20(1965), pp. 220-223, 221.

⁷⁹⁵ Quoted after Royal Society of London, *Proceedings of the Royal Society*, XVII(1868/9), xvi.

Furthermore Faraday, who contributed nineteen articles under his name, seems to have taken relatively little interest in the editorial goal of the *Quarterly Journal*. Although Brande had promised his readers that his editorship would furnish them with scientific highlights, Faraday prioritised scientific self-fashioning over editorial goals. Writing to a friend, Faraday explained: 'During the winter I took the opportunity of examining the hydrate of chlorine and analysing it – the results *which are not very important* [emphasis added] will appear in the next Number of the *Quarterly Journal*'.⁷⁹⁶ Faraday would have sent his important results to the Royal Society, which is where his series on electromagnetism went.⁷⁹⁷

Faraday's approach to the *Quarterly Journal's* main goal undermined Brande's editorship—and was but one reason why Brande had to explain the lack of scientific highlights and outstanding findings in his prefaces, thereby publicly admitting that he was not able to meet his central editorial promise and goal. He did so for the first time as early as in the second volume of his *Quarterly*, stating that 'no very brilliant discoveries have been added to the general stock'.⁷⁹⁸

For Ure, in turn, Brande's editorship was a means to attack the aforementioned Thomas Thomson, editor of the *Annals of Science*. Thomson was Brande's editorial competitor during the years 1816 and 1817, the year when Thomson left London for Glasgow, where he became Ure's competitor for chemistry students. Ure and Thomson, initially superficially friendly with each other, 'degenerated into bitter hostility'.⁷⁹⁹ The German chemist and mineralogist Eilhard Mitscherlich (1794–1863), on a visit to Scotland in 1824, remarked in a letter to Jöns Jakob Berzelius (1779–1848) that he had met the 'two bitter enemies'.⁸⁰⁰ One of the earliest pieces that Ure published in Brande's *Quarterly Journal*, was a long and scathing review of Thomson's work.⁸⁰¹ He forewent scientific decorum and resorted to *ad-hominem* attacks.

⁷⁹⁶ Faraday to Charles-Gaspard De La Rive, March 24, 1823. *Michael Faraday*, Letter 189, 297.

⁷⁹⁷ Faraday contributed a series of thirty papers to the *Philosophical Transactions* between 1832 and 1856, titled *Experimental Researches in Electricity*. This first one was read to the Royal Society on 24 November 1831. See Jim Al-Khalili, 'The birth of the electric machines: a commentary on Faraday (1832) 'Experimental researches in electricity'', *Philosophical Transactions*, 373(2015), pp. 1–12.

⁷⁹⁸ William Thomas Brande, 'Preface', *The Quarterly Journal of Science and the Arts*, 5(1818), pp. i–xx, i.

William Thomas Brande, 'Preface', *The Quarterly journal of science and the arts*, 5(1818), pp. i–xx, i.

⁷⁹⁹ W. V. Farrar, 'Andrew Ure, F.R.S., and the Science of Manufactures', *Notes and Records*, 27(1973), pp. 299–324, 308.

⁸⁰⁰ Quoted after Farrar, 47.

⁸⁰¹ Anon., 'Thomas Thomson, 'An attempt to establish the first principles of chemistry by experiment', *Quarterly Journal of Science, Literature, and Art*, 20(1826), pp. 113–141. Thomas Thomson, *An attempt to establish the first principles of chemistry by experiment*, 2 volumes., London: Baldwin, Cradock and Joy, 1825.

Brande did not only accept this style of reviewing but appears to have deliberately curated it as an editorial policy, potentially hoping to boost the sales of his *Quarterly*.⁸⁰² In one of his letters to Ure, Brande wrote: 'Our review department will I trust do much for the Journal, especially if carried on with fearless candour - as it has hitherto been. Certain people here do not like the truth to be spoken with so little ceremony but it is for the good of science'.⁸⁰³

Ultimately, however, Brande potentially harmed his cause more than he fostered it. While the editor informed Ure 'I think Thomson is now done with – resquiescet in Pace',⁸⁰⁴ somebody within the community of scientists and experimenters recognized that the anonymous review was reminiscent of Ure's style and wrote:

On this point we cannot speak with any certainty, but we should hope that the report is not true, for otherwise it would be far from favorable to the reputation of the alleged reviewer, who could thus attack under a mask the character of a rival teacher, who divides with him all the chemical pupils of the city of Glasgow. It is natural enough, that, in such a case, there should be some little striving, if not strife, for the superiority, where both the teachers are distinguished; but this striving ought to be all fair, open, and candid, and the one ought not to screen himself behind a mask, in order that he may make a safe pass at the other.⁸⁰⁵

Brande himself got away lightly, with his peers remarking that 'Mr. Brande cannot in the remotest view be considered in a state of rivalry [sic] with Dr. Thomson; and it is but candid to think that he inserted the paper, whoever the author may be, for the sake of promoting discussion and benefitting science'.⁸⁰⁶

All in all, Brande appears to have felt the need to enter a risky game by publishing such scathing reviews: in the worst-case scenario, he might have prompted men-of-science among his readers and contributors not only to abandon his journal but also to perceive the Institution in a negative light. What Brande surely had to win from stirring controversy was the curiosity and attention of existing and potential readers among the ranks of the fashionable general audience who saw science as merely one component of a general literary culture and whose attention, therefore, was more difficult to win than that of men of science.

BRANDE'S EDITORIAL BEHAVIOUR THAT PUT HIM AT ODDS WITH PEERS

⁸⁰² See W. T. Brande to A. Ure, September 25, 1827. Quoted after E. Ironmonger, 'Further Thoughts on W. T. Brande', *Proceedings of the Royal Institution*, 44(1971), pp. 262-73.

⁸⁰³ Brande to Ure, September 25, 1822. RI MS AD/03/D/02.

⁸⁰⁴ *Ibid*, February 18, 1822.

⁸⁰⁵ Anon., 'Court of Appeals. Chemistry. Dr. Thomas Thomson Versus Dr. A. Ure and Mr. Brande', *The Quarterly Journal of Foreign and British Medicine and Surgery*, 4(1822), pp. 400–407, 401f.

⁸⁰⁶ *Ibid*.

AND THE INSTITUTION

In December 1816, the Institution's managers 'Resolved. That the Journals of the Royal Institution be presented to the Geological Society, as they are published. That where public Bodies are in the habit of presenting their periodical works to the Royal Institution, the Journals of the Institution should be presented to them in return, at the expense of this Institution'.⁸⁰⁷ In other words, as an editor 'at the Royal Institution', Brande had a representational function. He, nonetheless, allowed further negative editorial incidents to become public—such as with the Italian physician and experimenter Augustus Bozzi Granville (1783–1872).⁸⁰⁸

In 1821, Granville felt forced to depict his quarrel with Brande on the pages of James Johnson's (1777–1845) *Medico-chirurgical Review, and Journal of Medical Science*. Here, Granville uttered his grievance against both the review of his work that Brande had published in his periodical, and the way in which Brande had treated Granville's reply to the very review which Granville had asked Brande to include in a future number of his *Quarterly*:

Mr. Brande returned me the manuscript, with a short note [...] "My dear Sir, you must surely be quizzing me, to suppose that I should insert the inclosed [sic] [...], I am yours, faithfully, W.T. Brande" [...] It is enough for me to observe that Mr. Brande's conduct as the editor of the *Quarterly Journal*, in this affair, is to me a matter of great astonishment; and that, as a member of the Royal Institution, I shall take the earliest opportunity of protesting, either at a general meeting, or to the board of managers, against that Society's lending its name to a journal in which an attack, involving matters of personal consideration, is admitted, and the reply, shewing the injustice, and unfairness of that attack, rejected.⁸⁰⁹

Brande's interaction with Granville did disservice to the Institution. Instead of fostering its scientific sociability and reputation, he undermined both. There is no comment on the incident in the Managers' Minutes and it was likely internally solved, without admitting it to paper. Incidents like this one might be a reason why Brande's former benefactor and patron Hatchett never published an original contribution in Brande's *Quarterly*.

Brande appears to have been a quarrelsome and competitive editor, using editorial measures to attack or weaken other men of science, such as, for example, the Scottish sole editor David

⁸⁰⁷ Managers' Minutes, December 2, 1816.

⁸⁰⁸ Augustus Bozzi Granville, 'Dr. Granville's Reply to a Review in the Journal of Science', *The Medico-chirurgical Review, and Journal of Medical Science*, 1(1821), pp. 787-800.

⁸⁰⁹ *Ibid*, 787f.

Brewster (1781–1868). In one of his letters to Ure, Brande wrote: ‘Let us work hard to make the Journal popular and then we shall soon beat Brewster and his crew out of the field’.⁸¹⁰

In his approach, Brande divided and antagonised men of science, including Members of the Institution. Leonard Horner (1785–1864), for example, wrote in a letter to Alexander Marcet (1770–1822) in 1819: ‘You have no doubt seen Brewster’s new Journal [...] I know that you value Brande [Horner’s emphasis] as he deserves, & without any feeling for Brewster as a Scotsman, he is so much better a man that I should be glad to see his vehicle [Horner’s emphasis] preferred.’⁸¹¹ Horner and Marcet were both members of the Institution, but Brande could not count on Horner’s support.⁸¹² On the contrary, Horner actively undermined Brande’s editorship by suggesting to Marcet: ‘If, while you are abroad you pick up any little bit of scientific news which you think would be interesting & would send it to me to give to Brewster, I should be obliged to you.’⁸¹³

The fact that individual sympathy and antipathy played a role in the way the *Quarterly Journal* was perceived and that men-of-science could and did avoid the periodical based on their liking, suggests that Brande’s editorial endeavour, like Oken’s, was more closely linked with Brande’s persona and indeed was not an instrument of knowledge production. Without being rooted in the infrastructure of knowledge production—or, to put it more explicitly, without being useful to and needed by the communities of men-of-science throughout Britain—Brande risked editorial disadvantages when antagonising his peers, namely losing them as contributors. Thereby not only antagonising one part of his envisioned readership but also weakening the quality of his editorial undertaking and, thereby, its attractiveness for his other intended audience, the upper segment of society. In short: Brande risked making his own editorship and periodical irrelevant.

AMBIGUITY REGARDING ADDRESSEES AND NATURE OF THE PERIODICAL

Brande not only had a questionable editorial approach to contributors and peers—but also to addressees and his stakeholders in general. In contrast to Nicholson and Tilloch, Brande did not use prefaces to specify whom he envisioned as his audiences—on the contrary: he remained vague about his addressees. He acknowledged both men-of-science and the public only indirectly as his readerships, stating that the utility of periodical publications ‘in facilitating the progress and

⁸¹⁰ Brande to Ure, December n/a, 1821. RI MS AD/03/D/02.

⁸¹¹ Leonard Horner to Alexander Marcet, June 13 1819. National Library of Scotland, MS 9818, ff.81-2. Note: ‘Brewster’s new Journal’ refers to the *Edinburgh Philosophical Journal* (1819–1826) which David Brewster edited together with the Edinburgh professor Robert Jameson.

⁸¹² Anon., ‘List of Members of the Royal Institution’, *The Journal of Science and the Arts*, 3(1818), pp. 226–233. (Horner: 230; Marcet: 231.)

⁸¹³ Horner to Marcet, June 13 1819.

diffusion of science [...] are duly estimated by scientific men, and by the public at large'—which suggested he wished to reach both groups.⁸¹⁴ Yet, in the rest of the preface, he went on to only address 'the public', signaling that this was the main group of his addressees.⁸¹⁵

As the sales of the periodical dwindled, Brande tried to work on the style of his periodical, making it easier to understand and more interesting for the general readership. 'I have trimmed & garnished it a little', he mentioned to Ure, when completing one of his issues.⁸¹⁶ Brande's contemporaries were aware of such attempts—but also of their failures: 'Mr. Brande's Quarterly Journal [...] generally presents a fair record of the science of the day', reported an anonymous reviewer in *The Lancet* and continued, '[t]he attempt, however, which was made some time since to relieve the heavier materials, by articles of a lighter vein, and to relax something of the rigidity of style which previously distinguished the larger scientific journals, has, in great measure, suffered a relapse'.⁸¹⁷ Brande's editorial style, whether out of strategical editorial considerations, due to his habit of writing for a learned audience or a lack of skill, tended to address men of science.

Brande created, rather unintentionally, editorial ambiguity, leaving his contemporaries not only unclear about his addressees—but, more generally, about the very nature of his periodical. When Tilloch launched his *Mechanic's Oracle* in July 1824, he listed the editor-run scientific journals of his time—and included Brande's periodical.⁸¹⁸ In a letter from, for example, May 7 and 15, 1819, Davy, in turn, spoke of Brande's journal as the 'Journal of the RI'.⁸¹⁹ In Murray's Booksellers' book, we find the journal titled as 'Dr. Brandes [sic] Journal'—not as a publication of the Institution. In short: Brande's periodical was thought of as both editor-run and Institution-based—depending on the speaker. The editor apparently did nothing to prevent such ambiguity.

Without a clear profile and the respective editorial strategies and tactics, Brande raised several different expectations, not only on part of audiences but also contributors, other editors and commentators, which he ultimately could not possibly do equally justice to. Brande's editorial ambiguity betrays his lack of a clear-cut idea of what it is that he wished to achieve with his sole

⁸¹⁴ 'Advertisement', i.

⁸¹⁵ Ibid, iii.

⁸¹⁶ Brande to Ure, December 11, 1821. MS AD/03/D/02.

⁸¹⁷ Anon., 'Brande's Quarterly Journal', *The Lancet London: A Journal of British and Foreign Medicine*, 2(1829), pp. 73-77, 74.

⁸¹⁸ Alexander Tilloch, 'Preface', *Mechanic's Oracle*, 1(1824-5), 1.

⁸¹⁹ Frank A.J.L. James, ed., *The Correspondence of Michael Faraday*, Vol. 1, London: Institution of Electrical Engineers, 1991, Letter 102, p. 181; Letter 101, p. 180.

editorship. Since the editor himself did not seem to know what his periodical was good for, it is little surprising that his *Quarterly* was rather unimportant to his contemporaries.

THE QUARTERLY JOURNAL'S SALES

The *Quarterly Journal* neither started out nor continued as well as Murray had hoped for. Although the surviving Booksellers Books do not provide all numbers, the table beneath indicates the steady decline of sales.

Table 1. Numbers of copies of Brande's journals, printed and sold

Publication Date	October 1817	January 1818	April 1818	July 1818	October 1818
Copies printed	1,750	1,750	1,750	1,500	1,500
Copies sold	1,385	1,295	1,362	1,290	1,397

Publication Date	October 1821	January 1822	April 1822	July 1822	October 1822
Copies printed	n/a	1,750	1,750	1,750	1,500
Copies sold	n/a	1,290	1,168	1,167	1,203

Publication Date	October 1823	January 1824	April 1824	July 1824	October 1824
Copies printed	n/a	n/a	1,250	1,250	1,250
Copies sold	n/a	n/a	1,063	1,006	921

Publication Date	January 1825	April 1825	July 1825	October 1825
Copies printed	1,250	1,250	1,250	1,250
Copies sold	975	976	955	943

Publication Date	January 1826	April 1826	July 1826	October 1826
Copies printed	1,000	1,000	1,000	1,000
Copies sold	844	844	806	772

Source: Murray Booksellers' Book, NLS

Fragmented lists of Murray's expenses have survived in Murray's Booksellers Books which detail some of the production costs of Brande's *Quarterly*. They suggest that printing cost between £75 and £100, drawings around £55, engravings around £40, paper around £100 and Brande's honorarium appears to have been, initially, £100 as well as the payments for Faraday's *Miscellanea* (£15)—leaving Murray with a production cost of at least £385 to £410 per issue.⁸²⁰

⁸²⁰ John Murray Booksellers Book, National Library of Scotland, Ms.42883, page openings: 1-10, 120-125 and 151-153.

Put differently, Murray needed to sell at least around 1027 to 1093 copies to cover basic expenses⁸²¹—which did not include the additional costs of procuring foreign transactions and journals, distributing the *Quarterly* across Britain, marketing it, and paying contributors of articles who had ‘very capacious maws’, as Brande put it.⁸²²

Murray likely invested so many resources into the project because his audiences have come to harbour specific expectations towards his books and periodicals. An anonymous reviewer attested to the periodical’s lavishness: ‘No expense is spared in composing its contents; and accordingly, all accounts of new inventions, or new modifications of old ones,—every article, in short, which requires illustrative diagrams is accompanied with an appropriate plate’.⁸²³ The reviewer called the periodical ‘great expensiveness’.⁸²⁴

LACK OF SUPPORT ON PART OF MURRAY AND THE ROYAL INSTITUTION

Murray seems to have quickly realized that Brande’s *Quarterly* would not live up to his expectations but likely continued it to maintain close links with the Institution and diversify and strengthen his portfolio with a scientific journal. But the publisher’s approach to his editor suffered significantly under the underwhelming sales and Brande’s editorial blunders. So much so that the biggest corpus of Brande’s letters that seems to have survived attest to systemic problems in his cooperation with Murray.⁸²⁵ Almost all of these letters bear witness to Brande’s dissatisfaction with the publisher’s approach to his editorship. In January 1825, Brande wrote to Murray:

I have frequently complained of the want of your cordial cooperation in conducting the Royal Institution Journal, and it has now gone to an extent as to induce me to request some explanation, since if disinclined towards the publication it will be better for all parties that you should transfer it to other hands, than that it should be suffered to decline in reputation from the mere negligence of the Publisher.⁸²⁶

⁸²¹ During the existence of Brande’s periodical, 1 pound (£1) was worth 20 shillings (20 s.); 1 shilling (1 s.) was worth 12 pennies (12 d.).

⁸²² Brande to Murray II, April 8, 1826.

⁸²³ Anon., ‘A journal of Science and the Arts’, *Analectic Magazine and Naval Chronicle*, 8(1816), pp. 344-347, 344.

⁸²⁴ *Analectic Magazine*, 344.

⁸²⁵ Brande to Murray II, letters: NLS-JM, Ms.40142, folios 196-255. Note: the assumption that Murray was unhappy with Brande’s work and seems to have blamed the editor for the paper’s limited success is underpinned by the fact that Murray commenced a second Institution-based journal in 1830 which, this time, was to be edited by a journal committee rather than a sole editor.

⁸²⁶ Brande to Murray II, January 25, 1820. NLS-JM, Ms.40142, folios 196-255.

Brande did not only complain 'that many opportunities of rendering essential service [to the journal] must have been passed by'.⁸²⁷ But the editor, as well as Faraday, also 'found every possible obstacle' in carrying out editorial day-to-day tasks.⁸²⁸ One such hindrance was Murray's approach to the acquirement of 'foreign Journals and publications, which have not only not been procured, but even when obtained, have not been forwarded to me with common punctuality'.⁸²⁹

The editor's frustration appears to have been deepened because he did as Murray wished, and, apparently, still did not receive adequate support: 'I feel more particularly hurt at this, since some important alterations in the mode of conducting the work were, without hesitation, made at your suggestion, by which the usefulness of the work to many persons has been much diminished'.⁸³⁰ Unfortunately, Brande did not go into detail which alterations he carried out at Murray's behest. We can assume that Murray, as a popular and fashionable publisher, pressed Brande to address Murray's audiences rather than men-of-science and, potentially, make the periodical more interesting and entertaining rather than useful to experimenters.

Brande's letters suggest that Murray also withheld his honorarium, leading Brande, in 1820, to lament the journal's 'precarious existence [...] at present with all the trouble and responsibility upon my shoulders, and not only without adequate, but without any remuneration'.⁸³¹ Murray's general disinterest had far-reaching consequences for the periodical, including a lack of both advertisement and proper distribution.⁸³²

Compared to Brockhaus, Murray personified the other extreme of a publisher's stance towards sole editorship: he seemed disappointed and increasingly disinterested in it, so much so that he ignored the requests of his editor. Murray seems to be the only publisher in this dissertation who, through his inaction and seeming lack of communication, harmed a publishing project in which he had financial stakes.

⁸²⁷ 'on reference to the published volumes I am sorry that not a simple contribution, direct or indirect, can be traced to your exertions; though from your connections, it is but too obvious that many opportunities of rendering essential services must have been passed by.' Brande to Murray II, January 25, 1820. NLS-JM, Ms.40142, folios 196-255.

⁸²⁸ Ibid.

⁸²⁹ Ibid.

⁸³⁰ Ibid.

⁸³¹ Brande to Murray, September 7, 1820. NLS-JM, Ms. 40142, folios 196-255.

⁸³² The *Quarterly*, for example, was not available in Glasgow, as Ure informed Brande, to which Brande responded: 'I have found it necessary to address a very serious expostulation to Murray upon the careless way and inattention with which he manages the circulation of the Journal, and his utter neglect of the properly advertising it.' William Thomas Brande to Andrew Ure, April 2, 1822. RI MS AD/03/D/02.

Yet, Brande continued the strained cooperation, potentially because he did not want to lose the close links to an influential publisher with whom he wished to publish his books such as his successful *Manual of Chemistry* (1824).⁸³³ Since the mid-1820s, Brande's was growing worried—and even fearful—that Murray could desert their editorial undertaking, writing, for example: '[John] Parker [printer] has frightened me a good deal by telling me you will not publish any more of the Quarterly Journal -- But surely you do not seriously intend to use me [Brande's emphasis] in this way.'⁸³⁴

Brande had good reason for his fear. As the editor himself admitted, he did not conduct his journal in an optimal manner. In one of his letters to Andrew Ure, Brande acknowledged that he did not have 'the time to clip, cut and dovetail, otherwise I would have made a much better Number'.⁸³⁵ In the same letter, Brande worried 'that all the articles nearly in the present Number will be thought too long, but *some of them* [emphasis added] are very good'.⁸³⁶

Nonetheless, Brande apparently did not ask the Institution for editorial support. Based on a study of the Managers Minutes, neither Brande nor the Managers brought up the topic of Brande's editorship in any of the meetings until Brande announced the change of publishers in 1827.⁸³⁷ The Managers Minutes suggest that Brande, on occasion, presented his periodical to the Institution, but no further details were written down. The Committee of the Journal, which began its work in late 1829, when Brande was laying down his editorship, acknowledged in its Minutes:

[A]lthough it appears that a Journal has for some years past been published by Mr Brande with the arms of the Royal Institution prefixed which publication has been sanctioned by the Board of Managers yet it seems that the same is and always has been considered as the private property of Mr Brande and that the Managers have no control whatever over the publication. [It was resolved] That the Journal so published cannot be considered as a publication authorised by Chap VII of the Bye Laws.⁸³⁸

Considering that at the time these lines were written, Brande had curated his sole editorship for thirteen years, the Institution appears to have afforded his periodical even less interest than Murray. One might assume that Brande's editorship was mediocre in a way that prompted neither Murray nor the Institution to invest money, time and other resources into the periodical—yet,

⁸³³ William Thomas Brande, *Manual of Chemistry*, London: Murray, 1824.

⁸³⁴ Brande to Murray, February 22, 1826. NLS-JM, Ms. 40142, folios 196-255.

⁸³⁵ Brande to Ure, April 2, 1822. RI MS AD/03/D/02.

⁸³⁶ Ibid.

⁸³⁷ Managers Minutes, February 12, 1827.

⁸³⁸ Committee of the Journal, Royal Institution, January 4th, 1830. Royal Institution Archives, RI MS AD/02/B/07/S.

also not to abandon it. Although Brande's editorship drew negative attention that, theoretically, could have become detrimental to the reputation of his two central stakeholders, it seems that both did not think the journal important and influential enough to actually do any harm to them.

CONCLUSION

By discussing Brande's case, this chapter put forward that sole editorship in the second generation in Britain did no longer exclusively serve the purpose to self-define as man of science—and, in fact, lacked scientific relevance. Instead, it adopted a commercial function, aiming to provide the first scientific quarterly, following the lucrative and fashionable quarterlies published by Murray and others.

But despite attention-drawing editorial practices, Brande was unable to make his periodical popular with his addressees. The lack of editorial success, as well as a number of editorial blunders, appear to have prompted Brande's two central stakeholders to withdraw some forms of support from Brande's periodical. All in all, Brande did not create a niche-journal—but an expendable one. Nonetheless, his editorship survived for almost fourteen years.

Comparable to Oken's case, the duration of Brande's editorship should not be interpreted as an expression of editorial success. But it does suggest that we should not and cannot view Brande's periodical in purely commercial terms, as Topham has suggested⁸³⁹—because the journal defied elementary market rationales. Murray continued it despite its initially modest later non-existent success. If he did so to support the overall portfolio of his publishing house, it is surprising that he acted in ways which, de facto, undermined both Brande's editorship and the periodical. In short, Brande's journal appears to not only have faced irrelevance but also to not have been as firmly grounded in commercial interests as Topham argued.

Judging from Brande's case, sole editorship in its second generation was not further consolidated as a scientific instrument. On the contrary, this chapter gives reason to go as far as to argue that Brande had a detrimental and retroactive effect on early sole editorship in Britain: he linked it to a scientific organ, made it more general by addressing a broader audience and, through his editorial tactics, challenged rather than fostered scientific sociability. In short, Brande somewhat dismantled the concept of sole editorship that Nicholson and Tilloch had put together.

⁸³⁹ Ibid, 305.

CONCLUSION

DEVELOPMENTS OF THE LATER NINETEENTH CENTURY

The number of scientific periodicals grew immensely over the nineteenth century, both in Britain and elsewhere. According to one estimate, at the beginning of the nineteenth century there were 100 philosophical periodicals worldwide—at its end, their number rose to 10,000.⁸⁴⁰ But what happened to sole editorship?

With the increasing professionalization and, particularly in the German lands, the academicization of science, sole editorship's central function to self-fashion as a man-of-science was losing ground. While, for example, Crell had managed to become a professor of chemistry in 1784 thanks to his editorship, this was as good as impossible half a century later. Sole editorship was losing its function as a means to position oneself among men-of-science in lieu of scientific achievements, an academic education and academic achievements.

Not only the professionalization of science but also, somewhat paradoxically, the consolidation of the scientific periodical itself increasingly undermined the journal's self-fashioning capacity for its editor: the more the philosophical periodical became established as an instrument of knowledge production, the more readers came to expect specific elements, contents and structures from it, the less freedom the editor enjoyed to use it for his self-definatory purposes and other self-serving ends.

Instead sole editorship was becoming the instrument by which German professors could maintain a dialogue with each other on growingly specialized research. Well-respected examples are Gustav Theodor Fechner, professor of physics at Leipzig and editor of the *Pharmaceutisches Centralblatt* (1830—1850) and professor Wilhelm Knop, editor of the *Chemisches Centralblatt* (1856—1969). Scientific specialization led to new periodicals in novel sub-disciplines. Once again, it appears that chemistry played a pioneering role in this development, with journals devoted to, for example, analytical and physical chemistry such as Carl Remigius Fresenius' *Zeitschrift für analytische Chemie*, commenced in 1862, as well as the *Zeitschrift für physikalische Chemie, Stöchiometrie und Verwandtschaftslehre*, founded in 1887 by Wilhelm Ostwald und Jacobus Henricus van 't Hoff.⁸⁴¹

⁸⁴⁰ Sally Shuttleworth, Berris Charnley, 'Science periodicals in the nineteenth and twenty-first centuries', *Notes and Records*, 70(2016), pp. 297–304, 297.

⁸⁴¹ Hans Schmitz, 'Zur Entwicklung der chemischen Zeitschriftenliteratur', *Laboratoriumspraxis*, 19(1967), pp. 140-142.

In Britain, some well-known sole editors were reminiscent of their predecessors such as William Crookes and Norman Lockyer, both ‘exceptional in combining editing with a huge range of other activities’ such as authorship, scientific research and inventing.⁸⁴² Like Nicholson and Tilloch, both men lacked an academic education and were devoted to practical research. Crookes and Lockyer used editorship for scientific self-fashioning aims in a way most similar to their predecessors—but they were not the only sole editors.

Although to a much lesser degree than in the Germanies, an amalgamation of academic employment and sole editorship also began to manifest in Britain, with, for example, the renowned Michael Foster, professor at Cambridge, who founded the *Journal of Physiology* in 1878. The editors of the *Philosophical Magazine* provide another example of this development. While Tilloch, a journalistic editor, curated it at the beginning of the nineteenth century, its two last editors of the century were university professors, namely William Thomson (Lord Kelvin), Professor of Natural Philosophy at the University of Glasgow and George Francis FitzGerald, Professor of Natural and Experimental Philosophy at Trinity College Dublin. Tilloch is emblematic of the time of early sole editorship which was characterized by a multiplicity of biographical backgrounds of sole editors. But this diversity decreased over the course of the nineteenth century, bringing it closer to the phenomenon that we are familiar with today: namely university professors conducting scientific editorship.

Generally speaking, editor-run journals retained their role as speedy providers of scientific news and hosts of scientific discourse in both countries during the nineteenth century. So much so that, as Csiszar observed, since 1830 English societies came to view sole editors as competitors, mainly in their role as purveyor of speedy scientific intelligence—and started their own proceedings.⁸⁴³ The Royal Society, in turn, reacted to these and a number of other developments (such as a rising number of submissions) by issuing its own proceedings since 1831, on a monthly basis while the Society was in session.

Britain was establishing a diverse ecosystem of scientific periodicals over the course of the nineteenth century—each kind performing a different function. Editor-run ones were the print product you turned to if, for example, you wished to address a broader audience of men of

⁸⁴² William Brock, *Crookes*, 25.

⁸⁴³ See Csiszar, *Scientific Journal*, 68.

science, beyond your own subject. Proceedings of the newly consolidated societies allowed you to address your very peers. While publishing in the *Philosophical Transactions*, which became increasingly selective, remained the highest honor and acknowledgement of an individual's scientific achievement.⁸⁴⁴ According to Aileen Fyfe and Noah Moxham, '[b]y the mid nineteenth century, this reputational benefit associated with *Transactions* clearly outweighed the limited communicative power of the slow and stately printed volumes themselves'.⁸⁴⁵

In contrast to the German lands, British men-of-science were devoted to a number of editing activities and communication of British men-of-science was dispersed onto a variety of publications. David Brewster edited and co-edited a number of periodicals, which did not exclusively address his peers. These peers had, in turn, their own predilections where to publish their new findings. Faraday, for example, published mainly in the *Philosophical Magazine* and the *Philosophical Transactions* during the later 1830 and 1840s, namely eighteen (of his 'more speculative'⁸⁴⁶) articles in Tilloch's brain child and thirty-four articles in the Royal Society's transactions. Others, despite the rich periodical market at home, sent their observations abroad, including the German lands, for inclusion in the renowned *Annalen der Pharmacie* and, later, *Justus Liebig's Annalen der Chemie*, such as the English industrial chemist Thomas Richardson and the Scottish chemist Thomas Anderson.⁸⁴⁷

Another important element in the British periodical ecosystem between the 1830s and, roughly, 1870s was one that the German lands apparently never fully developed (which was potentially both a reason for and consequence of editor-run journals): British men-of-science routinely published their observations in mainstream periodicals. They continued to resort to general-audience periodicals to speedily inform peers about their findings, but also to earn some money and cultivated their reputation as a public intellectual. These periodicals were, for example, the monthlies *Gentleman's Magazine* (1731–1907), *Evangelical Magazine* (1793–1904), *Monthly Repository* (1806–1838), *Quarterly Review* (1809–1967), *New Monthly Magazine* (1814–1884), *Athenaeum* (1828–1921), *Macmillan's Magazine* (1859–1907) and the *Cornhill Magazine* (1860–1975). These publications offered a notable amount of space, with scientific articles being

⁸⁴⁴ By the 1850s, the *Transactions* published only around thirty per cent of papers submitted. See Fyfe, Moxham, 'Peer review, 1665–1965', 14.

⁸⁴⁵ Fyfe, Moxham, 'Making public ahead of print', 372.

⁸⁴⁶ Geoffrey Cantor, *Michael Faraday: Sandemanian and Scientist*, Houndsmills, Basingstoke, London: MacMillan, 1991, 211. On Faraday's papers in the *Philosophical Magazine* P. Weinberger's Commentary: P. Weinberger, 'Faraday and the Philosophical Magazine', *Philosophical Magazine*, (93) 2013, pp. 1455–1467.

⁸⁴⁷ Thomas Richardson, 'Zusammensetzung des Cyanmethylen-Aethers', *Annalen der Pharmacie*, 23(1837), pp. 113–240. Thomas Anderson, 'Ueber einige Zersetzungsproducte der fixen Oele in Berührung mit Schwefel', *Justus Liebig's Annalen der Chemie*, 63(1847), pp. 370–384.

generally between 10 and 20 pages long.⁸⁴⁸ To decide where best to publish, British men-of-science had to consider which audiences they wished to reach and which goals they pursued with an article.

In the German lands of the nineteenth century, an important element of the scientific periodical ecosystem was specialized scientific societies. Two of the earliest ones were dedicated to physics, namely one in Frankfurt (since 1824) and Stettin (since 1835). These two, however, only published yearly reports rather than transactions and proceedings. This changed in 1845, with the foundation of the 'Physikalische Gesellschaft zu Berlin', initiated by a group of University professors under the lead of the physicist Gustav Magnus, which published the *Fortschritte der Physik*. The chemical pendant, the 'Deutsche Chemische Gesellschaft', was founded in 1867 and published the first issue of its transactions, *Berichte der Deutschen Chemischen Gesellschaft zu Berlin*, a year later. Like in the British case, these young societies perceived editor-run periodicals as competitors to their transactions. So much so that, for example, the 'Deutsche Chemische Gesellschaft' bought the aforementioned *Chemische Centralblatt* in 1897, 'ridding itself of private competition'.⁸⁴⁹

Sole editorship was more and more losing the potential that had made it relevant to men like Walch, Crell, Nicholson and Tilloch—namely its capacity of self-fashioning as a man of science. However, the importance of the editor-run journal went on to increase—due to the role it began to play for contributors: in his recent book, Csiszar has argued that publishing pieces in scientific periodicals 'took on an increasingly central role as a marker of scientific identity'.⁸⁵⁰ The reason for this, Csiszar has argued, were initiatives such as, most notably, the *Catalogue of Scientific Papers* which defined scientific achievement by the number of papers a man-of-science had to his name as well as where his articles had appeared.⁸⁵¹ In the nineteenth century, as Csiszar has observed, scientific authorship and scientific experimentation morphed: both were considered making science. This prompted men-of-science to assume a more active role in editorial matters, molding journals according to their needs—and in so doing, sometimes overriding their conductors' editorial concepts. Arguably the most illustrative example of this is Norman Lockyer who, as Melinda Baldwin has shown, initially drafted his *Nature* as an inclusive periodical for

⁸⁴⁸ Melinda Baldwin, 'The shifting ground of *Nature*. Establishing an Organ of Scientific Communication in Britain, 1869-1900', *Historical Science*, 1(2012), pp. 125-154, 131.

⁸⁴⁹ Horst Kant, 'Disziplinäre Gesellschaften als Träger von Fachzeitschriften. Einige Anmerkungen zur Entstehung physikalischer Zeitschriften im 19. Jahrhundert in Deutschland', *Wissenschaftliche Zeitschrift und Digitale Bibliothek*, 2003, pp. 61-82, 78.

⁸⁵⁰ Csiszar, *Scientific Journal*, 201.

⁸⁵¹ *Ibid*, Chapter 5.

scientific and general audiences. But his scientific readers used the periodical as their forum, so that Lockyer gave up his plan to cater to a general audience.⁸⁵² All in all, in the nineteenth century, the editor-run journal became an instrument of scientists and, more generally, science—and because of this, it forfeited much of its self-fashioning capacity for sole editors in both the Heiliges Römisches Reich and Britain.

Discipline-fostering potential of sole editorship?

In contrast to England, where early sole editors brought out periodicals covering multiple topics, the German editors in this thesis published journals with a specific focus. This difference is mirrored by scholarship: the German philosophical journals have invited scholars such as Rudolf Stichweh to reflect the links between editor-run periodicals and discipline-formation.⁸⁵³

With Crell, we have an important editorial actor of the ‘chemical revolution’ whose periodical has been ascribed importance for the consolidation of chemistry as a discipline.⁸⁵⁴ More generally, historians of chemistry have made much of the role of periodicals for the advances in and the formation of chemistry in the second half of the eighteenth century.⁸⁵⁵ These studies have the tendency to focus on the print products rather than their editors. This thesis suggests that discipline-building was not necessarily a goal that early editors pursued but could very much be a by-product of editorial activities: although Crell, as well as other editors, explicitly wished to integrate localized efforts of chemical practitioners into a broader knowledge production, they did not do so with the goal of bringing to life a new (academic) discipline. Gierl’s studies on editor-run journals at Göttingen combined with the observations of this investigation suggest that discipline-building as an explicit editorial goal was something to which more established, renowned professors aspired. ‘Newcomers’ like Crell were mainly preoccupied with advancing their academic position among philosophical peers and partaking in philosophical discourse.

Dominik Hünninger, in turn, points our attention to German professor Johann Friedrich Wilhelm Herbst (1743—1807), who had a ‘plan for an entomological republic’ and, in 1782—just as Crell

⁸⁵² Baldwin, *Making Nature*.

⁸⁵³ Rudolf Stichweh, *Zur Entstehung des modernen Systems wissenschaftlicher Disziplinen Physik in Deutschland 1740 -1890*, Frankfurt: Suhrkamp, 1984.

⁸⁵⁴ See Hufbauer, *The Formation of the German Chemical Community (1720–1795)*, Chapter 5: Lorenz Crell – the chemical journalist.

⁸⁵⁵ Particularly during the 1960s there appears to have been an interest in the history of chemical periodicals. See, for example: J. R. Partington, *A History of Chemistry*, v. 3, London: MacMillan, 1962, 598. Hans Schmitz, ‘Zur Entwicklung der chemischen Zeitschriftenliteratur’, *Laboratoriums-Praxis*, 19(1967), pp. 140–142. Virginia Yagello, ‘Early History of the Chemical Periodical’, *Journal of Chemical Education*, 45(1968), pp. 426–429. Imre Hronszky, ‘Die ersten Periodika der Chemie. Das Chemische Journal und die Annales de Chimie an der Wende des 18./19. Jahrhunderts’, *Per. Pol. Chem. Eng.*, 26(1982), pp. 133-141, 134.

created his second chemical periodical—founded the *Neues Magazin für die Liebhaber der Entomologie*, encouraging fellow researchers to contribute all their findings exclusively to his periodical so that entomology could grow into but one subject.⁸⁵⁶ For scholars of discipline-building it could be intriguing to investigate the similarities and differences between early editor-run periodicals whose conductors, such as Herbst, explicitly aimed at consolidating disciplines, and those of ‘newcomers’ like Crell who, due to the lack of academic reputation, pursued other goals by way of sole editorship. This comparative approach might unearth some concrete editorial strategies which journal conductors considered discipline-fostering.

Considering that none of the six early editors in this thesis shared such ambitious sentiments as Herbst, it seems appropriate to assume that notably different ideas of sole editorship’s potential existed parallelly in the German lands—likely due to the reason that sole editorship was welcomed and encouraged here, but not yet firmly established as a specific element of the academic and scientific career so that it could serve its editors’ professional and visionary goals in various ways.

Moreover, this thesis invites a question that has generally been ignored: did some sole editors (or some form of sole editorship) hinder discipline-building? After all, Crell’s adherence to the phlogiston theory after 1795 can be viewed as divisive instead of uniting. Oken’s dogmatic focus on *Naturphilosophie* was increasingly out of touch with his peers, which was mirrored by, for example, the growing divide between him and the GDNÄ. Walch, in turn, instead of attracting and uniting academic researchers ultimately gathered a group of passionate amateurs. In short, early sole editors could in the German lands be an intriguing point of departure for future studies to gain a better understanding of discipline-building in the second half of the eighteenth and early decades of the nineteenth centuries—by inquiring whether and how their editors undermined discipline-building processes.

Early sole editorship as epistemic subversion

Arguably the most significant feature of early sole editorship in its first generation is the fact that it furnished philosophical outsiders with influence (on philosophical discourse and other processes of knowledge production). After all, Walch was a professor of poetry and rhetoric with but three, somewhat controversial natural historical publications to his name, and Crell an obscure academic newcomer, while Nicholson was a ‘projector’ as well as ‘sailor boy’ and Tilloch a journalistic

⁸⁵⁶ Dominik Hünninger, ‘Improving the entomological system’, *Centaurus*, forthcoming 2019.

editor—none of them was an established man-of-science who took part in the existing and central discourses of natural philosophy. Yet, with the exception of Walch, sole editorship enabled these outsiders to self-fashion as philosophers. This is even more notable, considering that the form of self-fashioning to which they resorted can be regarded as epistemic subversion.

At a time when editorship was deeply rooted in a society-based infrastructure, first-generation sole editors were not granted editorship by way of a communal decision in the context of a philosophical community let alone a philosophical society. Instead, they assumed it at their own discretion. And they did so not because they had just made an important let alone groundbreaking observation and wished to share it with peers—but out of the personal interest to further their standing among men of science. To this end, they broke with the custom of the philosophical periodical being generally conducted by groups.

Interestingly, this epistemic subversion was indirectly fostered in the German lands, through their monarchs' changing approach to academia and the rising importance of publications for academic careers. In other words, early sole editorship is arguable one of the most overlooked examples of how cameralism disrupted and re-shaped philosophical traditions and knowledge production. On the British side, in turn, early sole editorship collided with established socio-cultural, but also politically grounded, concepts of whom to consider a natural philosopher, namely, generally, the affluent gentleman.⁸⁵⁷ Additionally, what might be considered revolutionary about sole editorship is how quickly it was accepted by a considerable number of (influential) men-of-science in both countries.

All in all, there is reason to view early sole editorship in Foucauldian terms of power and transgression and to think of it as revolutionary in its own terms: the early editor-run journal was a new site of philosophical activity and early sole editors devised this new site from scratch, establishing rules of engagement between themselves and other men of science, putting in place what we would call quality measures to, for example, safeguard philosophical credibility. In so doing, they, directly and indirectly, relied heavily on means of the periodical market as well as central philosophical organs such as societies and academies.

⁸⁵⁷ Roy, Porter 'Gentlemen and Geology: The Emergence of a Scientific Career, 1660–1920', *The Historical Journal*, 21(1978), pp. 809–836, 814. Jan Golinski, *Science as public culture: chemistry and Enlightenment in Britain, 1760–1820*, Cambridge: Cambridge University Press, 1992, 11–49. Lawrence Klein, 'Politeness and the Interpretation of the British Eighteenth Century', *The Historical Journal*, 45(2002), pp. 869–898.

Philosophical societies and sole editorship

Early sole editorship, as we have seen in all six cases, was performed against a backdrop of societies—which might seem surprising or counter-intuitive at first, considering that this form of editorship was the very opposite of the group-based editorship. With Tilloch's step to join a philosophical society a few months into his sole editorship and the role of the Askesian Society for his journal, we encountered one example of how philosophical societies (directly and indirectly) influenced and fostered sole editorship. But this thesis also hinted at other forms of their influence: Nicholson commenced his journal due to his exclusion from a Society; Walch approached the set-up of his periodical with a society-based editorial rationale, and Crell hoped his sole editorship would help him obtain society memberships. Oken created a society and hoped to use it to draw more readers to *Isis*, and Brande's career and sole editorship were deeply indebted to the Royal Institution which, strictly speaking, was not a philosophical society but nonetheless a central British scientific organ during the early decades of the nineteenth century.

Early sole editors depended on philosophical societies and academies mainly for two reasons. First, sole editors modelled their periodicals on society transactions—in a distinctly dialectical manner: for instance, choosing a significantly more frequent and regular publishing rhythm as well as demonstrating 'the willingness to publish partial results and lesser observations' (namely: philosophical and scientific news) than those destined for the *Philosophical Transactions*, the *Beschäftigungen der Berlinischen Gesellschaft naturforschender Freunde* and other societies. Second, the six early editors depended on the editorial output of societies and academies. Reprinting from transactions and proceedings was a central editorial service to the readers, also in the German lands, where a well-informed selection of the reprinted material as well as high quality translations spoke favorably of the editor and attested to his scholarly skills. Therefore, sole editors were generally interested in close and fruitful relationships with philosophical societies and academies.

Furthermore, this thesis invites to view societies and their transactions as crucial reference points for early sole editors also because individuals like Crell, Nicholson and Tilloch relied on both to instill their editorship and periodicals with philosophical credibility, as we have seen in, for example, Crell's case who published his own outdated *Philosophical Transactions* article in the first issue of his *Chemisches Journal*. Sole editors were not the first ones to reprint from transactions—but they were the first ones to instrumentalise the philosophical authority of society-based periodicals like the *Philosophical Transactions* not merely for journalistic purposes

but for their own philosophical self-fashioning, by presenting their individual frameworks for interpreting philosophical insights and knowledge as closely related to the well-established and respected philosophical discourses and its central actors.

Did early sole editorship neither need contributors nor supportive publishers?

At the outset of this dissertation one would have expected that elements such as a steady stream of contributions and a supportive publisher played central roles for early sole editors. But in contrast to the wave of book-history work inspired by Aileen Fyfe, Jim Secord, Jon Topham, Adrian Johns and others, all of which worked at putting the commercial and economic elements back into our understanding of science publishing, the six individual case studies suggest a more nuanced situation. This thesis for example reveals that the involvement and support of the publisher were not sufficient to guarantee success of sole editorship. Despite Gebauer's support, Walch did not manage to establish a successful editorial infrastructure for himself. In Crell's case the crucial backing did not come from the publishers of his journals but rather from an un-involved publisher. Seeing that Robinson was not of much help, Nicholson conducted his editorial undertaking on his own, foregoing the involvement of a publisher altogether. Tilloch's journalistic and editorial expertise allowed him to forego a publisher's support during the early period of the *Philosophical Magazine*, too. Oken's case demonstrated that a publisher's involvement could become detrimental to the editorial undertaking and Brande's case, in turn, illustrated that even a significant lack of interest and help on the publisher's part did not prevent a sole editor from running his journal for more than a decade.

First-generation publishers in the German lands seem to have been willing to invest and risk; Gebauer even accepted on-going small losses and did not stop to invest into pricey engravings for *Der Naturforscher*. Later-generation publishers were willing to invest—but expected good sales or, at least, no losses, as in Murray's and Brockhaus' cases. British publishers had little to none experiences with scientific editor-run periodicals up until the 1800s. Publishers such as Murray arrived at philosophical editor-run journals *after* witnessing a boom in periodicals and their lucrative potential, like Murray did with the *Quarterly Review*. This might be a reason why they had relatively high (financial) expectations towards philosophical editor-run journals, compared to, for example, first-generation German editors like Gebauer.

Maybe more important for a successful sole editorship than a supportive publisher was the general situation of periodical markets in the German lands and Britain: the period from 1770 until

the 1830s was characterized, as we have seen, by a significant adventurousness for expansion and willingness to invest in novel journals. While this thesis argues that the periodical market altogether was a catalyst for sole editorship, future studies could inquire which forces of the journal market and which of its actors—since it apparently was not necessarily the publisher—actually enabled sole editorship and which potentially hindered it.

A steady stream of original contributions also does not seem to have played a central role for a successful sole editorship. Kronick has argued that ‘the success and survival of a periodical depended on its ability to attract contributors’.⁸⁵⁸ But this thesis has shown: a steady stream of contributions was not necessarily a condition for a successful sole editorship. The regular flow of original pieces by individual authors could indirectly even pose a challenge to a sole editorship, as we have seen with Walch and the ‘assisting editor’ Goeze. Crell explained that in case he would not receive sufficient original contributions, he would expand the second part of his journal: he would publish more excerpts from transactions and thereby still render his readers a service.⁸⁵⁹ Nicholson filled his issues with self-authored pieces and summaries. Tilloch strategically secured the support of the Askesians as a potential source of contributions but, ultimately, did hardly rely on them but rather on reprinting material from other periodicals. Even during the peak of philosophical submissions Oken, in turn, was not able to sell enough copies of *Isis* to render it a publishing success. And in Brande’s case it was the contributions (Ure’s reviews and Granville’s article) that could have had a negative impact on his sole editorship—and the original pieces he received in general were not of the caliber to make his periodical successful but his periodical, nonetheless, existed for fourteen years. In short, a successful recruitment of contributors was neither a straightforward condition nor a guarantee for editorial success.

In all six cases, the editors could fall back on a particular safety net if they were short of original pieces: they could pen ones themselves. While this editorial tactic would seem close to preposterous today, it was a common one between 1770 and 1830. However, the authorship of the editor appears to have been *sui generis*. Crell and Nicholson, for example, used the space in their journals to sum up and comment on the work of their peers, likely as a way to invite them to participate in their editorial undertakings. Walch, being in a position of taking up as much space as he wished in his periodical, used it to introduce his private natural historical collections. These examples suggest that the form of authorship used by editors in their own periodicals was

⁸⁵⁸ Kronick, *A history of scientific and technical periodicals*, 93.

⁸⁵⁹ Lorenz Crell, ‘Vorbericht’, *Die neuesten Entdeckungen in der Chemie*, 1(1781), Vorbericht.

different than that of general contributors—and future studies of these specific differences could provide insights into both early sole editorship as well as, more generally, overlaps and differences of scientific editorship and authorship.

To sum up, the role of publishers and a steady stream of contributions for a successful early sole editorship was more complex than we might have expected. But there is another editorial element which correlated with some editorial success: a strong narrative that legitimized the editorial undertaking. The majority of editors studied here seems to have created a justifying narrative (or 'leitmotif') for their sole editorship which appeared and re-appeared, mainly in prefaces to individual issues or volumes as well as in their editorial correspondence. But only three editors developed narratives with a particularly ambitious scope, which apparently resonated well with men of science: Crell devised a strong narrative of sole editorship as a means of unifying, stabilizing and strengthening the Heiliges Römisches Reich by fostering its chemical pursuits. Nicholson and Tilloch, in turn, came up with a narrative of the utility of sole editorship beyond philosophical circles; they wished 'to render the [editorial] Work useful to Society'.⁸⁶⁰ Such narratives likely reinforced the legitimacy of editorial undertakings, by putting forward that they would not only benefit men-of-science but greater society and the nation, thereby appealing to both common sense and public sentiments. These narratives seem to have been generally more popular with philosophical readers and contributors than the following three: Walch, albeit uttering a similar sentiment as Crell, did so in a less pronounced way and only once, in the preface to his first issue. Oken's narrative was based on the idea that his sole editorship countered a flagrant gap: namely the lack of a *naturphilosophische* periodical devoted to science. Brande was the only one of the six editors to simply rely on the narrative of the usefulness of the editor-run journal for the benefit of science. Put differently, early sole editorship appears to have benefited from a grand narrative that included strong socio-cultural (and even political motives, as was the case with Crell).

What were other important elements of Crell's, Nicholson's and Tilloch's successful editorship that set them apart from the other three editors? It was their ability to ensure a speedy, punctual and regular publication, foster discourse and offer a good selection of philosophical news. Walch, Oken and Brande, in turn, did not manage to establish their periodicals according to these three categories. Walch edited with notable delays so that he, ultimately, brought out only one issue

⁸⁶⁰ Alexander Tilloch, 'Preface', *Philosophical Magazine*, 1(1798), A2.

per year, Oken and Brande, in turn, were neither able to foster discourse on the pages of their periodicals nor establish them as a central source of philosophical news.

David Kronick and re-defining success

Four of the six editors we have met (exceptions: Crell and Brande) continued their editorship until shortly before their death. This commitment to early sole editorship was extraordinary—and by no means the rule. Even Crell and Brande, who conducted their periodicals for nearly 26 and 14 years respectively, were rather atypical. According to Kronick, the norm was that three-fourths of editor-run periodicals which came out in the German lands during the second half of the eighteenth century existed for less than five years—and Kronick regarded them as unsuccessful because the periodicals in France, England and other European countries generally survived longer.⁸⁶¹

In opposite to Kronick's findings, this thesis suggests to not view the short-lived German journals as general failures. Crell's case indicates that editorship could pay off quickly. After all, Crell received his call as his sovereign's 'Bergrath' merely two years into his sole editorship. Even if he had stopped his editorship at this point, he would have had reaped professional acknowledgment and advancement. Sole editorship offered a way to further one's career with notable speed—and if an editor had achieved his respective professional goal, he could lay down his sole editorship and turn to other things. In other words, even though three-fourths of German editor-run periodicals did not survive longer than five years, we can assume that sole editorship, in general, was a promising strategy to advance one's professional career and philosophical standing.

Oken's case also indirectly affirms this theory. Oken edited his periodical for roughly three and a half decades—longer than any other editor investigated in this thesis. Yet, he faced structural difficulties for more than two decades, most significantly with recruiting contributors and ensuring sales. This is why a long duration of an early sole editorship should not necessarily be interpreted a sign of success and popularity. On the contrary: it could, for example, point to the editor's difficulties to climb academic ranks or the limited remuneration for his academic post and the resulting financial dependency on editorship.

⁸⁶¹ Kronick, *A history of scientific and technical periodicals*, 91, 85ff.

All in all, this thesis shines new light on Kronick's observations. It appears that Kronick approached periodicals rather as journalistic artefacts and commodities whose success could be measured by longevity, number of original contributions, sales, etc. Other scholars such as Topham have followed this interpretation of early editor-run periodicals as commodities and journalistic goods.⁸⁶² However, this thesis puts forward that interpreting the periodicals in a commercial way collides with and even, to some degree, contradicts the actual editorial experiences underlying them—and invites us to consider early sole editorship not merely in its material manifestation as a journalistic commodity but more broadly, for example in a socio-political context as Csiszar has done recently in his book. Furthermore, the thesis cautions us to distinguish more clearly between the different contexts in which we think and speak of philosophical journals, in order to do justice to this cultural artefact.

Generalizability of the findings on German early sole editors

This thesis covers individual cases in primarily two of approximately 300 German 'Kleinstaaten'. This raises the question whether and to what degree the German individual case studies discussed here are generalizable for the Heiliges Römisches Reich. It is helpful to situate the states in which Walch, Crell and Oken lived and edited on a scale. On this scale, Prussia is on the one end, as the Enlightened European power which adopted the cameralist system as one of the earliest German states. Small states in regions of Franconia, Swabia, and Thuringia are on the other end of this scale, with comparably high poverty, notably limited resources, somewhat traditional and reactionary socio-cultural ideas of the governing elites and notably little political power within and without the Heiliges Römisches Reich.⁸⁶³ On this scale, the Protestant Saxe-Weimar[-Eisenach] (Walch and Oken) and Brunswick-Lüneburg (Crell) would be situated closer to the Prussian end: albeit these two states were not among the wealthiest in the Heiliges Römisches Reich they carried some political weight and their sovereigns subscribed to the cameralist and, later, somewhat liberal approach to reigning, as we have seen in the case of Oken's sovereign, Carl August, and his patient attitude towards Oken's political articles. It stands to reason that the German cases in this thesis are most strongly representative of the cameralistically advanced, mercantilistically ambitious, small Protestant states with universities.

⁸⁶² Topham, 'The Scientific, the Literary and the Popular'.

⁸⁶³ Marc Forster, *Catholic Germany from the Reformation to the Enlightenment*, Houndsmills, Basingstoke Palgrave Macmillan, 2007..

The case of Walch appears to be rather unique: for somebody like Walch—a renowned and established professor of rhetoric and poetry—it would have been much more common in the early 1770s to edit a periodical on the two subjects in which he held his professorship and which he taught at the university. This is potentially another reason why Walch, as we have seen, did not feel comfortable in his editorial role and relinquished it. As for Crell, despite being one of the earliest philosophical sole editors, his case is somewhat generalizable: as this thesis has indicated, editorship was an accepted means for self-fashioning and academic advancement to ambitious, young and not yet fully established professors of all subjects in the last decades of the eighteenth century. Oken’s case, in turn, is both generalizable and *sui generis*: Oken’s contemporaries such as the famous chemist Liebig edited periodicals, too—but they usually did not knowingly conduct their journals in a manner that endangered their academic career but instead fostered their academic standing.⁸⁶⁴

All in all, the most striking aspect that the three German cases point us to is the degree to which academia not only accepted but welcomed novel forms of and ‘experiments’ with editorship in the second half of the eighteenth but also in the early decades of the nineteenth centuries. This was particularly true for academia in small yet politically relevant Protestant states, likely because their sovereigns felt both the strong wish as well as the political need to further their state’s situation within the Heiliges Römisches Reich. Future studies into other cases of sole editorship can establish whether this was also true for other German states.

Sole editorship and geographies

Sole editorship offered philosophy and science a means to deconstruct geographical space locally, regionally, nationally and internationally in a way that enhanced the editor’s professional identity. This particular deconstruction of space could be notably effective in shaping social constellations: it made long-term philosophical dialogues and networks possible. This deconstruction was arguably more elemental than the one achieved by societies and academies through the editing of their transactions: sole editorship did not need to be locally rooted—but could go ‘on travel’ as we have seen with Oken who carried out editorial activities while travelling within and without the Germanies. This relative freedom from space reminds of epistolary correspondence—but, in contrast to a letter, sole editorship (and each issue of a periodical) not only addressed one person

⁸⁶⁴ For Liebig’s editorship see Jack Morrell, ‘The chemist breeders: the research schools of Liebig and Thomas Thomson’, *Ambix*, 19(1972), pp. 1-46. For Liebig’s career see Bill Brock, *Justus von Liebig. The Chemical Gatekeeper*, Cambridge: Cambridge University Press, 1997.

or audience but multiple audiences, permeating social strata and, therefore, social spaces. All in all, sole editorship was a notably effective instrument *against* different forms of hindering geographies.

Based on the six cases, sole editorship took its origins in two fundamentally different geographical contexts: in the British case, it emerged in a metropolis, while, in the German case, its advent was rooted in notably smaller and rather isolated towns. But in the Germanies, sole editorship was closely linked to academia—a central site of knowledge production in the eighteenth century: sole editorship was crucially defined by and existed along this established epistemological site. In Britain, in turn, sole editorship was shaped against a notably urbanized background and along the epistemological site of the Royal Society.

According to David Livingstone, all philosophical and scientific knowledge ‘bears the imprint of its location’.⁸⁶⁵ In case of sole editorship, this becomes particularly apparent in the early issues. The German editors put value on original pieces because, among other reasons, they were members of academia and primarily addressed each other as social peers and their sovereigns—they wished to display their expertise. The British editors (primarily the first generation) did not necessarily address peers but notably more experienced experimenters, also of higher social status than themselves—to these audiences, reprints from central philosophical journals were the best service editors like, for example, Tilloch could provide, considering his lack of philosophical knowledge and a philosophical network of authors.

Sole editorship as an element of the Enlightened period emerged notably differently within different *national* settings: in the Germanies it was stimulated in a top-down manner, through an incentivizing academic system—in Britain it developed in a bottom-up manner. The geographical concept of nation, it would appear, played a central role in the genesis and molding of early sole editorship.

Differences and similarities between generations and nations

Likely due to the fact that German academia indirectly incentivized sole editorship, we do not observe significant demographic changes between the first and second as well as third generations of German editors: they were generally academic professors. In Britain, however, the

⁸⁶⁵ David Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge*, Chicago and London: University of Chicago Press, 2003, 13.

social background of sole editors was not uniform—they were not united by a particular profession. However, there were some general tendencies: Nicholson and Tilloch shared strong links to the publishing market before assuming sole editorship while second generation-editors, like Brande, were stronger rooted in the scientific infrastructure and its traditional and novel organs—which potentially explains why editor-run periodicals developed into a central scientific instrument in Britain rather quickly, namely as early as the 1830s.

Although editing in two different countries with vastly different philosophical infrastructures, we observe similarities in editorial practices and goals that transcended national borders. Nicholson and Crell, for example, made it a practice to pen summaries and commentary of the philosophical works of their peers, thereby both inviting their contributions and fostering debate. Walch did not apply this practice and Tilloch rarely. But Tilloch and Crell hoped to gain the Fellowship of the Royal Society by way of their sole editorship. Oken and Brande, in turn, used their editorship to, directly or indirectly, attack opponents and competitors. Thus, some parallels in editorial strategies as well as goals invite us to think of early sole editors and editorship in generational rather than national terms.

This also holds true for the central editorial motive and goal of early sole editorship, which seems both generational and geographically not limited to one country: all four first-generation editors conducted their journals for the sake of philosophical self-fashioning. Considering that sole editorship arrived in Britain roughly a quarter century later than in the German lands, one is tempted to ask, whether and how this means of philosophical self-definition was transmitted from one to the other country. Editors like Nicholson were familiar with Crell's *Annalen*, Rozier's *Observations*, and other foreign editor-run periodicals, but the way in which an editor put those lessons into action would very much depend on their own local context and their personal ambitions.

FINAL REMARK

This dissertation introduced some of the individuals responsible for the advent of early sole editorship and investigated how early sole editorship took its origin; furthermore, it showed how sole editorship related to the print market, academia as well as philosophical communication more generally. Looking at early sole editors, we gain the impression that philosophy and science in the period of 1770s through 1830s was a highly malleable phenomenon—and early sole

editorship offered a promising instrument for the philosophical articulation of social agency in these eventful decades.

Recently, scientists have undertaken studies to establish the competencies required for scientific editorship and developed a comprehensive list of the skills, aptitudes, tasks, knowledge, and other elements that pertain to the proficiency of scientific editors.⁸⁶⁶ Other initiatives, such as the Declaration of Helsinki, asks editors to ensure that the quality of what they publish is of the highest quality possible.⁸⁶⁷ Such initiatives draw a stark contrast to early sole editorship: while the early sole editor was an individual in search of a philosophical role, the modern scientific editor is a scientific role—in search of the most capable individual.

⁸⁶⁶ James Galipeau et al, 'A Scoping Review of Competencies for Scientific Editors of Biomedical Journals', 2015, <http://hdl.handle.net/10393/32305>, [accessed on December 8, 2018]. James Galipeau et al, 'An international survey and modified Delphi process revealed editors' perceptions, training needs, and ratings of competency-related statements for the development of core competencies for scientific editors of biomedical journals', *F1000Research*, 2017. doi:10.12688/f1000research.12400.1, [accessed on December 8, 2018].

⁸⁶⁷ World Medical Association, 'World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects', *Journal of the American Medical Association*, 310(2013), pp. 2191-2194.

BIBLIOGRAPHY

1. Primary Sources

Britain:

British Library, Western Manuscripts:

Sir Joseph Banks Papers

Loan 96 RLF

The National Archives:

Prerogative Court of Canterbury, Will of Charles Hatchett

National Library of Scotland:

John Murray Archive

Wellcome Collection

Archives and Manuscripts

Nicholson, William (1753-1815), inventor

Tilloch, Alexander (1759-1825), inventor

Oken, Lorenz (1779-1851), naturalist and philosopher

Letters to William Thomas Brande

Letters from William Thomas Brande

Royal Institution, London:

Manuscripts of lectures given at the Royal Institution (HD/1-4).

William Thomas Brande, Folder A: 1819 – 1849, RI MS AD/03/D/02.

“Scientific observations notebooks” (HD/20).

“Miscellaneous correspondence” (HD/26/A-D).

Managers’ Minutes

Committee of the Journal, Royal Institution, January 4th, 1830. Royal Institution Archives, RI MS AD/02/B/07/S.

Directors' Papers: William Thomas Brande, Folder A: 1819 – 1849, RI MS AD/03/D/02.

Royal Society Archives, London:

Charles Blagden Papers (CB)

Letters of Charles Blagden (CB/1/1-6)

Diary of Charles Blagden (CB/3/1-7)

Committee of Papers Minutes (CMB/90b)

Council Minutes (CMO)

Proceedings of the Royal Society, XVII(1868/9), xvi.

Bodleian Library Oxford:

Diary of William Godwin for 1791-1792; 1792–1793, MS. Abinger e. 4 and e. 5.

St Bride Foundation
Library, Special Collections
Taylor & Francis material

Germany:

Friedrich-Schiller-Universität, Jena, Archiv, Rektor und Senat
Bestand A Datierung: 1807 – 1812

Universitätsbibliothek Freiburg, Breisgau
Oken NL 45

Thüringer Universitäts- und Landesbibliothek Jena
Nachlaß Lorenz Oken

Staatsbibliothek zu Berlin
Nachlass Nicolai

Universitätsbibliothek Leipzig
Sammlung Nebauer
Sammlung Römer

Sächsische Landesbibliothek -
Staats- und Universitätsbibliothek Dresden
Nachlass Georg Christoph Lichtenberg
Niedersächsisches Landesarchiv
Universitätsbibliothek Helmstedt
Bestand zur Universität (37 Alt)

Herzog August Bibliothek Wolfenbüttel
Briefsammlung Mengen

Stadtarchiv Halle
Verlagsarchiv Gebauer-Schwetschke

2.1 Printed Primary Sources

Aikin, John. *The spirit of the constitution and that of the church of England compared*, London: Joseph Johnson, 1789.

_____. *An address to the dissidents of England on their late defeat*, London: Joseph Johnson, 1790.

_____. 'Address to the public', *Memoirs of Science and the Arts*, 1(1793), i-iii.

Aikin, Lucy. *Memoir of John Aikin: M. D.*, Philadelphia: Abraham Small, 1824.

Allen, William, William Hasledine Pepys. 'On the quantity of carbon in carbonic acid, and on the nature of the diamond', *Philosophical Magazine*, 19(1808), pp. 216-227.

_____, William Hasledine Pepys. 'On the quantity of carbon in carbonic acid, and on the nature of the diamond', *Philosophical Transactions*, 97(1807), pp. 267-292.

Anon. 'Brande's quarterly journal', *The Lancet London: A Journal of British and Foreign Medicine*, 2(1829), pp. 73-77.

Anon. 'List of members of the Royal Institution', *The Journal of Science and the Arts*, 3(1818), pp. 226-233.

Anon. 'A Journal of Science and the Arts', *Analectic Magazine and Naval Chronicle*, 8(1816), pp. 344-347.

Anon. *Chronicles of saint Mungo: or, antiquities and traditions of Glasgow*, Glasgow: John Smith & Son, 1843.

Anon. 'Journal of Natural Philosophy, Chemistry and Arts', *The Monthly Review, Or, Literary Journal*, 29(1799), pp. 301-311.

Anon. 'A Journal of Natural Philosophy, Chemistry and Arts', *The Critical Review, Or, Annals of Literature*, 26(1799), pp. 283-289.

Anon. 'Memoir of late Mr Nicholson', *The Gentleman's Magazine, and Historical Chronicle*, 86(1816), pp. 70-71.

Anon. 'Memoir of William Nicholson, Esq. [with a portrait]', *The European Magazine and London Review*, 62(1812), pp. 83-87.

Anon. 'On the reciprocal influence of the periodical publications, and the intellectual progress of this country', *Blackwood's Edinburgh Magazine*, 16(1824), pp. 518-528.

Anon. *Lebensgeschichte des Joh. Ernst Immanuel Walch*, Jena: Maukische Schriften, 1780.

Anon. 'Brande, William Thomas', in: Anon., *The Georgian Era: voyagers and travellers. philosophers and men of science*, London: Vizetelly, Branston, 1834, 504.

Anon. 'Obituary William Hasledine Pepys', *The Gentleman's Magazine*, 201(1856), 521.

Anon. 'Obituary Alexander Tilloch', *The Gentleman's Magazine*, 95(1825), pp. 276-281.

Anon. 'Obituary Alexander Tilloch', *The Annual Biography and Obituary*, 10(1826), pp. 320-334.

Anon. 'Obituary Alexander Tilloch', *The Philosophical Magazine and Journal*, 65(1825), pp. 134-135.

Anon. 'Law of libel', *The Queen's Messenger: A Weekly Gazette of Politics and Literature*, July(1869), pp. 302-304.

Anon. *Dr. Andrew Ure. A slight sketch, repr. from 'The Times' and various other Periodicals of 1857*, London: n/a, 1874.

Anon. 'Albrecht Daniel Thaer', *Rheinische Wochenschrift für Land- und Volkswirtschaft*, January 2, 1874.

Anon., 'Helmstädt', *Gothaische gelehrte Zeitungen*, 13(1780), p. 654.

- Anon. 'Obituary John Frederic Daniell', *Memoirs and Proceedings of the Chemical Society of London*, 2(1843-1844 and 1844-1845), pp. 331—332.
- Anon. 'Obituary John Frederic Daniell', *The Gentleman's Magazine*, 23(1845), pp. 554-555.
- Anon. 'Daniell, John Frederic', in: *The Encyclopedia Britannica*, Vol. VI, Edinburgh: Adam and Charles Black, 1877, 808.
- Anon. 'Davy, Sir Humphry', in: *The Encyclopaedia Britannica*, Vol. VII, Edinburgh: Adam and Charles Black, 1842, 637-643.
- Anon. 'Thomas Thomson. An attempt to establish the first principles of chemistry by experiment', *Quarterly Journal of Science, Literature, and Art*, 20(1826), pp. 113-141.
- Anon. 'Court of appeals. Chemistry. Dr. Thomas Thomson versus Dr. A. Ure and Mr. Brande', *The Quarterly Journal of Foreign and British Medicine and Surgery*, 4(1822), pp. 400-407.
- Anon. 'Chemisches Journal für die Freunde der Naturlehre, Arzneigehlehrtheit, Haushaltungskunst und Manufacturen', *Auserlesene Bibliothek der neuesten deutschen Litteratur*, 13(1778), pp. 710-712.
- 'Aus dem Grundgesetz über die Landständische Verfassung des Großherzogthums Sachsen-Weimar-Eisenach', *Isis*, 1(1816), column 1.
- Blumenbach, Johann Friedrich. *Memoria Laurentii de Crell*, Göttingen: Dieterich, 1820.
- Böckel, D.C.F. 'Bemerkung einer tödlichen Wirkung der Wolfs-Kirchen', *Fränkische Sammlungen von Anmerkungen aus der Naturlehre, Arzneigehlehrtheit, Ökonomie*, 3(1758), pp. 44-47.
- Brande, Augustus Everard. *Experimentation and observations on the angustura bark*, London: Geo. Stafford, 1791.
- _____. *Des Ritter Baronet Johann Pringle's Beobachtungen über die Krankheiten der Armee*, Altenburg: Richterische Buchhandlung, 1772.
- Brande, William Thomas. 'Advertisement', *The Quarterly Journal of Science and the Arts*, 1(1816), pp. i-iv.
- _____. 'Chemical experiments on guaiacum', *Philosophical Transactions*, 96(1806), 89-98.
- _____. *A dictionary of science, literature, and art*, London: Longman, Brown, Green, and Longmans, 1842.
- _____. 'Preface', *The Quarterly journal of science and the arts*, 5(1818), pp. i-xx.
- _____. *Manual of chemistry*, London: Murray, 1824.
- Brandes, Ernst. *Ueber den gegenwärtigen Zustand der Universität Göttingen*, Göttingen: Johann Friedrich Röwer, 1802.
- Brockhaus, Arnold. 'Ankündigung der encyclopädischen Blätter', *Deutsche Blätter*, 3(1816), pp. 636-638.
- Brockhaus, Heinrich Eduard. *Friedrich Arnold Brockhaus. Sein Leben und Wirken*, Vol. 1, Leipzig: Brockhaus, 1872.
- Burdach, Karl Friedrich. *Ueber die Aufgabe der Morphologie*, Leipzig: Dyk'sche Buchhandlung, 1817.

- Burke, Edmund. 'Obituary Alexander Tilloch', *Annual Register*, 67(1826), pp. 222-226.
- Clemen, Otto. 'Ein Besuch bei Lorenz Oken in Zürich im November 1836', *Archiv für Geschichte der Medizin*, 15(1923), pp. 147-152.
- Commissioners for the exhibition of 1851. *First report of the commissioners for the exhibition of 1851*, Vol. 2, London: W. Clowes and Sons, 1852.
- Contributor. A. 'Sir Joseph Banks. A review of some leading points on the official character and proceedings of the late President of the Royal Society', *Philosophical Magazine*, 56(1820), pp. 241-257.
- Corlass, Reginald. 'William Nicholson', *The Reliquary*, 22(1882), pp. 40-42.
- Crell, Lorenz. *Contagium vivum lustrans*, Helmstedt: Schnorr, 1768.
- _____. 'Beantwortung einiger Vorurtheile gegen die Einpimpfung der Blatter', *Gelehrte Beyträge zu den Braunschweigischen Anzeigen*, 11(1771), pp. 689-704.
- _____. 'Vorrede', *Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, 1(1778), pp. 9-20.
- _____. 'Review: Physikalisch-Chemisches Magazin für Ärzte, Chemisten und Künstler', *Allgemeine Deutsche Bibliothek*, 43(1780), pp. 167-169.
- _____. 'Vorbericht', *Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, 5(1780), Vorbericht.
- _____. 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 1(1781), Vorbericht.
- _____. 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 6 (1782), Vorbericht.
- _____. 'Vorbericht', *Die neuesten Entdeckungen in der Chemie*, 7(1782), Vorbericht.
- _____. 'Vorbericht', *Chemisches Archiv*, 1(1783), Vorbericht.
- _____. 'Vorrede', *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, 1(1884), Vorrede.
- _____. 'Pränumeraten-Verzeichnis', *Chemische Annalen für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen*, 1(1884), Pränumeraten-Verzeichnis.
- _____. *Herrn Albrecht von Haller Beyträge zur Beförderung der Geschichte und Heilung der Krankheiten, aus dessen Sammlung praktischer Streitschriften*, Berlin and Stettin: Friedrich Nicolai, 6 vols., 1781-1785.
- _____. 'Einige Bemerkungen über das phlogistische und das antiphlogistische Epistem', *Chemische Annalen*, 2(1793), pp. 346-352.
- Dehne, Johann Christian Conrad. *Dissertatio chemico medica solemnis de praeparatione toncturae antimonii acris concentratae*, Helmstädt: PD Schnorr, 1776.
- Delius, Heinrich Friedrich von. 'Anzeige der Geburts- und Sterbesummen', *Fränkische Sammlungen von Anmerkungen aus der Naturlehre*,

5(1760), pp. 17-19.

Dithmar, Justus Christoph. *Einleitung in die Oeconomische Policey und Cameralwissenschaften*, Frankfurt a.O.: Johann Christian Clepb, 1755.

Ecker, Alexander. *Lorenz Oken: a biographical sketch or In memoriam of the centenary of his birth*, London: Kegan Paul, Trench & Co, 1883.

Fellöcker, Sigmund. *Geschichte der Sternwarte der Benediktiner-Abtei Kremsmünster*, Linz: Feichtingers Erben, 1864.

Förster, Johann Reinhold. *A voyage round the world*, London: G. Robinson, 1778.

Freiherr von Hagen, C. H. *Die Stadt Halle*, Halle: Verlag Emil Barthel, 1867.

G. 'XXI', *Chemisches Journal, Physikalisch-ökonomische Bibliothek*, 9(1778), pp. 561-565.

Gebauer, Johann Jacob. *Systematisches Verzeichnis der Seesterne, Seeigel, Conchylien und Pflanzentiere*, Halle: Gebauer, 1802.

Gmelin, J.F. 'Chemisches Journal für die Freunde der Naturlehre, Arzneygelahrtheit, Haushaltungskunst und Manufacturen', *Göttingische Anzeigen von gelehrten Sachen*, 1778, pp. 1134-1136.

_____. 'Winke an seine Zeitgenossen, den Streit über den Brennstoff betreffend', *Chemische Annalen*, 1(1795), pp. 287-302 and pp. 391-409.

Goethe, Johann Wolfgang von. *Zur Naturwissenschaft überhaupt, besonders zur Morphologie: Erfahrung, Betrachtung, Folgerung, durch Lebensereignisse verbunden*, Stuttgart: Cotta, 1817.

Granville, Augustus Bozzi. 'Dr. Granville's Reply to a Review in the Journal of Science', *The Medico-chirurgical Review, and Journal of Medical Science*, 1(1821), pp. 787-800.

Hegel, Georg Wilhelm Friedrich. *Phänomenologie des Geistes*, Würzburg: Joseph Anton Göbhardt, 1807.

Hermann, Johann. 'Über einen violetten und einen weißen weißen Piorphyr, in Chemische Annalen', *Chemische Annalen*, 2(1788), pp. 414-416.

Hiemer, Eberhard Friedrich. *Schwäbisches Medusenhaupt*, Stuttgart: Roesslin, 1724.

Hoff, Karl Ernst Adolf von. *Neueste Kunde von dem Königreiche Sachsen*, Vol. 20, Weimar: F.J. Bertuch Landes-Industrie-Comptoir, 1819.

Hoffbauer, Johann Christoph. *Geschichte der Universität zu Halle*, Halle: Schimmelpfennig und Companie, 1805.

Hoffmann, A.G., ed. *Allgemeine Encyclopädie der Wissenschaften und Künste in alphabetischer Folge*, Vol. 15, Leipzig: Brockhaus, 1838.

Howard, Luke. 'On the Modifications of Clouds, and on the Principles of their Production, Suspension, and Destruction', *Philosophical Magazine*, 16(1803), pp. 97-107.

_____. 'On the best means for conducting meteorological observations in different places and climates, so as to produce some uniformity in the modes of obtaining and summing up the results', *Philosophical Magazine*, 57(1821), pp. 81-83.

Jones, Henry Bence. *The Royal Institution: Its founder and its first Professors*, London: Longmans, Green & Co., 1871.

- Kieser, Dietrich Georg von. *Das Wartburgfest am 18. October 1817. Nach Actenstücken und Augenzeugnissen*, Jena: Frommann, 1818.
- Kilian, H. F. 'Die Universitäten Deutschlands in medicinisch-naturwissenschaftlicher Hinsicht', *Monatsschrift der Gesellschaft des vaterländischen*, 3(1829), pp. 230-249.
- Kirwan, Richard and Lorenz Crell (translator). *Die wahre neuentdeckte Natur des Phlogiston's* [sic], Berlin and Stettin: Nicolai, 1783.
- _____. Lorenz Crell (translator). *Physisch-chemische Schriften*, Vol. 1, Berlin and Stettin: Nicolai, 1788.
- _____. Lorenz Crell (translator). *Anfangsgründe der Mineralogie*, Berlin and Stettin: Nicolai, 1798.
- Massmann, Hans. *Kurze und wahrhaftige Beschreibung des großen Burschenfestes auf der Wartburg bei Eisenach*, Eisenach: n/a, 1817.
- Meinecke, Johann Christoph. 'Zufällige Gedanken und Erläuterungen über die ersten 20 Stücke des Naturforschers, in Rücksicht der darin enthaltenen lithologischen und mineralogischen Abhandlungen', *Der Naturforscher*, 17(1792), pp. 176-232.
- Meiners, Christoph. *Ueber die Verfassung und Verwaltung deutscher Universitäten*, Vol. 2, Göttingen: Johann Friedrich Röwer, 1802.
- Michaelis, Johann David. *Raisonnement über die protestantischen Universitäten in Deutschland*, Frankfurt am Main/Leipzig: Andreae, 1776, Reprint: 1973.
- Müller, Otto Friedrich. 'Anmerkungen beym [sic] Durchlesen einiger Aufsätze in den 10 ersten Stücken des Naturforschers', *Der Naturforscher*, Issue 10(1783), pp. 159-176; Issue 20(1784), pp. 131-146.
- Murray Publishing Company. *John Murray, 50 Albemarle Street, 1768-1930*, John Murray: London, 1930.
- Mylius, Christlob. *Der Naturforscher: Eine physikalische Wochenschrift auf die Jahre 1747 und 1748*, 1(1749).
- Nicholson, William. *An Introduction to Natural Philosophy*, 2 Vols., London: J. Johnson, 1782.
- _____. *A Dictionary of Chemistry*, 2 Vols., London: G.G. and J. Robinson, 1795.
- _____. 'A description of an instrument which, by the turning of a winch, produces the two states of electricity without friction or communication with the earth. In a letter from Mr. William Nicholson to Sir Joseph Banks, Bart. P. R. S', *Philosophical Transactions*, 78(1788), pp. 403-407.
- _____. 'Experiments and observations on electricity', *Philosophical Transactions*, 79(1789), pp. 265-288.
- _____. 'Advertisement', *Journal of Natural Philosophy*, 1(1797), Advertisement.
- _____. *Navigator's assistant, containing the theory and practice of navigation*, London: Sewell, Cadell, Longman, 1784.
- _____. *An Introduction to Natural Philosophy*, in two Volumes, Vol. 1, London: Johnson, 1781.
- _____. 'To correspondents', *Journal of Natural Philosophy*, 14(1806), p. 352.
- _____. 'To the public', *Journal of Philosophy*, 36(1813), p. 387.
- Nicolai, Friedrich. *Ein paar Worte betreffend Johann Bunkel und Christoph Martin Wieland*, Berlin: Nicolai, 1779.

Oken, Lorenz. *Grundriß der Naturphilosophie, der Theorie der Sinne und der darauf gegründeten Classification der Tiere*, Frankfurt: Eichenberg, 1802.

_____. *Die Zeugung*, Bamberg and Würzburg: Joseph Anton Goebhardt, 1805.

_____. *Über das Universum als Fortsetzung des Sinnensystems: Ein pythagoräisches Fragment*, Jena: Friedrich Frommann, 1808.

_____. *Neue Bewaffnung, neues Frankreich, neues Theutschland*, Jena: Cröcker, 1814.

_____. 'Ueber Okens Urtheil, Bremer Zeitung, March 26(1818)', reprinted in: *Isis*, 4(1818), 748--758.

_____. 'Seiner Magnifizenz dem Herrn Prorector', *Isis*, V/VI(1819), column 8.

_____. 'Expedition der Isis in Jena', *Isis*, 1(1816), columns 3-8.

_____. *Naturgeschichte für Schulen*, Leipzig: Brockhaus, 1821.

Paris, John Ayrton. *The life of Sir Humphrey Davy*, London: Henry Colburn and Richard Bentley, 1831.

Pepys, William Haseldine. 'Description of an improved chemical apparatus for preserving separate the gaseous products evolved in many processes', *Philosophical Magazine*, 11(1801), pp. 253-257.

_____. 'Notice respecting the decomposition of sulphate of iron by animal matter', *Philosophical Magazine*, 38(1811), pp. 297-298.

Pfleiderer, Otto. *Friedrich Wilhelm Joseph Schelling: Gedächtnißrede zur Feier seines Secularjubiläums am 27. Januar 1875*, Stuttgart: Cotta, 1875.

Pollock, Frederick. *Personal remembrances of Sir Frederick Pollock*, London: Macmillan, 1887.

Recke, Johann Friedrich von, Karl Eduard Napiersky. '(Garlieb Helwig) Merkel', in: *Allgemeines Schriftsteller- und Gelehrten-Lexicon der Provinzen*, Vol. 3, Mitau: Johann Friedrich Steffenhagen und Sohn, 1831, 206-214.

Rotteck, Hermann von, Carl von Rotteck. *Geschichte der neuesten Zeit, enthaltend die Jahre 1815 – 1840*, Pforzheim: Finck, 1841.

Royal Institution. 'Notice', *The New Monthly Magazine*, 5(1816), p. 141.

Russell Mitford, Mary. *Recollections of a literary life, Or books, places, and people*, Vol. I, London: Bentley, 1857.

Sachs, Johann Jakob. *Die Versammlung der deutschen Naturforscher und Aerzte in Berlin i. J. 1828 kritisch beleuchtet*, Leipzig: Brockhaus, 1828.

Saussure, Horace Bénédict de. *Reisen durch die Alpen*, Vol. 2, Leipzig: Johann Friedrich Junius, 1781.

Schrank, Franz von Paula. 'Anmerkungen zu den ersten zwanzig Stücken des Naturforschers', *Der Naturforscher*, 14(1788), pp. 126-148.

Sheridan, Thomas. 'Editor', *A Complete Dictionary of the English Language, 3rd Edition. Revised, Corrected and Enlarged*, Vol. 1, London: Charles Dilly, 1790, EEL (no page available).

Society for the Improvement of Naval Architecture. *An address to the public*, London: n/a, 1791.

Thomson, Thomas. *An attempt to establish the first principles of chemistry by experiment*, 2 Vols., London: Baldwin, Cradock and Joy, 1825.

Tilloch, Alexander. 'Preface', *Mechanic's Oracle*, 1(1824-5), A1.

_____. 'Prevention of forgery', *The Philosophical Magazine and Journal*, 56(1820), 63—67.

_____. 'Preface', *Philosophical Magazine*, 1(1798), A2.

Timperley, Charles Henry. *The dictionary of printer and printing, with the progress of literature, ancient and modern*, London: Johnson, 1839.

Walch, Johann Ernst Immanuel. *Naturgeschichte der Versteinerungen*, 4 Vols., Nuremberg: Felsecker, 1773.

_____. *Das Steinreich systematisch entworfen*, Halle: Johann Justinus Gebauer, 1762.

_____. 'Vorrede', *Der Naturforscher*, 1(1774), pp. 3-14.

_____. 'Vorrede', *Der Naturforscher*, 2(1775), pp. 2-5.

_____. 'Vorrede', *Der Naturforscher*, 4(1777), pp. 2-15.

Wiegleb, Johann Christian. *Chemische Versuche über die alkalischen Salze*, Berlin and Stettin: Nicolai, 1774.

_____. 'Über die Entstehung und Natur der sogenannten Stick- oder azotischen Luft und die daraus gezogenen Folgen', *Chemische Annalen*, 2(1796), pp. 467-493.

Woodcroft, Bennet. *Subject-matter index (made from titles only) of patents of inventions, From March 2, 1617 to October 1, 1852, Part II, N to W*, London: Edward Eyre and Spottiswoode, 1854.

2.2 Natural Philosophical and Scientific Journals:

Annales de Chimie

Annals of Philosophy

Auswahl aller eigenthümlichen Abhandlungen

Auswahl vorzüglicher Abhandlungen

Beyträge zu den chemischen Annalen

Chemisches Journal

Chemisches Archiv

Chemische Annalen

Crell's chemical journal

Edinburgh Journal of Science

Isis (Encyclopädische Zeitung)

Journal of Natural Philosophy, Chemistry, and the Arts ('Nicholson's Journal')

Journals of the Royal Institution

Der Naturforscher
Neues Chemisches Archiv
Die Neuesten Entdeckungen in der Chemie
Neuestes Chemisches Archiv
Philosophical Magazine
Quarterly Journal of Science and the Arts

3. Secondary Studies (Books, Articles, etc.)

A. B. 'Blasche, Bernhard Heinrich', in: *Allgemeine Deutsche Biographie*, 2(1875), p. 693.

Adam, Wolfgang, Markus Fauser, Ute Pott, eds. 'Geselligkeit und Bibliothek. Lesekultur im 18. Jahrhundert', Schriften des Gleimhauses Halberstadt, Vol. 4, Göttingen: Wallstein Verlag, 2005.

Al-Khalili, Jim. "The birth of the electric machines: a commentary on Faraday [sic] (1832) 'Experimental researches in electricity'", *Philosophical Transactions*, 373(2015), pp. 1-12.

Alter, Peter. 'Bewunderung und Ablehnung. Deutsch-britische Wissenschaftsbeziehungen von Liebig bis Rutherford', in: Lothar Jordan, Bernd Kortländer, eds., *Nationale Grenzen und internationaler Austausch*, Tübingen: Max Niemeyer Verlag, 1995, 296-311.

Anderson, P. J., Rose, J., eds. *British Literary Publishing Houses, 1820–1880, Dictionary of literary biography*, Vol. 106, Detroit and London: Gale Research, 1991.

Anderson, Robert, Jean Jones, eds. *The Correspondence of Joseph Black*, 2 Vols., Farnham, Burlington: Ashgate, 2012.

Arndt, Johannes, Esther-Beate Körber, eds. 'Das Mediensystem im Alten Reich der Frühen Neuzeit (1600–1750)', Institut für Europäische Geschichte Mainz - Beihefte, Vol. 75, Göttingen: Vandenhoeck & Ruprecht, 2010.

Asche, Matthias. 'Biographische Profile und Rekrutierungsmechanismen von Professoren an kleinen und mittelgroßen protestantischen Universitäten im Heiligen Römischen Reich 1650-1800', in: Christian Hesse, ed., *Professorinnen und Professoren gewinnen. Zur Geschichte des Berufungswesens an den Universitäten Mitteleuropas*, Basel: Schwabe, 2012, 185-245.

Ashworth, William. 'The calculating eye: Baily, Herschel, Babbage and the business of astronomy', *British Journal for the History of Science*, 27(1994), pp. 409-441.

Aspinall, Arthur. *Politics and the Press, c. 1780-1850*, London: Home & Van Thal, 1949.

_____. 'The social status of journalists at the beginning of the nineteenth century', *Review of English Studies*, 21(1945), pp. 216-232.

_____. 'The circulation of newspapers in the early nineteenth century', *Review of English Studies*, 22(1946), pp. 29-43.

Asquith, Ivon. *James Perry and the Morning Chronicle 1790–1821*, PhD Thesis, University of London, 1973.

Bach, Thomas. 'Dem Geist der Zeit eine neue Rechnung geben. Die Naturphilosophie und die naturphilosophischen Professoren an der Universität Jena', in: Gerhard Müller, Klaus Ries, Paul Ziche, eds., *Die Universität Jena: Tradition und Innovation um 1800*, Stuttgart: Steiner, 2001, 155-174.

Baldwin, Melinda. *Making Nature: the History of a Scientific Journal*, Chicago and London: University of Chicago Press, 2015.

- _____. 'The shifting ground of nature: establishing an organ of scientific communication in Britain, 1869-1900', *History of Science*, 50 (2012), pp. 125-54.
- Barker, Hannah, Simon Burrows, eds. *Press, Politics and the Public sphere in Europe and North America, 1760-1820*, Cambridge: Cambridge University Press, 2002.
- _____. *Newspapers and English Society 1695-1855*, London and New York: Routledge, 2014.
- Barthes, Roland. *Image, Music, Text*, London: Fontana, 1977, 142-148.
- Barton, Ruth. 'Just before Nature: the purposes of science and the purposes of popularisation in some English popular science journals of the 1860s', *Annals of Science*, 55(1998), pp. 1-33.
- _____. "'Men of science': language, identity, and professionalization in the mid-Victorian scientific community", *History of Science*, 41(2003), pp. 73-119.
- Baumert, Dieter Paul. *Die Entstehung des deutschen Journalismus: Eine sozialgeschichtliche Studie*, München: Verlag von Duncker, 1928.
- Bazerman, Charles. *Shaping Written Knowledge: the Genre and Activity of the Experimental Article in Science*, Madison: University of Wisconsin Press, 1988.
- Becker-Cantarino, Barbara. 'Nicolais vertraute Briefe von Adelheid B** an ihre Freundin Julie S**, Fichte und Schlegel', in: Stefanie Stockhorst, ed., *Friedrich Nicolai im Kontext der kritischen Kultur der Aufklärung*, Göttingen: v&r unipress, 2013, 95-109.
- Behrisch, Lars. 'Statistics and politics in the 18th century', *Historical Social Research / Historische Sozialforschung*, 41(2016), 238-257.
- Belgum, Kirsten. 'Censorship and piracy: publishing and state control in early nineteenth century Germany', in: Johanna Hartmann, Hubert Zapf, eds., *Censorship and Exile*, Göttingen: v&r unipress, 2015, 121-136.
- Bennett, Andrew. 'Expressivity: the Romantic theory of authorship', in: Patricia Waugh, ed., *Literary Theory and Criticism: An Oxford Guide*, Oxford: Oxford University Press, 2006, 48-58.
- Bentley, Jr., G.E. 'Copyright documents in the George Robinson archive: William Godwin and others 1713-1820', *Studies in Bibliography*, 35(1982), pp. 67-110.
- Bentzien, Hans. *Damm und Deich - fruchtbar und reich: Märkische Miniaturen*, Berlin, Bonn: Westkreuz, 1998.
- Berg, Maxine. 'From imitation to invention: creating commodities in eighteenth-century Britain', *The Economic History Review*, 55(2002), pp. 1-30.
- Biagioli, Mario, Peter Galison, eds. *Scientific Authorship: Credit and Intellectual Property in Science*, New York: Routledge, 2003.
- _____. 'From book censorship to academic peer review', *Emergences: Journal for the Study of Media & Composite Cultures*, 12(2002), pp. 11-45.
- Bickerton, David. *Marc-Auguste and Charles Pictet: The Bibliothèque Britannique (1796-1815) and the Dissemination of British Literature and Science on the Continent*, Geneva: Slatkine Reprints, 1986.

- Bielfeldt, Sigrun. *Selbst oder Natur: Schellings Anfang in Russland*, in: *Arbeiten und Texte zur Slavistik*. München: Verlag Otto Sagner, 2008.
- Bies, Michael. "Beobachtungen, Bemerkungen und Anekdoten zur 'Verbesserung' der Naturgeschichte Johann Ernst Immanuel Walchs 'Der Naturforscher'", in: Tanja van Hoorn, Alexander Košenina, eds., *Naturkunde im Wochentakt. Zeitschriftenwissen der Aufklärung*, Wien, Oxford: Peter Lang, 2014, 121-136.
- Birch, Dinah, ed. *The Oxford Companion to English Literature*, Oxford, New York: Oxford University Press, 2009.
- Biskup, Thomas. 'Sammeln und Reisen in deutsch-englischen Gelehrtennetzwerken im späten 18. Jahrhundert', in: Ulrich Johannes Schneider, ed., *Kulturen des Wissens im 18. Jahrhundert*, Berlin, New York: De Gruyter, 2008, 607-614.
- Blagden, Cyprian. *The Stationers' Company: a History, 1403-1959*, Cambridge, MA.: Harvard University Press, 1960.
- Blöbaum, Bernd. *Journalismus als soziales System: Geschichte, Ausdifferenzierung und Verselbständigung*, Opladen: Westdeutscher Verlag, 1994.
- Bödeker, Hans Erich. 'Journals and public opinion: the politicization of the German enlightenment in the second half of the eighteenth century', in: Eckhart Hellmuth, ed., *The transformation of political culture: England and Germany in the eighteenth century*, Studies of the German Historical Institute London, Oxford: Oxford University Press, 1990, 423-445.
- _____, Erich, Peter Hanns Reill, Jürgen Schlumbohm, eds. *Wissenschaft als kulturelle Praxis, 1750—1900*, Göttingen: Vandenhoeck & Ruprecht, 1999.
- Boehm, Laetitia, Rainer Müller, eds. *Universitäten und Hochschulen in Deutschland, Österreich und der Schweiz, Eine Universitätsgeschichte in Einzeldarstellungen*, Düsseldorf, Wien: Econ, 1983.
- Bohrmann, Hans, Peter Schneider. *Zeitschriftenforschung. Ein wissenschaftsgeschichtlicher Versuch*, Berlin: Volker Spiess, 1975.
- Bolton, H. C. *A Catalogue of Scientific and Technical Periodicals, 1665—1895*, Washington: Smithsonian Institution, 1897.
- Böning, Holger. *Periodische Presse, Kommunikation und Aufklärung. Hamburg und Altona als Beispiel*, Bremen: Edition Lumière, 2002.
- Bolton, H.C. *A Catalogue of Scientific and Technical Periodicals 1665 – 1895*, 2nd edition, City of Washington: Smithsonian Institution, 1897, 1017-1123.
- Bonhams. *Bidding catalogue alchemy, Los 100, The crowning of nature, or coronatio naturae. Original alchemical manuscript on paper, ruled in red, with watermark of the arms of Schieland*, New York, March 2017.
- Botein, S., J. Censor, H. Ritvo. 'The periodical press in eighteenth-century English and French society: a cross-cultural approach', *Comparative Studies in Society and History*, 23(1981), pp. 464-490.
- Bowden, A.J. 'Geology at the crossroads: aspects of the geological career of Dr John MacCulloch', in: Cherry Lewis, Simon Knell, eds., *The Making of the Geological Society of London*, Special Publication 317, London: Geological Society, 2009, 255-277.
- Brake, Laurel, Julie Codell, eds. *Encounters in the Victorian Press. Editors, Authors, Readers*, Basingstoke: Palgrave Macmillan, 2005.
- _____, Marysa Demoor. *Dictionary of Nineteenth-Century Journalism in Great Britain and Ireland*, Gent: Academia Press and British Library, 2009.

- _____, Aled Jones, Lionel Madden, eds. *Investigating Victorian journalism*, Basingstoke: Macmillan, 1990.
- Brandes, Helga. 'The literary marketplace and the journal. Medium of the enlightenment', in: Barbara Becker-Cantarino, James Hardin, eds., *German Literature of the Eighteenth Century: The Enlightenment and Sensibility*, New York: Camden House, 2005, 79-102.
- Breidbach, Olaf. 'Oken in der Wissenschaftsgeschichte des 19. Jahrhunderts', in: Olaf Breidbach, Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779–1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001, 15-33.
- _____, Klaus Manger, Georg Schmidt, eds. *Ereignis Weimar-Jena. Kultur um 1800*, München: Wilhelm Fink, 2015.
- _____, Hans-Joachim Fliedner, Klaus Ries, eds. *Lorenz Oken (1779–1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001.
- _____, Michael Ghiselin, 'Lorenz Oken and "Naturphilosophie" in Jena, Paris and London', *History and Philosophy of the Life Sciences*, 24(2002), pp. 219-247.
- Brenner, Peter. *Reisen in die neue Welt*, Tübingen: Niemeyer Verlag, 1991.
- Breuilly, John. *Labour and Liberalism in Nineteenth-Century Europe. Essays in Comparative History*, Manchester: Manchester University Press, 1992.
- Briggs, Asa, ed. *Essays in the History of Publishing: in Celebration of the 250th Anniversary of the House of Longman, 1724--1974*, London: Longman, 1974.
- _____, Peter Burke, *A Social History of the Media: from Gutenberg to the Internet*, 3rd ed., Cambridge, Malden: Polity, 2010.
- Britain, Ian. 'Education', in: Iain McCalman, ed., *An Oxford companion to the Romantic Age: British culture, 1776-1832*, Oxford: Oxford University Press, 2001, 161-170.
- Brock, W.H., A.J. Meadows. *The Lamp of Learning: Taylor and Francis and the Development of Science Publishing*, London: Taylor and Francis, 1998.
- _____. *William Crookes (1832 - 1919) and the Commercialization of Science*, Aldershot: Ashgate, 2008.
- _____. 'The development of commercial science journals in Victorian Britain', in: A. J. Meadows, ed., *Developments of Science Publishing in Europe*, Amsterdam, New York, and Oxford: Elsevier Science Publishers, 1980, 95-122.
- _____. *The Case of the Poisonous Socks: Tales from Chemistry*, London: Royal Society of Chemistry, 2011.
- _____, MacLeod, R. M., eds. *Natural Knowledge in Social Context: the Journals of Thomas Archer Hirst, FRS*, London: Mansell, 1980.
- _____. *Justus von Liebig. The Chemical Gatekeeper*, Cambridge: Cambridge University Press, 1997.
- _____. 'The making of an editor. The case of William Crookes', in: Henson, Louise, Geoffrey Cantor, Gowan Dawson, Richard Noakes, Sally Shuttleworth, Jonathan Topham, eds., *Culture and Science in the Nineteenth-Century Media*, Aldershot: Ashgate, 2004, 189-198.
- _____. 'The chemical news, 1859-1932', *Bulletin for the History of Chemistry*, 12(1992), pp. 30-34.

- Brohm, Ulrich. *Die Handwerkspolitik Herzog Augusts des Jüngeren von Braunschweig*, Stuttgart: Franz Steiner Verlag, 1999.
- Broman, Thomas. 'Periodical literature', in: Maria Frasca-Spada, Nick Jardine, eds., *Books and the Sciences in History*, Cambridge: Cambridge University Press, 2000, 225–238.
- _____. "The Habermasian public sphere and 'science in the Enlightenment'", *History of Science*, 36(1998), pp. 123–50.
- _____. "J. C. Reil and the 'journalization' of physiology", in: Peter Dear, ed., *The Literary Structure of Scientific Argument: Historical Studies*, Philadelphia: University of Pennsylvania Press, 1991, 13-42.
- _____. *The Transformation of German Academic Medicine, 1750-1820*, Cambridge: Cambridge University Press, 1996.
- Brown, P. A. H. *London Publishers and Printers, c. 1800-1870*, London: British Library, 1982.
- Bruch, Rüdiger von. *Gelehrtenpolitik, Sozialwissenschaften und akademische Diskurse in Deutschland im 19. und 20. Jahrhundert*, Stuttgart: Frank Steiner Verlag, 2006.
- Brüdermann, Stefan. *Göttinger Studenten und akademische Gerichtsbarkeit im 18. Jahrhundert*, Göttingen: Vandenhoeck & Ruprecht, 1990.
- Bruning, Jens. *Innovation in Forschung und Lehre. Die philosophische Fakultät der Universität Helmstedt in der Frühaufklärung 1680-1740*, Wiesbaden: Harrassowitz, 2012.
- _____. 'Helmstedt', in: Wolfgang Adam, Siegrid Westphal, eds., *Städte und Residenzen im alten deutschen Sprachraum*, Berlin, New York: De Gruyter, 2012, 901-934.
- Bugg, John. *Five Long Winters: the Trials of British Romanticism*, Stanford: Stanford University Press, 2014.
- Bürger, Thomas. 'Aufklärung in Zürich: Die Verlagsbuchhandlung Orell, Gessner, Füssli & Comp. in der zweiten Hälfte des 18. Jahrhunderts', *Archiv für Geschichte des Buchwesens*, Vol. 48, Frankfurt am Main: Buchhändler Vereinigung, 1997.
- Buess, Heinrich. 'Der Beitrag der schweizer Ärzte zu den „Miscellanea curiosa“ der deutschen Akademie der Naturforscher', *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften*, 37(1953), pp. 1-22.
- Burke, Peter. *A Social History of Knowledge II: from the Encyclopaedia to Wikipedia*, Cambridge: Polity, 2012.
- Burrows, Simon. *French Exile Journalism and European Politics, 1792-1814*, Suffolk, Rochester: The Boydell Press, 2000.
- Burton, Jim. 'Howard Luke (1772–1864)', *Oxford Dictionary of National Biography*, [accessed August 4, 2018] <https://doi.org/10.1093/ref:odnb/13928>.
- Bynum, W. F., Janice Wilson. 'Periodical knowledge: medical journals and their editors in nineteenth-century Britain', in: William F. Bynum, Stephen Lock, Roy Porter, eds., *Medical Journals and Medical Knowledge*, London: Routledge, 1992, 29-48.
- Calhoun, Craig. *The Roots of Radicalism: Tradition, the Public Sphere, and Early Nineteenth-Century Social Movements*, Chicago and London: University of Chicago Press, 2012.
- Cantor, Geoffrey, Sally Shuttleworth, eds. *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature*, Cambridge: Cambridge University Press, 2004.

- _____. *Michael Faraday: Sandemanian and Scientist*, Houndsmills, Basingstoke, London: MacMillan, 1991.
- Carter, Philip. *Men and the Emergence of Polite Society, Britain, 1660–1800*, Abingdon, New York: Routledge, 2014.
- Carus, Victor. 'Bojanus, Ludwig Heinrich', in: *Allgemeine Deutsche Biographie*, 3(1876), pp. 84-85.
- Casaliggi, Carmen, Porscha Fermanis. *Romanticism: a Literary and Cultural History*, London and New York: Routledge, 2016.
- Chambers, Neil., ed. *The Scientific Correspondence of Sir Joseph Banks: the Late Period, 1800-1820*, Vol. 5, London: Pickering and Chatto, 2007.
- _____. 'Letters from the President: the correspondence of Sir Joseph Banks', *Notes and Records of the Royal Society of London*, 53(1999), pp. 27-57.
- _____. *The Letters of Sir Joseph Banks: a Selection, 1768–1820*, London: Imperial College Press, 2000.
- Charle, Christophe. 'Grundlagen', in: Walter Rüegg, ed., *Geschichte der Universität in Europa*, Vol. 3, München: CH Beck, 2004.
- Christie, J. R. R. 'The rise and fall of Scottish science', in: Maurice Crosland, ed., *Emergence of Science in Western Europe*, London: MacMillan, 1975, 111-26.
- _____, Sally Shuttleworth, eds. *Nature Transfigured. Science and Literature, 1700-1900*, Manchester: Manchester University Press, 1989.
- Clair, Colin. *A History of European Printing*, Ann Arbor: University of Michigan Academic Press, 1976.
- Clark, William. *Academic Charisma and the Origins of the Research University*, Chicago: University of Chicago Press, 2006.
- Cole, W. A. *Chemical Literature 1700–1860: a Bibliography with Annotations, Detailed Descriptions, Comparisons, and Locations*, London and New York: Mansell, 1988.
- Coleman, William. *Biology in the Nineteenth Century: Problems of Form, Function and Transformation*, Cambridge: Cambridge University Press, 1977.
- Conboy, Martin, John Steel, eds. *The Routledge Companion to British Media History*, London and New York: Routledge, 2015.
- _____. *Journalism: a Critical History*, London, Thousand oaks, New Delhi: Sage Publications, 2004.
- Conrad, Marcus. 'Ein deutscher Verlag der Aufklärung mit europäischer Ausstrahlung. Zu Umfang, Struktur, Erschließung und Verwertbarkeit des Verlagsarchivs Gebauer-Schwetschke im Stadtarchiv Halle', *Leipziger Jahrbuch zur Buchgeschichte*, 18(2009), pp. 367-372.
- _____. 'Kostenfaktoren beim Publikationsprojekt der „Allgemeinen Welthistorie“ im Verlag Gebauer in Halle (1744-1814)', *Archiv für Geschichte des Buchwesens*, 68(2013), pp. 105-118.
- _____. *Geschichte(n) und Geschäfte: die Publikation der "Allgemeinen Welthistorie im Verlag Gebauer in Halle (1744-1814)"*, Wiesbaden: Harrassowitz, 2010.
- Conrady, Karl Otto. *Goethe – Leben und Werk: Erster Teil: Hälfte des Lebens*, Frankfurt am Main: Fischer, 2015.
- Cooter, Roger. *The Cultural Meaning of Popular Science*, Cambridge: Cambridge University Press, 1984.

- Corsi, Pietro. 'What do you mean by a periodical? Forms and functions', *Notes and Records*, 70(2016), pp. 325–341.
- Cranfield, Geoffrey Alan. *The Press and Society: from Caxton to Northcliffe*, Abingdon, New York: Routledge, 2013.
- Crosland, Maurice. *In the Shadow of Lavoisier: the Annales de chimie and the Establishment of a new science*, Oxford: British Society for the History of Science, 1994.
- _____. 'Relationships between the Royal Society and the Academie des sciences in the late eighteenth century', *Notes and Records of the Royal Society of London*, 59(2005), pp. 25-34.
- Cross, Nigel. *The Common Writer: Life in Nineteenth-Century Grub Street*, Cambridge: Cambridge University Press, 1985.
- Csiszar, Alex. 'Seriality and the search for order: scientific print and its problems during the late nineteenth century', *History of Science*, 48(2010), pp. 399-434.
- _____. *The Scientific Journal. Authorship and the Politics of Knowledge in the Nineteenth Century*, Chicago and London: University of Chicago Press, 2018.
- _____. 'Broken Pieces of Fact: the Scientific Periodical and the Politics of Search in Nineteenth-Century France and Britain', PhD thesis, Harvard University, 2010.
- Cunningham, Andrew, Nicholas Jardine, eds. *Romanticism and the Sciences*, Cambridge: Cambridge University Press, 1990.
- Curran, James, Jean Seaton. *Power without Responsibility*, 8th edition, New York: Routledge, 2018.
- D'Aprile, Iwan-Michelangelo. 'Verflochtene Sattelzeitgeschichten. Journalistische Zeitgeschichtsschreibung um 1800', in: Elisabeth Décultot, Daniel Fulda, eds., *Sattelzeit. Historiographiegeschichtliche Revisionen*, Berlin and Boston: De Gruyter, 2016, 178-197.
- _____, Winfried Siebers. *Das 18. Jahrhundert: Zeitalter der Aufklärung*, Berlin: Akademie Verlag, 2008.
- Dann, Otto. 'Vom Journal des Scavans zur wissenschaftlichen Zeitschrift', in: Bernard Fabian, ed., *Gelehrte Bücher vom Humanismus bis zur Gegenwart*, Wiesbaden: Harrassowitz, 1983, 63-80.
- _____. 'Die Lesegesellschaften des 18. Jahrhunderts und der gesellschaftliche Aufbruch des deutschen Bürgertums', in: Ulrich Herrmann, ed., *Die Bildung des Bürgers. Die Formierung der bürgerlichen Gesellschaft und die Gebildeten im 18. Jahrhundert*, Geschichte des Erziehungs- und Bildungswesens in Deutschland, Vol. 2, Weinheim: Beltz, 1989, 100-118.
- Darnton, Robert. 'What is the history of books?', *Daedalus*, 3(1982), pp. 65-83; rpt. in: *The kiss of Lamourette: reflections in cultural history*, London and Boston: Faber and Faber, 1990.
- Daum, Andreas. *Wissenschaftspopularisierung im 19. Jahrhundert: Bürgerliche Kultur, naturwissenschaftliche Bildung und die deutsche Öffentlichkeit, 1848—1914*, 2nd edition, München: Oldenbourg, 1997.
- Davies, Martin. 'Introduction', in: Martin Davies, ed., *Thinking about the Enlightenment: Modernity and its Ramifications*, London and New York: Routledge, 2016, 1-27.
- Décultot, Elisabeth, Daniel Fulda, eds. *Sattelzeit. Historiographiegeschichtliche Revisionen*, Berlin: De Gruyter, 2016.

- Deinhardt, Katja. 'Stapelstadt des Wissens: Jena als Universitätsstadt zwischen 1770 und 1830', *Veröffentlichungen der Historischen Kommission für Thüringen*, Kleine Reihe, Vol. 20, Köln, Weimar, Wien: Böhlau, 2007.
- Dickinson, H.T. *The Politics of the People in Eighteenth-Century Britain*, Houndsmills, Basingstoke: MacMillan Press, 1994.
- Dickson, Sheila. 'Nicolai, Friedrich 1733-1811', in: Christopher John Murray, ed., *Encyclopedia of the Romantic Era, 1760–1850*, New York, London: Fitzroy Dearborn, 2004, 805.
- Doering-Manteuffel, Sabine, Josef Mancal, Wolfgang Wüst, eds., *Pressewesen der Aufklärung: Periodische Schriften im Alten Reich*, Berlin: Akademie Verlag, 2001.
- Donnelly, James. 'Industrial recruitment of chemistry students from English universities: a reevaluation of its early importance', *British Journal for the history of science*, 24(1991), pp. 3-20.
- Donnert, Erich. *Europa in der Frühen Neuzeit. Festschrift für Günter Mühlhpfordt, Vol. 2 Frühmoderne*, Weimar, Köln, Wien: Böhlau Verlag, 1997.
- Elliott, Paul. *The Derby Philosophers: Science and Culture in British Urban Society, 1700-1850*, Manchester: Manchester University Press, 2009.
- _____. 'Abraham Bennet, F.R.S. (1749-1799): a provincial electrician in eighteenth-century England', *Notes and Records of the Royal Society of London*, 53(1999), pp. 59-78.
- Ellis, Heather. 'Masculinity and science in Britain, 1831–1918', in: *Genders and Sexualities in History*, London: Palgrave Macmillan, 2017.
- Engelhardt von, Dietrich. *Engelhardt, 'Die chemischen Zeitschriften des Lorenz von Crell', Indices naturwissenschaftlich-medizinischer Periodica bis 1850*, Vol. 2, Stuttgart: Hiersemann, 1974.
- Epstein, Klaus. *The Genesis of German Conservatism*, Princeton: Princeton University Press, 1966.
- Eule, Wilhelm. *Helmstedter Universitäts-Buchdrucker: Mit Beitr. zur Geschichte d. Helmstedter Zeitungswesens*, Helmstedt: J. C. Schmidt, 1921.
- Falk, Rainer. *Friedrich Nicolai und die Berliner Aufklärung*, Hannover: Wehrhahn Verlag, 2008.
- Fambach, Oscar. 'Ein Goethesches Zeitungsunternehmen als Vorbild unserer Zeit', *Euphorion*, 419/425(1950).
- Farrar, W. V. 'Andrew Ure, F.R.S., and the science of manufactures', *Notes and Records*, 27(1973), pp. 299-324.
- Faulstich, Werner. *Medien zwischen Herrschaft und Revolte: die Medienkultur der frühen Neuzeit (1400-1700)*, Göttingen: Vandenhoeck & Ruprecht, 1998.
- _____. *Die bürgerliche Mediengesellschaft, 1700-1830*, Göttingen: Vandenhoeck & Ruprecht, 2002.
- Feather, John. 'British publishing in the eighteenth century: a preliminary subject analysis', *The Library*, 6(1986), pp. 32–46.
- _____. *A History of British Publishing*, London and New York: Routledge, 1988.
- Fehrenbach, Elisabeth. *Vom Ancien Régime zum Wiener Kongress*, München: Oldenbourg Verlag, 1973.

- Finlay, Mark. 'The German agricultural experiment stations and the beginnings of American agricultural research', *Agricultural History*, 62(1988), pp. 41-50.
- Fischer, Ernst, Wilhelm Haefs, York-Gothart Mix, eds. *Von Almanach bis Zeitung. Ein Handbuch der Medien in Deutschland 1700—1800*, München: Beck, 1999.
- Fischer, Franz. 'Dinglers Polytechnisches Journal bis zum Tode seines Begründers (1820—1855)', *Archiv für Geschichte des Buchwesens*, 15(1975), columns 1027-1142.
- Flatau, Elke. *Der wissenschaftliche Autor: Aspekte seiner Typologisierung*, Wiesbaden: Springer, 2015.
- Forster, Marc. *Catholic Germany from the Reformation to the Enlightenment*, Houndsmills, Basingstoke Palgrave Macmillan, 2007..
- Foucault, Michel. 'What is an author? 1969', in: J. Marsh, J.D. Caputo, M. Westphal, eds., *Modernity and its discontents*, New York: Fordham University Press, 1992, 299-314.
- Frank, Joseph. *The Beginnings of the English Newspaper*, Cambridge, MA.: Harvard University Press, 1961.
- Frasca-Spada, M., N. Jardine, eds. *Books and the Sciences in History*, Cambridge: Cambridge University Press, 2000.
- Frercks, Jan. 'The interplay of chemical teaching with work and with research: a case study from Germany around 1800, Johann Friedrich August Götting at Jena', in: JR Bertomeu-Sánchez, ed., *Neighbours and Territories: The Evolving Identity of Chemistry*, Louvain-la-neuve: Mémosciences, 2008, 149-155.
- _____, Michael Markert. 'The invention of Theoretische Chemie: forms and uses of German chemistry textbooks, 1775—1820', *Ambix*, 54(2007), pp. 146—171.
- _____, Ronny Tadday. 'Scherer in Weimar', in: Hellmuth Seemann, ed., *Anna Amalia, Carl August und das Ereignis Weimar*, Göttingen: Wallstein Verlag, 2007, 345-353.
- Friedelmeyer, J.P. 'Un enfant du romantisme: Crelle et son journal de mathématiques pures et appliquées', *Sciences et techniques en Perspective*, 4(2000), pp. 277-295.
- Füssel, Marian. 'Die inszenierte Universität. Rang, Ritual und Konflikt an der Universität Helmstedt', in: Helwig Schmidt-Glintzer, ed., *Die Reformuniversität Helmstedt 1576—1810*, Wiesbaden: Harrassowitz, 2011, 75-109.
- _____. 'Akademische Lebenswelt und gelehrter Habitus. Zur Alltagsgeschichte des deutschen Professors im 17. und 18. Jahrhunderts', *Jahrbuch für Universitätsgeschichte*, 10(2007), pp. 35-51.
- _____. 'Aufklärung', in: Marianne Sommer, Staffan Müller-Wille, Carsten Reinhardt, eds., *Handbuch Wissenschaftsgeschichte*, Stuttgart: Metzler, 2017, 278-286.
- Fullmer, Jane. *Young Humphry Davy: the Making of an Experimental Chemist*, Philadelphia: American Philosophical Society, 2000.
- Funk, Albert. *Kleine Geschichte des Föderalismus: Vom Fürstenbund zur Bundesrepublik*, Paderborn, München, Wien Zürich: Ferdinand Schöningh, 2010.
- Fyfe, Aileen. *Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820-1860*. Chicago: University of Chicago

- Press, 2012.
- _____. 'Conscientious workmen or booksellers' hacks? The professional identities of science writers in the mid-nineteenth century', *Isis*, (96)2005, pp. 192-223
- _____, Noah Moxham, 'Making public ahead of print: meetings and publications at the Royal Society, 1752-1892', *Notes and Records*, 70(2016), pp. 361-379.
- _____, Julie McDougall-Waters, Noah Moxham, '350 years of scientific periodicals', *Notes and Records*, 69(2015), pp. 227-239.
- _____, Noah Moxham, Julie McDougall-Waters, Camilla Mørk Røstvik. *Philosophical Transactions*, forthcoming.
- _____. Bernard Lightman, eds. *Science in the Marketplace. Nineteenth-Century Sites and Experiences*, Chicago and London: University of Chicago Press, 2007.
- _____. *Science and Salvation: Evangelical Popular Science Publishing in Victorian Britain*, Chicago: University of Chicago Press, 2004.
- Galipeau James, et al. 'A scoping review of competencies for scientific editors of biomedical journals', 2015, [accessed on December 16, 2018] <http://hdl.handle.net/10393/32305>.
- _____, et al. 'An international survey and modified Delphi process revealed editors' perceptions, training needs, and ratings of competency-related statements for the development of core competencies for scientific editors of biomedical journals', *F1000Research*, 2017. doi:10.12688/f1000research.12400.1 [accessed on December 16, 2018].
- Gambarotto, Andrea. 'Lorenz Oken (1779-1851): Naturphilosophie and the reform of natural history', *British Journal for the History of Science*, 50(2017), pp. 329-340.
- Gantet, Claire, Flemming Schöck. *Zeitschriften, Journalismus und gelehrte Kommunikation im 18. Jahrhundert: Festschrift für Thomas Habel*, Bremen: Ed. Lumière, 2014.
- Garber, Klaus. 'Der Autor im 17. Jahrhundert', *Zeitschrift für Literaturwissenschaft und Linguistik*, No. 42(1981), pp. 29-45.
- _____, Heinz Wismann, eds., *Europäische Sozietätsbewegung*, 2 Vols. Tübingen: Niemeyer, 1996.
- Garrison, Fielding. 'Medical and scientific periodicals of the seventeenth and eighteenth centuries', *Bulletin of the History of Medicine*, 2(1934), pp. 285-341.
- Gascoigne, John. *Joseph Banks and the English Enlightenment: Useful Knowledge and Polite Culture*, Cambridge: Cambridge University Press, 2003.
- _____. 'The Royal Society and the emergence of science as an instrument of state policy', *The British Journal for the History of Science*, 32(1999), pp. 171-184.
- Gehring, Paul. 'Die Anfänge des deutschen Zeitschriftenwesens in Württemberg', *Württembergische Jahrbücher für Statistik und Landeskunde* 1936/7, 1938, pp. 1-56.
- Geldner, Ferdinand. 'Jaeck, Heinrich', in: *Neue Deutsche Biographie*, 10(1974), p. 261.
- Gerabek, Werner. 'Lorenz Oken und die Medizin der Romantik. Die Würzburger Zeit des Naturforschers (1804-1805)', in: Olaf Breidbach,

- Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779–1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001, 52-72.
- Gierl, Martin. 'Commentarii und Commentationes - Wissenschaft erhandeln im 18. Jahrhundert', *Aufklärung*, 26(2015), pp. 31-65.
- _____. 'Die Universität als Aufklärungsfabrik', *Historische Anthropologie*, 13(2005), pp. 367-375.
- _____. *Geschichte als präzisierte Wissenschaft: Johann Christoph Gatterer und die Historiographie des 18. Jahrhunderts im ganzen Umfang*, Fundamenta Historica, Vol. 4, Stuttgart Bad Cannstatt: frommann-holzboog, 2012.
- _____. 'Compilation and the production of knowledge in early German Enlightenment', in: *Wissenschaft als kulturelle Praxis 1750-1900*, Göttingen: Vandenhoeck & Ruprecht, 1999, 69-103.
- _____. "'Editor-Journals" – Professorenjournale Wissenschaftliche Fachjournale and the scientific periodicals in Germany / Göttingen 1765-1815', *Centaurus*, Special Issue, forthcoming 2019.
- Gieryn, Thomas. 'Boundary-work and the demarcation of science from non-science: strains and interests in professional ideologies of scientists', *American Sociological Review*, 48(1983), pp. 781-795.
- Giesen, Bernhard. *Intellectuals and the nation: collective identity in a German axial age*, Cambridge: Cambridge University Press, 1998.
- Gmelin, Moriz. 'Gmelin, Johann Friedrich', *Allgemeine Deutsche Biographie*, 9(1879), p. 270.
- Göbel, Roman. *Das wissenschaftliche Profil der Isis oder Encyclopädische Zeitung von Lorenz Oken in ihrem gesamten Erscheinungszeitraum von 1817 bis 1848*, Master Thesis, University of Jena, 2012.
- Goethe, Johann Wolfgang von, T-J. Reed, ed. *The Flight to Italy: Diary and Selected Letters*, Oxford: Oxford University Press, 1999.
- Goldgar, Anne. *Impolite Learning: Conduct and Community in the Republic of Letters, 1680–1750*, New Haven: Yale University Press, 1995.
- Golinski, Jan. *The Experimental Self: Humphry Davy and the Making of a Man of Science*, Chicago, London: University of Chicago Press, 2016.
- _____. *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*, Cambridge: Cambridge University Press, 1992.
- _____. *Making Natural Knowledge. Constructivism and the History of Science*, London, Chicago: University of Chicago Press, 1998.
- _____. 'Language, discourse and science', in: R. C. Olby, G. N. Cantor, J. R. R. Christie, and M. J. S. Hodge, eds., *Companion to the history of modern science*, London and New York: Routledge, 1990, 110–23.
- Gordin, Michael. *Scientific Babel: How Science was done before and after Global English*, Chicago: University of Chicago Press, 2015.
- Greenblatt, Stephen. *Renaissance Self-fashioning from More to Shakespeare*, Chicago, London: University of Chicago Press, 1980.
- Greiling, Werner. *Presse und Öffentlichkeit in Thüringen. Mediale Verdichtung und kommunikative Vernetzung im 18. und 19. Jahrhundert*, Köln, Weimar, Wien: Böhlau, 2003.
- _____. 'Von der Hofbuchdruckerei zum modernen Verlagswesen', in: Konrad Scheurmann, Jördis Frank, eds., *Neu entdeckt/Essays. Thüringen - Land der Residenzen*, Mainz: Philipp von Zabern, 2004, 272-279.

- _____. *Vom Autor zum Publikum: Kommunikation und Ideenzirkulation um 1800*, Bremen: Ed. Lumière, 2010.
- _____. 'Thüringen als Presselandschaft. Voraussetzungen und Anfänge', in: Konrad Scheurmann, Jödis Frank, eds., *Neu entdeckt/Essays. Thüringen - Land der Residenzen*, Mainz: Philipp von Zabern, 2004, 461-479.
- Gross, Alan, Joseph Harmon, Michael Reidy. *Communicating Science: the Scientific Article from the 17th Century to the Present*, Oxford: Oxford University Press, 2002.
- Grzeškowiak-Krwawicz, Anna. 'Sensacja - informacja - komentarz: londyńska prasa informacyjna o polskich "rewolucjach " 1791 Roku', *Kwartalnik Historyczny Rocznik*, No. 116(2009), pp. 91-111.
- Guntau, Martin. 'The rise of geology as a science in Germany around 1800', in: C.L.E. Lewis, Simon Knell, eds., *The Making of the Geological Society of London*. The Geological Society, London, Special Publications, 317, 2009, 163-177.
- Habel, Thomas. *Gelehrte Journale und Zeitungen der Aufklärung: zur Entstehung, Entwicklung und Erschließung deutschsprachiger Rezensionszeitschriften des 18. Jahrhunderts*, Bremen: Lumiere, 2007.
- Habermas, Jürgen. *The Structural Transformation of the Public Sphere: an Inquiry into a Category of Bourgeois Society*, Cambridge, MA: MIT Press, 1989.
- Hackmann, W.D. 'The design of the triboelectric generators of Martinus van Marum, F.R.S. A case history of the interaction between England and Holland in the field of instrument design in the eighteenth century', *Notes and Records*, 26(1971), pp. 163-181.
- _____. 'The growth of science in the Netherlands in the seventeenth and early eighteenth centuries', in: Maurice Crosland, ed., *Emergence of Science in Western Europe*, London: MacMillan, 1975, 89-109.
- Haferkorn, Hans. 'Zur Entstehung der bürgerlich-literarischen Intelligenz und des Schriftstellers in Deutschland zwischen 1750 und 1800', in: Bernd Lutz, ed., *Deutsches Bürgertum und literarische Intelligenz 1750-1800*, Stuttgart: Metzler, 1974, 113-275.
- Hagemann, Karen. *Revisiting Prussia's wars against Napoleon*, Cambridge, New York: Cambridge University Press, 2015.
- Haigh, Elizabeth. 'William Brande and the chemical education of medical students', in: Roger Kenneth French, Andrew Wear, eds., *British medicine in an age of reform: Conference Papers*, London and New York: Routledge, 1991, 186-202.
- Hall, A. Rupert. 'Cambridge: Newton's legacy', *Notes and Records*, 55(2001), pp. 205-226.
- Haller, André. *Dissens als kommunikatives Instrument*, Bamberg: University of Bamberg Press, 2013.
- Haltern, Utz. 'Politische Bildung und bürgerlicher Liberalismus. Zur Rolle des Konversationslexikons in Deutschland', *Historische Zeitschrift*, 223(1976), pp. 61-97.
- Hamblyn, Richard. *The Invention of Clouds. How an Amateur Meteorologist Forged the Language of the Skies*, New York: Picador, 2001.
- Hans, Nicholas. *New Trends in Education in the Eighteenth Century*, London: Routledge & Kegan Paul, 1951.
- Harding, Elisabeth. *Kalkulierte Gelehrsamkeit. Zur Ökonomisierung der Universitäten im 18. Jahrhundert*, Wiesbaden: Harrassowitz, 2016.
- Harff, H. *Die Entwicklung der deutschen chemischen Fachzeitschrift. Ein Beitrag zur Wesensbestimmung der wissenschaftlichen*

- Fachzeitschrift*, Berlin: Verlag Chemie, 1941.
- Harper, George McLean. *William Wordsworth, His Life, Works, and Influence*, Vol. 1, Victoria: Russell & Russell, 1961.
- Hartley, Harold. 'A letter from Richard Phillips, FRS (1778—1857) to Michael Faraday, FRS (1791—1867)', *Notes and Records*, 20(1965), pp. 220-223.
- Hays, J. H. 'The London lecturing empire 1800-50', in: Ian Inkster, Jack Morrell, eds., *Metropolis and Province*, London, New York: Routledge, 1983, 91-118.
- Hellmuth, Eckhart, Wolfgang Piereth. 'Germany, 1760—1815', in: Hannah Barker, Simon Burrows, eds., *Press, politics and the public sphere in Europe and North America, c. 1760-1820*, Cambridge: Cambridge University Press, 2002.
- Herrmann, Dieter B. *Die Entstehung der astronomischen Fachzeitschriften in Deutschland (1798-1821)*, Berlin: Veröffentlichungen der Archenhold Sternwarte Berlin-Treptow, No. 5, 1972.
- Hewitson, Mark. *Absolute War: Violence and Mass Warfare in the German Lands, 1792-1820*, Oxford: Oxford University Press, 2017.
- Hickel, Erika. 'Der Apothekerberuf als Keimzelle naturwissenschaftlicher Berufe in Deutschland', *Pharmazie in unserer Zeit*, 6(1977), pp. 259-274.
- Higgitt, Rebekah. 'Why I don't FRS my tail: Augustus de Morgan and the Royal Society', *Notes and Records*, 60(2006), pp. 253-259.
- Hindle, Brooke. *Early American Science*, Sagamore Beach: Science History Publications, 1976.
- Höcklin, Hanspeter. 'Auch die britischen Hofapotheker kamen aus Hannover. Die Personalunion und die Apothekerfamilien Jäger und Brande', *Hannoversche Geschichtsblätter*, 66(2011/2012), pp. 139-162.
- Hölscher Steffen, Sune Erik Schlitte, eds. *Kommunikation im Zeitalter der Personalunion (1714 -1837): Prozesse, Praktiken, Akteure*, Göttingen: v&f Unipress, 2014.
- Höppner, Stefan. *Natur und Poesie. Romantische Grenzgänge zwischen Literatur und Naturwissenschaft*, Würzburg: Königshausen & Neumann, 2017.
- Hofstetter, M. *The Romantic Idea of a University: England and Germany, 1770-1850*, Houndsmills: Palgrave, 2001.
- Hollmann, Werner. 'Die Zeitschriften der exakten Naturwissenschaften in Deutschland', *Zeitung und Leben*, Vol. 39, München: Zeitungswissenschaftliche Vereinigung, 1937.
- Holmes, John, Sharon Ruston. *The Routledge Research Companion to Nineteenth-Century British Literature and Science*, London and New York: Routledge, 2017.
- Homburg, Ernst. 'Two factions, one profession: the chemical profession in German society 1789-1870', in: David Knight, Helge Kragh, eds., *The Making of the Chemist. The Society History of Chemistry in Europe, 1789-1914*, Cambridge: Cambridge University Press, 1998, 39-76.
- Home, Roderick, Isabel Malaquias, eds. *For the Love of Science: the Correspondence of J. H. de Magellan (1722—1790)*, 2 Vols., Bern: Peter Lang, 2017.

- Horn Melton, James van. *The Rise of the Public in Enlightenment Europe*, Cambridge University Press, 2001.
- Houghton, Bernard. *Scientific Periodicals. Their Historical Development, Characteristics and Control*, London: Clive Bingley, 1975.
- Hufbauer, Karl. *The Formation of the German Chemical Community, 1720-1795*, Berkeley: University of California Press, 1982.
- Hull, G.C. 'Five eighteenth-century medical polymaths', in: C.J. Duffin, R.T.J. Moody, C. Gardner-Thorpe, eds., *A History of Geology and Medicine*, Special Publication 375, London: Geological Society, 2013, 395-408.
- Ihnde, Aaron. *Development of Modern Chemistry*, Dover: Dover Publications, 2012.
- Inkster, Ian. 'Science and society in the metropolis: a preliminary examination of the social and institutional context of the Askesian Society of London, 1796-1807', *Annals of Science*, 34(1977), pp. 1-32.
- Ironmonger, E. 'Further thoughts on W. T. Brande', *Proceedings of the Royal Institution*, 44(1971), pp. 262-273.
- Italia, Iona. *The rise of Literary Journalism in the Eighteenth Century. Anxious Employment*, London, New York: Routledge, 2012.
- Jackson, Myles. 'The state and nature of unity and freedom. German Romantic biology and ethic', in: Jane Maienschein, Michael Ruse, eds., *Biology and the Foundations of Ethics*, Cambridge: Cambridge University Press, 1999, 98-112.
- Jacob, Margaret, Larry Stewart. *Practical Matter*, Cambridge, London: Harvard University Press, 2004.
- Jäger, Georg. *Wissenschaftliche und technologische Zeitschriften, in: Geschichte des deutschen Buchhandels im 19. und 20. Jahrhundert*, Berlin, London: De Gruyter, 2010.
- Jahn, Ilse. 'On the origin of romantic biology and its further development at the University of jena between 1790 and 1850', in: S. Poggi, M. Bossi, eds., *Romanticism in Science. Science in Europe 1790—1840*, Dordrecht, Boston, London: Kluwer Academic Publishers, 1994, 75-89.
- James, Frank A.J.L. 'How big is a hole? The problems of the practical application of science in the invention of the miners' safety lamp by Humphry Davy and George Stephenson in late Regency England', *Transactions of the Newcomen Society*, 75(2005), pp. 175-227.
- _____. *'The Common Purposes of Life': Science and Society at the Royal Institution of Great Britain*, London and New York: Routledge, 2002.
- _____. *The Correspondence of Michael Faraday*, Vol. 1, London: Institution of Electrical Engineers, 1991.
- Jantzen, Jörg. 'Schelling, Friedrich Wilhelm Joseph von', *Neue Deutsche Biographie*, 22(2005), pp. 652-655.
- Jardine, Nicholas, Marina Frasca-Spada, eds. *Books and the Sciences in History*, Cambridge: Cambridge University Press, 2000.
- Jay, Barrie. 'Mail between Britain and France, 1793-1815', *Postal History*, no. 323(2007).
- Joad, Raymond, ed. *News, Newspapers and Society in Early Modern Britain*, London: Frank Cass, 1999.
- Johns, Adrian. *The Nature of the Book: Print and Knowledge in the Making*, Chicago: The University of Chicago Press, 1998.
- _____. 'Miscellaneous methods: authors, societies and journals in early modern England', *British Journal for the History*

- of *Science*, 33(2000), pp. 159-86.
- Johnson, Hubert. 'The concept of bureaucracy in cameralism', *Political Science Quarterly*, 79(1964), pp. 378-402.
- Johnston, S. F. 'The physical tourist - Glasgow: a heritage tour', *Physics in Perspective*, 8(2006), pp. 451-465.
- Jones, Aled. *Powers of the Press: Newspapers, Power and the Public in Nineteenth Century*, Abingdon: Ashgate, 1996.
- _____. 'The press and the printed word', in: Chris Williams, ed., *A Companion to Nineteenth-Century Britain*, Malden, Oxford: Blackwell Publishing, 2004, 369-380.
- Joost, Ulrich. 'Vorlesungsmanuskript und Vorlesungsnachschrift als editorisches Problem, und etwas von Lichtenbergs Vorlesungen', *Cardanus 1: Beiträge zur Sozialgeschichte der Naturwissenschaften zur Zeit der Aufklärung*, 1(2000), pp. 33-69.
- Jørgensen, Sven Aage, Klaus Bohnen, Per Øhrgaard. *Aufklärung, Sturm und Drang, frühe Klassik, 1740-1789*, München: C.H. Beck, 1990.
- Josephson, Peter. 'The publication mill. The beginnings of publication history as an academic merit in German universities, 1750–1810', in: Peter Josephson, Thomas Karlsohn & Johan Östling, eds., *The Humboldtian tradition: Origins and legacies*, Leiden: Brill Academic Publishers, 2014, 21-43.
- Jungnickel, Christa, Russell McCormach. *Cavendish: the Experimental Life*, Lewisburg, PA: Bucknell University Press, 1999.
- Jupp, Peter. 'The landed elite and political authority in Britain, ca. 1760-1850', *Journal of British Studies*, 29(1990), pp. 53-79.
- Kästner, Ingrid, ed. 'Wissenschaftskommunikation in Europa im 18. und 19. Jahrhundert. Beiträge der Tagung vom 5. und 6. Dezember 2008 an der Akademie gemeinnütziger Wissenschaften zu Erfurt', in: Dietrich von Engelhardt et al. eds., *Reihe: Europäische Wissenschaftsbeziehungen*, Vol. 1, Aachen: Shaker Verlag, 2009.
- Kaiser, Wolfram, Werner Piechoski. 'Hallesches Druck – und Verlagswesen des 18. Jahrhunderts im Dienste der medizinisch-naturwissenschaftlichen Publizistik', *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg. Mathematisch-naturwissenschaftliche Reihe*, 20(1972), pp. 61-85.
- Kant, Horst. 'Disziplinäre Gesellschaften als Träger von Fachzeitschriften. Einige Anmerkungen zur Entstehung physikalischer Zeitschriften im 19. Jahrhundert in Deutschland', in: Heinrich Parthey, Walther Umstätter, eds., *Wissenschaftliche Zeitschrift und Digitale Bibliothek. Wissenschaftsforschung Jahrbuch 2002*, Gesellschaft für Wissenschaftsforschung, Norderstedt: Books on Demand, 2003, 61-82.
- Kanz, Kai Torsten. *Internationaler Wissenstransfer durch Periodika*, Stuttgart: Franz Steiner, 1997.
- Keighren, Innes, Charles Withers, Bill Bell. *Travels into Print. Explorations, Writing, and Publishing with John Murray, 1773-1859*, Chicago and London: University of Chicago Press, 2015.
- Kelley, Theresa. *Clandestine Marriage: Botany and Romantic Culture*, Baltimore: Johns Hopkins University Press, 2012.
- Kempf, Thomas. *Aufklärung als Disziplinierung. Studien zum Diskurs des Wissens in Intelligenzblättern und gelehrten Beilagen der zweiten Hälfte des 18. Jahrhunderts*, München: iudicium verlag, 1991.
- Kennedy, Jones. *From Fleet Street to Downing Street*, London: Hutchinson, 1919.

- Kennedy, Maire. 'The domestic and international trade of an eighteenth-century Dublin bookseller: John Archer (1782-1810)', *Dublin Historical Record*, 49(1996), pp. 94-105.
- Kent, Christopher. 'The editor and the law', in: Joel H. Wiener, ed., *Innovators and Preachers: The Role of the Editor in Victorian Britain*, Westport, Ct. and London: Greenwood Press, 1985, 99-119.
- Kenworthy, Joan, Margaret McCollum. 'A contribution to meteorology by Spencer Cowper, Dean of Durham 1746–74', *Notes and Records*, 63(2009), pp. 57–80.
- Kertesz, G.A. 'Notes on Isis von Oken, 1817—1848', *Isis*, 77(1986), pp. 497-503.
- Kertscher, Hans-Joachim. 'Halle an der Saale', in: Wolfgang Adam, Siegrid Westphal, eds., *Handbuch kultureller Zentren der Frühen Neuzeit*, Vol. 1, Augsburg-Gottorf, Berlin, Boston: De Gruyter, 2012, 757-790.
- _____. 'Ein Hallescher Verleger mit naturwissenschaftlichen Ambitionen: Johann Jakob Gebauer', *Cardanus 2: Die ›exakten‹ Wissenschaften zwischen Dilettantismus und Professionalität*, 2(2001), pp. 47-73.
- Kilgour, Frederick. *The Evolution of the Book*, Oxford: Oxford University Press, 1998.
- Kihm, Robert, James St.John. 'Walch's trilobite research', *New York State Museum Bulletin*, No. 507(2007), pp. 115–140.
- Kim, Mi Gyung. *Affinity, that Elusive Dream: a Genealogy of the Chemical Revolution*, Cambridge and London: MIT Press, 2003.
- King, Andrew, Alexis Easley, John Morton, eds., *The Routledge Handbook to Nineteenth-Century British Periodicals and Newspapers*, London and New York: Routledge, 2016.
- Kipphan, Helmut. 'Printing technologies with permanent printing master', in: Helmut Kipphan, ed., *Handbook of Print Media: Technologies and Production Methods*, Heidelberg: Springer, 2001, 203-448.
- Kirchner, Joachim. *Das deutsche Zeitschriftenwesen, seine Geschichte und seine Probleme. Von den Anfängen bis zum Zeitalter der Romantik*, Wiesbaden: Harrassowitz, 1958.
- _____. *Das deutsche Zeitschriftenwesen, seine Geschichte und seine Probleme. Vom Wiener Kongress bis zum Ausgange des 19. Jahrhunderts*, Wiesbaden: Harrassowitz, 1962.
- _____. *Die Grundlagen des deutschen Zeitschriftenwesens*, Wiesbaden: Harrassowitz, 1958.
- Klancher, Jon. *Transfiguring the Arts and Sciences. Knowledge and Cultural Institutions in the Romantic Age*, Cambridge: Cambridge University Press, 2013.
- Klein, Lawrence. 'Politeness and the interpretation of the British eighteenth century', *Historical Journal*, 45(2002), pp. 869–898.
- _____. 'An artisan in polite culture: Thomas Parsons, stone carver, of Bath, 1744–1813', *Huntington Library Quarterly*, 75(2012), pp. 27-51.
- Klein, Ursula. *Verbindung und Affinität: Die Grundlegung der neuzeitlichen Chemie an der Wende vom 17. zum 18. Jahrhundert*, Basel, Boston, Berlin: Birkhäuser, 1994.
- Knight, David. 'Communicating chemistry: the frontier between popular books and textbooks in Britain during the first half of the

- nineteenth century', in: Anders Lundgren, Bernadette Bensaude-Vincent, eds., *Communicating Chemistry: Textbooks and Their Audiences, 1789-1939*, Canton: Science History Publications, 2000, 187–206.
- _____, Trevor Levere, eds., *Science, Technology and Culture 1700-1945*, Aldershot: Ashgate, 2004.
- _____, Helge Kragh, eds., *The Making of the Chemist. the Social History of Chemistry in Europe, 1789-1914*, Cambridge: Cambridge University Press, 1998.
- Knox, Kevin. 'The negative side of nothing: Edward Waring, Isaac Milner and Newtonian values', in: Kevin Knox, Richard Noakes, eds., *From Newton to Hawking: A History of Cambridge University's Lucasian Professors of Mathematics*, Cambridge: Cambridge University Press, 2003, 205-240.
- Körner, Julia. *Der Herausgeber von Zeitungen, Zeitschriften und Büchern*, Frankfurt am Main: Lang, 2002.
- Kocka, Jürgen, Heinz-Gerhard Haupt, eds. *Geschichte und Vergleich. Ansätze und Ergebnisse international vergleichender Geschichtsschreibung*, Frankfurt/Main, New York: Campus, 1996.
- Konzett, Matthias. *Encyclopedia of German Literature*, Chicago, London: Fitzroy Dearborn Publishers, 2000.
- Kraus, Helmut. *Die Atmosphäre der Erde: Eine Einführung in die Meteorologie*, Berlin, Heidelberg: Springer, 2003.
- Kremers, Edward, Glenn Sonnedecker. *Kremers and Urdang's History of Pharmacy*, Madison: American Institute of the History of Pharmacy, 1976.
- Kronick, David. *A History of Scientific and Technical Periodicals: the Origins and Development of the Scientific and Technical Press, 1665-1790*, New York: Scarecrow Press, 1962.
- _____. 'The medical and scientific periodicals of the 17th and 18th centuries, with revised catalogue and check-list', *Bulletin. Inst. His. Med.*, 2(1934), pp. 285-343. (Kronick, David. 'Addenda and corrigenda', *Bulletin. Inst. His. Med.*, 32(1958), pp. 456-474.)
- _____. 'Scientific journal publication in the eighteenth century', *The Papers of the Bibliographical Society of America*, 59(1965), pp. 28-44.
- Kuhn-Schnyder, Emil. *Lorenz Oken, 1779-1851: erster Rektor der Universität Zürich*, Zürich: Rohr, 1980.
- Kurzer, Frederick. 'William Hasledine Pepys FRS: a life in scientific research, learned societies and technical enterprise', *Annals of Science*, 60(2003), pp. 137-183.
- Lackner, Maximilian, Arpad Palotas, Franz Winter. *Combustion. From Basics to Applications*, Weinheim: Wiley VCH, 2013.
- Laeven, A.H. *The 'Acta Eruditorum' under the Editorship of Otto Mencke (1644-1707): the History of an International Learned Journal between 1682 and 1707*, Amsterdam: APA-Holland University Press, 1990.
- Lagerfeld, Steven. 'The reading revolution', in: Philip Cook, Douglas Gomery, Lawrence Wilson Lichty, eds., *American Media: The Wilson Quarterly Reader*, Washington DC: Wilson Center Press, 1989, 11-22.
- Lambert, J. *Scientific and Technical Journals*, London: Clive Bingley, 1985.
- Lammel, Hans-Uwe. *Klio und Hippokrates: eine Liaison littéraire des 18. Jahrhunderts und die Folgen für die Wissenschaftskultur bis 1850*

- in Deutschland, Stuttgart: Franz Steiner Verlag, 2005.
- Leonhard Joachim-Felix, et al. *Medienwissenschaft: ein Handbuch zur Entwicklung der Medien und Kommunikationsformen*, Vol. 1, Berlin: De Gruyter, 1999.
- Lepenies, Wolf. *Das Ende der Naturgeschichte. Wandel kultureller Selbstverständlichkeiten in den Wissenschaften des 18. und 19. Jahrhunderts*, Frankfurt: Suhrkamp, 1978.
- Levere, T.H., G. L'E. Turner. *Discussing Chemistry and Steam. The Minutes of a Coffee House Philosophical Society, 1780-1787*, Oxford: Oxford University Press, 2002.
- Lewis, Cherry, 'David Mushet, John Farey, William Smith: geologising in the forest of dean', *Earth Sciences History*, 35(2016), pp. 167-196.
- Liddle, Dallas. *The Dynamics of Genre: Journalism and the Practice of Literature in mid-Victorian Britain*, Charlottesville: University of Virginia Press, 2009.
- Lightman, Bernard. *Victorian Popularizers of Science: Designing Nature for new Audiences*, Chicago: University of Chicago Press, 2010.
- _____. 'Marketing knowledge for the general reader: Victorian popularizers of science', *Endeavour*, 24(2000), pp 100-106.
- _____. 'Refashioning the spaces of London science: elite epistemes in the nineteenth century', in: David Livingstone, Charles Withers, eds., *Geographies of Nineteenth-Century Science*, Chicago and London: University of Chicago Press, 2011, 25—50.
- _____. 'Knowledge confronts nature: Richard Proctor and popular science periodicals', in: Louise Henson, Geoffrey Cantor, Gowan Dawson, Richard Noakes, eds., *Culture and Science in the Nineteenth-Century Media*, Aldershot: Ashgate, 2004, 199-210.
- _____, ed., *A Companion to the History of Science*, Chichester: John Wiley & Sons, 2016.
- Lilley, Samuel. 'Nicholson's Journal, 1797-1813', *Annals of Science*, 6(1948), pp. 78-101.
- Livingstone, David. *Putting Science in Its Place: Geographies of Scientific Knowledge*, Chicago and London: University of Chicago Press, 2003.
- Lötzsch, Ulrike. *Joachim Georg Darjes (1714–1791). Der Kameralist als Schul- und Gesellschaftsreformer*, Köln, Weimar, Wien: Böhlau Verlag, 2016.
- Lowenberg, Julius, Robert Avé-Lallemant, Alfred Dove, eds. *Life of Alexander Von Humboldt*, Vol. I, Cambridge: Cambridge University Press, 2012.
- Lynn, Michael. *Popular Science and Public Opinion in Eighteenth-Century France*, Manchester: Manchester University Press, 2006.
- Macleod, Christine. *Heroes of Invention. Technology, Liberalism and British Identity 1750-1914*, Cambridge: Cambridge University Press, 2007.
- Mantel, Kurt. 'History of the international science of forestry with special consideration of central Europe', *International review of forestry research*, 1(2013), pp. 1-38.
- Manten, A. A. 'Development of European scientific journal publishing before 1850', in: A. J. Meadows, ed., *Development of Scientific Publishing in Europe*, Amsterdam: Elsevier, 1980, pp. 1-22.

- Mariss, Anne. "A world of new things'. Praktiken der Naturgeschichte bei Johann Reinhold Forster", *Campus Historische Studien*, Vol. 72, Frankfurt, New York: Campus Verlag, 2015.
- Martus, Steffen. *Aufklärung: Das deutsche 18. Jahrhundert - ein Epochenbild*, Berlin: Rowohlt, 2015.
- Marwinski, Felicitas. *Der Deutschen Gesellschaft zu Jena ansehnlicher Bücherschatz*, Jena: Thüringer Universitäts- und Landesbibliothek, 1999.
- Matthews, Leslie. 'London's immigrant apothecaries, 1600-1800', *Medical History*, 18(1974), pp. 262–274.
- Mayer, Uwe. "'Kein tummelplatz, darauff gelehrte leut Kugeln wechseln'. Principles and practice of Mencke's editorship of the Acta Eruditorum in the light of mathematical controversies", *Archives internationales d'histoires des sciences*, 63(2013), pp. 49-59.
- Mayr, Ernst. *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*, Cambridge and London: Harvard University Press, 1982.
- McClellan, James III. *Science Reorganized: Scientific Societies in the Eighteenth Century*, New York: Columbia University Press, 1985.
- _____. 'The scientific press in transition: Rozier's journal and the scientific societies in the 1770s', *Annals of Science* 36(1979), pp. 425-449.
- _____. 'Specialist control: the publications committee of the Académie Royale Des Sciences (Paris) 1700-1793', *Transactions of the American Philosophical Society*, 93(2003), pp. i-v, vii-xii, 1-99, 101-134.
- _____. 'Scientific institutions', in: Roy Porter, ed., *The Cambridge History of Science, Volume 4, Eighteenth-Century Science*, Cambridge: Cambridge University Press, 2003, 87-98.
- McKie, Douglas. 'The scientific periodical from 1665 to 1798', in: Allan Ferguson, ed., *Natural Philosophy through the 18th Century*, London: Taylor and Francis, 1948, 122–132.
- _____. *Antoine Lavoisier. The Father of Modern Chemistry*, London: Victor Gollancz, 1935.
- Mclaughlin, P. J. 'Richard Kirwan part II-Kirwan and chemistry in the eighteenth century', *An Irish Quarterly Review*, 28(1939), pp. 593-605.
- Meadows, A.J. *Science and Controversy: a Biography of Sir Norman Lockyer*, Cambridge: MIT Press, 1972.
- _____. *Communication in Science*, London: Butterworths, 1974.
- _____. *Communicating Research*, London: Academic Press, 1998.
- Meinel, Christoph. 'German history of science journals and the German history of science community', in: Marco Beretta, Claudia Pogliano Pietro Redondi, eds., *Journals and History of Science*, Firenze: Olschki, 1998, 77–96.
- _____. 'Die wissenschaftliche Fachzeitschrift: Struktur- und Funktionswandel eines Kommunikationsmediums', in: Christoph Meinel, ed., *Fachschrifttum, Bibliothek und Naturwissenschaft im 19. und 20. Jahrhundert*, Wolfenbütteler Schriften zur Geschichte des Buchwesens, Vol. 27, Wiesbaden: Harrassowitz Verlag, 1997, 137-155.

Melton, James Van Horn. *The Rise of the Public in Enlightenment Europe*, Cambridge University Press, 2001.

Merseburger, Peter. *Mythos Weimar: Zwischen Geist und Macht*, München: Pantheon, 2013, 154-157.

Meyer-Abich, Adolf, ed. *Biologie der Goethezeit. Klassische Abhandlungen über die Grundlagen und Hauptprobleme der Biologie von Goethe und den großen Naturforschern seiner Zeit: Georg Forster, Alexander v. Humboldt, Lorenz Oken, Carl Gustav Carus, Karl Ernst v. Baer und Johannes Müller*, Stuttgart, Leipzig: Hippokrates-Verlag Marquardt & Cie., 1949.

Mischer, Sibille. *Der verschlungene Zug der Seele: Natur, Organismus und Entwicklung bei Schelling, Steffens und Oken*, Würzburg: Königshausen und Neumann, 1997.

Mokyr, Joel. *The Enlightened Economy: Britain and the Industrial Revolution, 1700-1850*, London, New York, Toronto, Dublin: Penguin Books, 2011.

_____. *The Gifts of Athena: Historical Origins of the Knowledge Economy*, Princeton: Princeton University Press, 2004.

_____. 'The intellectual origins of modern economic growth', *Journal of Economic History*, 65(2005), pp. 285-351.

Morison, Stanley. *The English Newspaper: Some Account of the Physical Development of Journals Printed in London Between 1622 & the Present Day*, Cambridge: Cambridge University Press, 1932.

Morrell, Jack B. 'The chemist breeders: the research schools of Liebig and Thomas Thomson', *Ambix*, 19(1972), pp. 1-46.

_____. 'The university of Edinburgh in the late eighteenth century: its scientific eminence and academic structure', *Isis*, 62(1971), pp. 158-171.

_____. 'London institutions and Lyell's Career: 1820-41', *The British Journal for the History of Science*, 9(1976), pp. 132-146.

_____. 'Professionalisation', in: Robert Olby, Geoffrey Cantor, John Christie, Jonathon Hodge, eds., *Companion to the History of Modern Science*, London: Routledge, 1990, 980-989.

_____. 'Thomas Thomson: Professor of chemistry and university reformer', *The British Journal for the History of Science*, 4(1969), pp. 245-265.

Müller, Gerhard. "'... eine wunderbare Aussicht zur Vereinigung deutscher und französischer Vorstellungsarten.' Goethe und Weimar im Rheinbund", in: Hellmut Seemann, ed., *Europa in Weimar: Visionen eines Kontinents*, Stuttgart: Wallstein Verlag, 2008, 256-276.

Müllerott, Martin. 'Goeze, Johann August Ephraim', *Neue Deutsche Biographie*, 6 (1964), 597.

Mullen, Pierce. 'The Romantic as scientist: Lorenz Oken', *Studies in Romanticism*, 16(1977), pp. 381-399.

Musson, Albert Edward, Eric Robinson. *Science and Technology in the Industrial Revolution*, Manchester: Manchester University Press, 1969.

Myers, Richard. *The Basics of Chemistry*, Westport, London: Greenwood Press, 2003.

Myers, Robin, Michael Harris, eds. *Author/Publisher Relations during the Eighteenth and Nineteenth Centuries*, Oxford: Oxford Polytechnic Press, 1983.

N/A. *Aus Schellings Leben: in Briefen. 1803 - 1820*, Vol. 2, Leipzig: Hirzel, 1870.

N/A. 'Richard Phillips (1778–1851)', *Oxford Dictionary of National Biography*, [accessed August 1, 2018]
<https://doi.org/10.1093/ref:odnb/392>.

Naumann, Bernd. 'Johann Ernst Immanuel Walch', in: H. E. Brekle, E. Dobnig-Jülch, H. Weiß, eds., *A Science in the Making. The Regensburg Symposia on European Linguistic Historiography*, Münster: Nodus, 1996, 181-195.

Neave, E.W.J. 'Chemistry in Rozier's journal. The journal and its editors', *Annals of Science*, 6(1950), pp. 416-421.

Nicholson, William junior, Sue Durrell, ed. *The Life of William Nicholson*, London: Peter Owen, 2018.

Nipperdey, Thomas. *Deutsche Geschichte 1800-1866. Bürgerwelt und starker Staat*, 5th ed., München: CH Beck, 2012.

Nisbet, Hugh Barr. *Gotthold Ephraim Lessing: His Life, Works, and Thought*, Oxford: Oxford University Press, 2013.

North, Michael. *Material Delight and the Joy of Living: Cultural Consumption in the Age of Enlightenment in Germany*, Köln: Böhlau, 2003.

Novak, Maximilian. 'Introduction', in: Maximilian Novak, ed., *The age of projects*, Toronto and London: University of Toronto Press, 2008, 3-26.

Nye, Mary Jo. *From Chemical Philosophy to Theoretical Chemistry: Dynamics of Matter and Dynamics of Discipline, 1800—1950*, Berkeley, London, Los Angeles: University of California Press, 1993.

Nyhart, Lynn. *Modern Nature: The Rise of the Biological Perspective in Germany*, Chicago: University of Chicago Press, 2009.

_____. *Biology Takes Form: Animal Morphology Universities, 1800-1900*, Chicago, London: University of Chicago Press, 1995.

O'Connor, Ralph. 'Science and the general reader', in: John Holmes, Sharon Ruston, eds., *The Routledge Research Companion to Nineteenth-Century British Literature and Science*, New York, Abingdon: Routledge, 2017, 155-170.

Ogilvie, Brian. 'Correspondence networks', in: Bernard Lightman, ed., *A Companion to the History of Science*, Chichester: Wiley Blackwell, 2016, 358-371.

Ostwald, Wilhelm. *Handbuch der allgemeinen Chemie. Vol. 1. Die chemische Literatur und die Organisation der Wissenschaft*, Leipzig: Akademische Verlagsgesellschaft, 1919.

Paisey, David. 'Deutsche Buchdrucker, Buchhändler und Verleger, 1701-1750', in: Max Pauer, ed., *Beiträge zum Buch- und Bibliothekswesen*, Wiesbaden: Harrassowitz, 1988.

Palmer, Beth. 'Ella Hepworth Dixon and editorship', *Women's Writing*, 19(2012), pp. 96-109.

_____. *Women's Authorship and Editorship in Victorian Culture: Sensational Strategies*, Oxford English Monographs, Oxford: Oxford University Press, 2011.

Parthey, Heinrich, Walther Umstätter, eds. *Jahrbuch der Gesellschaft für Wissenschaftsforschung*, Berlin: Gesellschaft für Wissenschaftsforschung, 2002.

- Peiffer, Jeanne, Maria Conforti, Patrizia Delpiano, eds. 'Scholarly journals in early modern Europe. Communication and the construction of knowledge', special issue, *Archives internationales d'histoires des sciences*, nos. 170-171, 63(2013).
- Pelgen, Franz Stephan, ed. *Pränumeration im 18. Jahrhundert als Geschäftsprinzip und Marktalternative*, Ruhpolding: Franz Philipp Rutzen, 2009.
- Pettegree, Andrew. *The Invention of News: How the World Came to Know About Itself*, New Haven: Yale University Press, 2014.
- Pfannenstiel, M, R. Zaunick. 'Lorenz Oken und Johann Wolfgang von Goethe, dargestellt auf Grund neu erschlossener Quellen', *Sudhoffs Archiv*, 33(1940), pp. 113-173.
- Phillips, Denise. *Acolytes of Nature. Defining Natural Science in Germany 1770—1850*, Chicago and London: University of Chicago Press, 2012.
- Pickering, Andrew ed. *Science as Practice and Culture*, Chicago: University of Chicago Press, 1992.
- Popplow, Marcus. 'Economizing agricultural resources in the German economic Enlightenment', in: Ursula Klein, E. Spary, eds., *Materials and Expertise in Early Modern Europe: Between Market and Laboratory*, Chicago: University of Chicago Press, 2010, 261-287.
- Porter, Roy. 'Gentlemen and geology: the emergence of a scientific career, 1660–1920', *The Historical Journal*, 21(1978), pp. 809-836.
- Prutz, Robert. *Geschichte des deutschen Journalismus*, Hannover: Rius, 1845.
- Psarros, Nikos, Kostas Gavroglu, eds. *Ars Mutandi: Issues in Philosophy and History of Chemistry*, Leipzig: Leipziger Univ.-Verl., 1999.
- Purschwitz, Anne. 'Halle als medialer Standort zur Zeit der Aufklärung. Das Verlagshaus Gebauer und die halleschen Zeitschriften 1747–1810', in: Daniel Fulda, Christine Haug, eds, *Merkur und Minerva*, Buchwissenschaftliche Beiträge aus dem Deutschen Bucharchiv München, Vol. 89, Wiesbaden: Harrassowitz Verlag, 2014, 235-256.
- Raabe, Paul. *Friedrich Nicolai 1733-1811: die Verlagswerke eines preussischen Buchhändlers der Aufklärung 1759-1811*, Ausstellungskatalog der Herzog August Bibliothek, Weinheim: VCH, Acta Humaniora, 1986.
- _____. 'Pseudonyme und anonyme Schriften im 17. und 18. Jahrhundert', in: *Der Zensur zum Trotz. Das gefesselte Wort und die Freiheit Europas*, Ausstellungskatalog der Herzog August Bibliothek, Weinheim: VCH, Acta Humaniora, 1991, pp. 53-58.
- Rasche, Ulrich. *Quellen zur frühneuzeitlichen Universitätsgeschichte. Typen, Bestände, Forschungsperspektiven*, Wiesbaden: Harrassowitz, 2011.
- Raven, James. *The Business of Books. Booksellers and the English book trade 1450—1850*, New Haven and London: Yale University Press, 2007.
- _____. *London Booksellers and American Customers 1748-1811*, Columbia: University of South Carolina, 2002.
- _____. *Publishing Business in Eighteenth-Century England*, Woodbridge: Boydell & Brewer, 2014.
- David Stewart, 'Magazine and literary culture', in: Joanne Shattock, ed., *Journalism and the Periodical Press in Nineteenth-Century Britain*, Cambridge, New York, Melbourne, Delhi: Cambridge University Press, 2017, 31-46.
- Reed, Peter. *Acid Rain and the Rise of the Environmental Chemist in Nineteenth-Century Britain*, New York: Routledge, 2016.

- Reich, Mike, Joachim Reitner. 'Die Wiederentdeckung des „Schwäbischen Medusenhaputes“', in: Joachim Reitner, ed., *Paläontologische Gesellschaft. Jahrestagung, Geobiologie: 74. Jahrestagung der Paläontologischen Gesellschaft*, Göttingen, Reihe Universitätsdrucke, Göttingen: Universitätsverlag Göttingen, 2004, 190-1.
- _____. 'The 'Swabian caput Medusae' (Jurassic Crinoidea, Germany)', in: Larry Harris et al., eds., Durham: *Proceedings of the 12th International Echinoderm Conference*, Durham, New Hampshire, USA, August 2006, 61-65.
- Reilly J., N. O'Flynn. 'Richard Kirwan, an Irish chemist of the eighteenth century', *Isis*, 13(1930), pp. 298-319.
- Requate, Jörg. *Journalismus als Beruf: Entstehung und Entwicklung des Journalistenberufs*, Göttingen: Vandenhoeck & Ruprecht, 1995.
- _____, ed. *Das 19. Jahrhundert als Mediengesellschaft*, München: Oldenbourg Wissenschaftsverlag, 2009.
- Reschenberg, Hasso. 'Geschichte der Fachzeitschriften. 965-973', in: Joachim-Felix Leonhard, Hans-Werner Ludwig, Dietrich Schwarze, Erich Straßner, eds., *Medienwissenschaft. Ein Handbuch zur Entwicklung der Medien und Kommunikationsformen*, (1. Teilband), Berlin, New York: de Gruyter, 1999.
- Richards, Robert. *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*, Chicago, London: University of Chicago Press, 2002.
- Ridley, John. *Parasitology for Medical and Clinical Laboratory Professionals*, Clifton Park: Delmar, 2012.
- Riederer, Jens. 'Bemerkungen und Überlegungen zur Wirtschafts- und Sozialstruktur Jenas als Universitätsstadt im 18. Jahrhundert', *Jenaer stadthistorische Beiträge, Schriften zur Stadt-, Universitäts- und Stadtgeschichte Jenas*, 6(1993), pp. 197-202.
- _____. *Aufgeklärte Sozietäten und gesellige Vereine in Jena und Weimar*, PhD Thesis, University of Jena, 1995.
- Rollman, Margrit. *Der Gelehrte als Schriftsteller: Die Publikationen der Göttinger Gelehrten im 18. Jahrhundert*, PhD Thesis, University of Göttingen, 1988.
- Ross, Sydney. 'Scientist: the story of a word', *Annals of Science*, 18(1962), pp. 65-85.
- Rowlett, John. 'Ornithological knowledge and literary understanding', *New Literary History*, 30(1999), pp. 625-647.
- Rüdiger, Axel. *Staatslehre und Staatsbildung*, Hallesche Beiträge zur Europäischen Aufklärung, Tübingen: Max Niemeyer Verlag, 2005.
- Ryan, John. 'A poetry of science or a science of poetry? The speculative method of Erasmus Darwin (1731-1802)', *The International Journal of Literary Humanities*, 10(2012), pp. 45-57.
- Salomon, Ludwig. *Geschichte des deutschen Zeitungswesens von den ersten Anfängen bis zur Wiederaufrichtung des deutschen Reiches*, Oldenburg: Schulztesche Hof-Buchhandlung 1906.
- Schmidt, Uwe Eduard. 'Stahl, Johann Friedrich', *Neue Deutsche Biographie*, 25(2013), 35.
- Schmidt-Funke, Julia. *Auf dem Weg in die Bürgergesellschaft. Die politische Publizistik des Weimarer Verlegers Friedrich Justin Bertuch*, Köln, Weimar, Wien: Böhlau, 2005.
- Schmied-Kowarzik, Wolfdietrich. 'Die existentiell-praktische Einheit von Mensch und Natur. Zur Bedeutsamkeit der Naturphilosophie

- Schellings für die Ökologiedebatte', in: *Natur und Subjektivität. Zur Auseinandersetzung mit der Naturphilosophie des jungen Schelling. Referate, Vorträge und Protokolle der II. Internationalen Schelling-Tagung Zürich 1983*, Stuttgart-Bad Cannstatt: Frommann-Holzboog Verlag, 1985, 375-388.
- _____. 'Die existentielle Grundlage unserer Naturerkenntnis und die Produktivität der wirklichen Natur. Einleitende Bemerkungen zur Naturphilosophie Schellings', in: *Tätiger Mensch – tätige Natur*, Kasseler philosophische Schriften 6, Kassel: GhK-Bibliothek, 1983, 13-34.
- Schmitz, Hans. 'Zur Entwicklung der chemischen Zeitschriftenliteratur', *Laboratoriumspraxis*, 19(1967), pp. 140-142.
- Schmotz, Theresa, *Die Leipziger Professorenfamilien im 17. und 18. Jahrhundert: eine Studie über Herkunft, Vernetzung und Alltagsleben*, Stuttgart: Steiner, 2012.
- Schneider, Ulrich Johannes, ed. *Kulturen des Wissens im 18. Jahrhundert*, Berlin, New York: de Gruyter, 2008.
- Schneider, Ute. "Für Kenner und Liebhaber. Zur Idee und Konzeption der Zeitschrift 'Der Naturforscher'", in: Tanja van Hoorn, Alexander Košenina, eds., *Naturkunde im Wochentakt. Zeitschriftenwissen der Aufklärung*, Bern, Berlin, Bruxelles, Frankfurt am Main, New York, Oxford, Wien: Peter Lang, 2014, 137-156.
- _____. *Friedrich Nicolais Allgemeine Deutsche Bibliothek als Integrationsmedium der Gelehrtenrepublik*, Wiesbaden: Harrassowitz, 1995.
- Schofield, Robert. *The Lunar Society of Birmingham: a Social History of Provincial Science and Industry in Eighteenth-Century England*, Oxford: Clarendon Press, 1963.
- Schulz, Manuel. 'Zur Rezeption der Papierkrise 1788-1793 im Hallenschen Verlag Gebauer', *Leipziger Jahrbuch zur Buchgeschichte*, 20(2011), pp. 143-153.
- Schwedt, Georg. *Vom Harz nach Berlin Martin Heinrich Klaproth: Ein Apotheker als Entdecker sieben chemischer Elemente*, Norderstedt: BoD, 2016.
- Seckbach, Joseph, Aharon Oren, Helga Stan-Lotter, eds. *Polyextremophiles: Life Under Multiple Forms of Stress*, Dordrecht: Springer Science+Business, 2013.
- Secord, James. *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*, Chicago: The University of Chicago Press, 2000.
- _____. 'Knowledge in transit', *Isis*, 95(2004), pp. 654-672.
- _____. *Visions of Science: Books and Readers at the Dawn of the Victorian Age*, Chicago, London: University of Chicago Press, 2014.
- Seils, Markus. *Friedrich Albrecht Carl Gren in seiner Zeit: 1760 - 1798; Spekulant oder Selbstdenker*, Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1995.
- Selwyn, Pamela. *Everyday Life in the German Book Trade: Friedrich Nicolai as Bookseller and Publisher in the Age of Enlightenment*, University Park: Pennsylvania State University Press, 2000.
- Shapin, Steven, Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*, Princeton: Princeton University Press, 1986.

- _____. *A Social History of Truth: Civility and Science in Seventeenth-Century England*, Chicago: University of Chicago Press, 1994.
- _____. 'Pump and circumstance: Robert Boyle's literary technology,' *Social Studies of Science*, 14(1984), pp. 481-520.
- _____. 'The invisible technician', *American Scientist*, 77(1989), pp. 554-563.
- _____. *Never Pure: Historical Studies of Science as If It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority*, Baltimore: Johns Hopkins University Press, 2010.
- Shattock, Joanne. 'Introduction', in: Joanne Shattock, ed., *Journalism and the Periodical Press in Nineteenth-Century Britain*, Cambridge, New York, Melbourne, Delhi, Singapore: Cambridge University Press, 2017, 1-14.
- Sheehan, Donald. 'The Manchester literary and philosophical society', *Isis*, 33(1941), pp. 519-523.
- Sheets-Pyenson, Susan. 'Popular science periodicals in Paris and London: the emergence of a low scientific culture, 1820-1875', *Annals of Science*, 42(1985), pp. 549-572.
- _____. 'A measure of success: the publication of natural history journals in early Victorian Britain', *Publishing History*, 9(1981), pp. 21-36.
- _____. *Low Scientific Culture in London and Paris, 1820-1875*, PhD Thesis, University of Pennsylvania, 1976.
- Sher, Richard. *The Enlightenment and the Book*, Chicago and London: University of Chicago Press, 2006.
- Shuttleworth Sally and Geoffrey Cantor. 'Introduction', in: Geoffrey Cantor, Sally Shuttleworth, George E. Smith, eds., *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*, Cambridge and London: MIT Press, 2004, 1-15.
- _____, Berris Charnley, eds. 'Science periodicals in the nineteenth and twenty-first centuries', *Notes and Records*, 70(2016), pp. 297-304.
- Siebers, Winfried. 'Darstellungsstrategien empirischen Wissens in der Apodemik und im Reisebericht des 18. Jahrhunderts', *Cardanus*, 3(2003), pp. 29-49.
- Siegfried, Adam. 'Salat, Jakob', in: *Neue Deutsche Biographie*, 22(2005), pp. 361-362.
- Siskin, Clifford. 'Eighteenth century periodicals and the Romantic rise of the novel', *Studies in the Novel*, 26 (1994), pp. 26-42.
- Slater, A.W. 'Luke Howard, F.R.S. (1772-1864) and his relations with Goethe', *Notes and Records of the Royal Society of London*, 27(1972), pp. 119-140.
- Slauter, Will. 'Upright piracy, understanding the lack of copyright for journalism in eighteenth-century Britain', *Book History*, 16(2013), pp. 34-61.
- Smiles, S. *A Publisher and his Friends: Memoir and Correspondence of the Late John Murray with an Account of the Origin and Progress of the House, 1768-1843*, 2 Vols, London: John Murray, 1891.
- Sorrenson, Richard. 'Towards a history of the Royal Society in the eighteenth century', *Notes and Records*, 50(1996), pp. 29-46.
- Spiers, C.H. 'William Thomas Brande, leather expert', *Annals of Science*, 25(1969), pp. 179-201.

- Spillman, Lyn. 'Enriching exchange. Cultural dimensions of markets', *American Journal of Economics and Sociology*, 58(1999), pp. 1047-1065.
- Steiner, Gerhard. 'Förster, Reinhold', in: *Neue Deutsche Biographie*, 5(1961), p. 301.
- Stephen, Leslie, G.F. Bartle. 'William Allen (1770–1843)', *Oxford Dictionary of National Biography*, [accessed August 7, 2018] <https://doi.org/10.1093/ref:odnb/392>.
- Stern, Selma. *Karl Wilhelm Ferdinand, Herzog zu Braunschweig und Lüneburg*, Hildesheim & Leipzig: A. Lax, 1921.
- Stichweh, Rudolf. *Wissenschaft, Universität, Professionen. Soziologische Analysen*, Frankfurt/Main: Suhrkamp, 2004.
- _____. 'Professionen und Disziplinen: Formen der Differenzierung zweier Systeme beruflichen Handelns in modernen Gesellschaften', in: Klaus Harney, ed., *Professionalisierung der Erwachsenenbildung. Fallstudien – Materialien – Forschungsstrategien*, Frankfurt/Main: Lang, 1987, 278-336.
- _____. *Der frühmoderne Staat und die europäische Universität zur Interaktion von Politik und Erziehungssystem im Prozess ihrer Ausdifferenzierung (16.-18. Jahrhundert)*, Frankfurt am Main: Suhrkamp, 1991.
- _____. *Zur Entstehung des modernen Systems wissenschaftlicher Disziplinen Physik in Deutschland 1740 -1890*, Frankfurt: Suhrkamp, 1984.
- Stiefel, Katrin. 'Zwischen Naturphilosophie und Wissenschaftspolitik: Zum Profil der Isis oder Encyclopädischen Zeitschrift von Oken als naturwissenschaftliches Publikationsorgan in den Jahren 1817 bis 1822', *Berichte zur Wissenschaftsgeschichte*, 26(2003), pp. 35-56.
- Stockhorst, Stefanie, ed. *Friedrich Nicolai im Kontext der kritischen Kultur der Aufklärung*, Göttingen: v&r unipress, 2013.
- Stöber, Rudolf. 'Innovation und Evolution. Wie erklärt sich medialer und kommunikativer Wandel?', in: Carsten Winter, Andreas Hepp, Friedrich Krotz, eds., *Theorien der Kommunikations- und Medienwissenschaft*, Wiesbaden: VS Verlag für Sozialwissenschaften, 2008, pp 139-156.
- _____, Michael Nagel, Astrid Blome, Arnulf Kutsch, eds., *Aufklärung der Öffentlichkeit - Medien der Aufklärung: Festschrift für Holger Böning zum 65. Geburtstag*, Stuttgart: Steiner, 2015.
- _____. *Deutsche Pressegeschichte. Von den Anfängen bis zur Gegenwart*, 2nd ed., Konstanz: UVK Verlagsgesellschaft, 2005.
- Stollberg-Rilinger, Barbara. 'Rating – Ranking – Rangkonflikte. Was macht akademische Exzellenz aus?', in: Helwig Schmidt-Glintzer, ed., *Die Reformuniversität Helmstedt 1576—1810*, Wiesbaden: Harrassowitz, 2011, 9-55.
- Storz, Werner. *Anfänge der Zeitungskunde*, Halle: Kling, 1931.
- Stuber, Martin. Stefan Hächler, Luc Lienhard, eds. *Hallers Netz: ein europäischer Gelehrtenbriefwechsel zur Zeit der Aufklärung*, Basel, Berlin: Schwabe, 2005.
- Sumner, James. *Brewing Science, Technology and Print, 1700–1880*, London and New York: Routledge, 2016
- Sutton, Geoffrey. 'The politics of science in early Napoleonic France: the case of the voltaic pile', *Historical Studies in the Physical Sciences*, 11(1981), pp. 329-366.

- Swales, Martin. 'Johann Wolfgang Goethe (1749–1832): The German Bildungsroman', in: Michael Bell, ed., *The Cambridge Companion to European Novelists*, Cambridge, New York: Cambridge University Press, 2012, 124-139.
- Tangerding, Clemens Maria. *Der Drang zum Staat. Lebenswelten in Würzburg zwischen 1795 und 1815*, Köln, Weimar, Wien: Böhlau, 2011.
- Taszus, Claudia. 'Zwischen Naturwissenschaft und politischer Schriftstellerei. Lorenz Oken als Redakteur und Mitarbeiter der Deutschen Blätter von Brockhaus', in: Thomas Bremer, Christine Haug, Helga Meise, eds., *Verlegerische Geschäftskorrespondenz im 18. Jahrhundert. Das Kommunikationsfeld zwischen Autor, Herausgeber und Verleger in der deutschsprachigen Aufklärung*, Wiesbaden: Harrassowitz, 2018, 283-303.
- _____. 'Okens Isis. Pressefreiheit, Restriktion und Zensur in Mitteldeutschland in der ersten Hälfte des 19. Jahrhunderts', *Jahrbuch für Europäische Wissenschaftskultur*, 4(2008), pp. 205-241.
- _____. 'Lorenz Okens Isis (1816-1848) Zur konzeptionellen, organisatorischen und technischen Realisierung der Zeitschrift', *Blätter der Gesellschaft für Buchkultur und Geschichte*, 12/13(2008), pp. 85-154.
- Terrall, Mary. 'The uses of anonymity in the age of reason', in: Mario Biagioli and Peter Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science*, New York: Routledge, 2003, pp. 91–112.
- Thoma, Heinz, ed. *Handbuch Europäische Aufklärung: Begriffe, Konzepte, Wirkung*, Stuttgart, Weimar: Metzler, 2015.
- Thomas, Andreas. 'Walch, Johann Ernst Immanuel (1725—1778)', in: Heiner F. Klemme, Manfred Kuehn, eds., *The Bloomsbury Dictionary of Eighteenth-Century German Philosophers*, London and New York: Bloomsbury, 2010.
- Thomson, Duncan, ed. 'The letters of James and William Tassie to Alexander Wilson, 1778 to 1826', *The Volume of the Walpole Society*, 65(2003), pp. 1-87.
- Thomson, Robert. 'Biographical notice of the late Thomas Thomson', *Glasgow Medical Journal*, 5(1857), pp. 138–139.
- Toftlund, Hans. 'Lorenz Crell und das erste chemische Periodicum 1778', *Chemie in unserer Zeit*, 12(1978), pp. 199-200.
- Topham, Jonathan. 'Scientific publishing and the reading of science in nineteenth century Britain: a historiographical survey and guide to sources', *Studies in History and Philosophy of Science*, 31(2000), pp. 559–612.
- _____. 'Anthologizing the book of nature: the circulation of knowledge and the origins of the scientific journal in late Georgian Britain'. in: Bernard Lightman, Gordon McQuat, eds., *The Circulation of Knowledge between Britain, India, and China*, Leiden: Brill, 2013, 119-152.
- _____. 'The scientific, the literary, and the popular: commerce and the reimagining of the scientific journal in Britain, 1813—25', *Notes and Records*, 70(2016), pp. 305–324.
- _____. 'Science in the nineteenth-century periodical', *Literature Compass*, 1(2004), pp. 1-9.
- _____. 'BJHS Special Section: book history and the sciences: introduction', *British Journal for the History of Science*, 33(2000), pp. 559-612.
- _____. 'Scientific publishing and the reading of science in nineteenth-century Britain: a historiographical survey and guide to sources', *Studies in History and Philosophy of Science Part A*, 31(2000), pp. 559-612.

- Torrens, Hugh. 'Dissenting science: the Quakers among the founding fathers', in: C.L.E. Lewis and S.J. Knell, eds, *The Making of the Geological Society of London*, London: The Geological Society. Special Publications, 317, 129–144.
- Trewin, N. H., ed. *The Geology of Scotland*, Fourth Edition, London: Geological Society, 2002.
- Trieb, Michaela. *Die Medizinische Fakultät der Universität Helmstedt (1576-1810): eine Studie zu ihrer Geschichte unter besonderer Berücksichtigung der Promotions- und Übungsdisputationen*, Wiesbaden: Harrassowitz, 1995.
- Tulley, Aubrey A. 'The Chemical Studies of William Thomas Brande,' MSc Thesis, University of London, 1970.
- Turner, Mark. *Trollope and the Magazines. Gendered Issues in Mid-Victorian Britain*, Houndmills, Basingstoke: Macmillan, 2000.
- Unsold, Siegfried. *Goethe and his publishers*, Chicago and London: Chicago University Press, 1996.
- Usterii, A. 'Lorenz Oken und Goethe', *Goethemuseum*, 9(1930), n/a.
- Unwin, Patrick, Robert Unwin. 'Humphry Davy and the Royal Institution of Great Britain', *Notes and Records*, 63(2009), pp. 7-33.
- _____. "A devotion to the experimental sciences and arts': the subscription to the great battery at the Royal Institution 1808-9", *The British Journal for the History of Science*, 40(2007), pp. 181-203.
- Ventzke, Marcus. 'Das Herzogtum Sachsen-Weimar-Eisenach, 1775-1783', *Veröffentlichungen der Historischen Kommission für Thüringen, Kleine Reihe*, vol. 10, Köln, Weimar, Wien: Böhlau, 2004.
- Vierhaus, Rudolf, *Deutschland im 18. Jahrhundert: politische Verfassung, soziales Gefüge, geistige Bewegungen*, Göttingen: Vandenhoeck und Ruprecht, 1987.
- Vogel, Jakob. *Ein schillerndes Kristall: eine Wissensgeschichte des Salzes zwischen Früher Neuzeit und Moderne*, Köln, Weimar, Wien: Böhlau, 2008.
- Voss, Jürgen. 'Die Akademien als Organisationsträger der Wissenschaften im 18. Jahrhundert', *Historische Zeitschrift*, 231(1980), pp. 43-74.
- Wale, Matthew. "'The Sympathy of a Crowd': Periodicals and the Practices of Natural History in Nineteenth-Century Britain", PhD Thesis, University of Leicester, 2018.
- Walker, Fred. *Ships and Shipbuilders: Pioneers of Design and Construction*, Barnsley: Seaforth, 2010.
- Walters, A. N. 'Tools of Enlightenment: The Material Culture of Science in Eighteenth-century England', Ph.D. diss., University of California at Berkeley, 1992.
- Walther, Helmuth. 'Die Universität um 1800', in: Gerhard Müller, Klaus Ries, Paul Ziche, eds., *Die Universität Jena: Tradition und Innovation um 1800*, Stuttgart: Franz Steiner Verlag, 2001, 27-32.
- Ward, A.W., G.W. Prothero, Stanley Leathes, eds. *The Cambridge Modern History*, vol. 5, Cambridge: University Press, 1908.
- Watts, Iain. "'We want no authors': William Nicholson and the contested role of the scientific journal in Britain, 1797–1813," *British Journal for the History of Science*, 47(2014), pp. 397–419.

- _____. "Current Events: Galvanism and the World of Scientific Information, 1790–1830", PhD diss., Princeton University, 2015.
- Wehler, Hans-Ulrich. *Deutsche Gesellschaftsgeschichte, 1815-1845/49*, Vol. 2, München: CH Beck, 1987.
- Weinberger, P. 'Faraday and the Philosophical Magazine', *Philosophical Magazine*, (93)2013, pp. 1455–1467.
- Weindling, Paul. 'The British mineralogical society: a case study in science and social improvement', in: Ian Inkster, Jack Morrell, eds., *Metropolis and Province: Science in British Culture, 1780 – 1850*, Abingdon: Routledge, 1983, 120-150.
- Weißbrodt, Ernst. *Die Meyersche Buchhandlung in Lemgo und Detmold und ihre Vorläufer : Festschrift zum 250jähr. Bestehen d. Firma am 12. Juni 1914*, Detmold: Meyersche Hofbuchh., 1914.
- Wells, Kentwood. 'William Charles Wells and the races of man', *Isis*, 64(1973), pp. 215-22.
- Weyer, Jost. *Geschichte der Chemie*, Vol 2., Berlin: Springer Spektrum, 2018.
- White, Paul. *Thomas Huxley: Making the 'Man of Science*, Cambridge: Cambridge University Press, 2002.
- Wiener, Joel. *Innovators and Preachers. The role of the editor in Victorian England*, Westport, London: Greenwood Press, 1985.
- Wilke, Jürgen. 'Nachrichtenvermittlung und Informationswege im 17. und 18. Jahrhundert in Brandenburg, Preußen', in: Bernd Söseman, ed., *Kommunikation und Medien in Preußen vom 16. Bis zum 19. Jahrhundert*, Stuttgart: Franz Steiner Verlag, 2002, 72-84.
- _____. 'Vom „wandernden Journalisten“ zur Professionalisierung—Was uns die historische Journalismusforschung lehrt', in: N. Jakob et al., eds., *Realismus als Beruf*, Wiesbaden: Springer, 2013, 83—96.
- _____. 'Medien - und Kommunikationsgeschichte um 1800. Erscheinungsformen, Determinanten, Grundfragen', in: Werner Greiling, Franziska Schulz, eds., *Vom Autor zum Publikum. Kommunikation und Ideenzirkulation um 1800*, Presse und Geschichte - Neue Beiträge, Vol. 49, Bremen: editorion lumiere, 2010, 37-52.
- _____. *Grundzüge der Medien- und Kommunikationsgeschichte*, Köln, Weimar, Wien: Böhlau, 2000.
- Wilson, David. *Seeking Nature's Logic: Natural Philosophy in the Scottish Enlightenment*, University Park Pennsylvania: Pennsylvania State University Press, 2009.
- Wiswe, Mechthild. *Kinder- und Jugendbücher im Braunschweigischen Landesmuseum: kommentierter Bestandskatalog, Forschungen und Berichte des Braunschweigischen Landesmuseums*, Vol. 5, Braunschweig: Braunschweigisches Landesmuseum, 1997.
- Withers, Charles. *Placing the Enlightenment: Thinking Geographically about the Age of Reason*, Chicago and London: University of Chicago Press.
- Wogawa, Frank. "'Etwas theurer muß der Druck auf jeden Fall bey uns seyn'—Die Frommannsche Verlagsbuchhandlung in Jena in der ersten Hälfte des 19. Jahrhunderts", in: Werner Greiling, Siegfried Seifert, eds., *Der entfesselte Markt: Verleger und Verlagsbuchhandel im thüringisch-sächsischem Kulturraum um 1800*, Leipzig: Leipziger Universitätsverlag, 2004, 177-218.
- World Medical Association, 'World medical association declaration of Helsinki: ethical principles for medical research involving human subjects', *JAMA*, 310(2013), pp. 2191-2194.
- Wunschmann, Ernst. 'Sieber, Franz Wilhelm', in: *Allgemeine Deutsche Biographie*, 34(1892), pp. 177-179.

Wyatt, John. 'George Bellas Greenough: a romantic geologist', *Archives of Natural History*, 22(1995), pp. 61-71.

Zafirovski, Milan. *The Enlightenment and Its Effects on Modern Society*, New York: Springer, 2011.

Zaunstöck, Holger, Markus Meumann, eds. 'Sozietäten, Netzwerke, Kommunikation', *Hallesche Beiträge zur Europäischen Aufklärung*, Vol. 21, Berlin, Boston: de Gruyter, 2003.

Zehm, Edith, Sebastian Mangold, Ariane Ludwig, eds. *Johann Wolfgang von Goethe: Tagebücher: Historisch-kritische Ausgabe, im Auftrag der Klassik Stiftung Weimar*, Vol. 7, Weimar, Stuttgart: J.B. Metzler Verlag, 2014.

Ziche, Paul, Peter Borschlegell. 'Wissenschaftskultur in Briefen, Zeitschrift für Geschichte der Naturwissenschaften', *NTM International Journal of History & Ethics of Natural Sciences, Technology & Medicine*, 8(2000), pp. 149-169.

Zimmermann, Christian von, ed. '(Auto)Biographik in der Wissenschafts- und Technikgeschichte', *Cardanus*, Vol 4(2004).

Zittel, Manfred. 'Lorenz Oken und Goethe – Die Geschichte einer heillosen Beziehung', in: Olaf Breidbach, Hans-Joachim Fliedner, Klaus Ries, eds., *Lorenz Oken (1779–1851). Ein politischer Naturphilosoph*, Weimar: Böhlau Nachfolger, 2001, 149-182.

APPENDIX

Chapter One

Footnote 63

‘1. haben wir wenigstens sechs geschickte und perpetuirliche Arbeiter nöthig, zwey im Mineral- zwey im Pflanzen- u zwey im Thier Reich.’

Johann Ernst Immanuel Walch to Johann Jakob Gebauer, March 15, 1773.

Gebauer-Schwetschke Verlagsarchiv, Halle, A 6.2.6 Nr. 13228. (henceforth: Verlagsarchiv)

Footnote 87

‘Die Stellen derselben suchte der Minister mit Männern zu ersetzen, deren Ruhm dem Ruhme ihrer Vorgänger entweder gleich kam oder ihn übertraf.’

Johann Christoph Hoffbauer, *Geschichte der Universität zu Halle*, Halle: Schimmelpfennig und Companie, 1805, 330.

Footnote 101

‘Ein sehr großer Theil des Ruhms einer Universität und ihrer Professoren in Deutschland, und fast aller Ruhm, den eine Universität und ihre Glieder außerhalb Deutschland genießt, hängt von den schriftstellerischen Arbeiten der Professoren ab.’

Ernst Brandes, *Ueber den gegenwärtigen Zustand der Universität Göttingen*, Göttingen: Johann Friedrich Röwer, 1802, 189.

Footnote 125

‘2. hier habe ich noch zur Zeit niemand, der dazu vollkommen tüchtig wäre.’

Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228.

Footnote 132

‘Der ietziige herrschende Geschmack an der Naturhistorie, hat uns auf die Gedanken gebracht, eine Monaths oder Viertheils jahrschrift, unter den etwanigen Tittel, Das Anmuthigste aus der neuesten Naturhistorie, zu verlegen. Da nun dieses Buch Niemand gründlicher und vorthe[i]lhafter so wohl für uns als auch für das Publicum ausarbeiten kann, als Ew. Wohlgebohrnen, so sind wir so kühn, dieselben, um die Ausarbeitung dieses obgedachten Buches ganz gehorsamst zu ersuchen.’

Johann Justinus Gebauer's widow and Gebauer to Walch, March 12, 1773. Verlagsarchiv, A 6.2.6 Nr. 12891.

Footnote 134

'Es bestehet dasselbe nunmehr aus 4 Zimmern *à plein pied*; das eine hält die Vögel, Fische und vierfüßigen Thiere, das andere die Conchylien, Corallen-Gewächse, Amphibien und Insecten, das dritte die Steine und Erden, das voerte die Petrefacten in sich; die Erze, Salze und Harze stehen von den 4 Zimmern abgesondert in einem Garten-Zimmer.'

Quoted after Sigmund Fellöcker *Geschichte der Sternwarte der Benediktiner-Abtei Kremsmünster*, Linz: Feichtingers Erben, 1864, 136.

Footnote 135

'Ich selbst besitze auch in meinem Cabinet sehr schöne noch gänz unbekannte Insecten u Papilions aus Ost- u West Indien, wovon ich in jedem künftigen Stück des Naturforschers einen guten Gebrauch machen werden' Walch to Gebauer, August 21, 1774. Verlagsarchiv, A 6.2.6 Nr. 13933.

Footnote 152

Professors:

Johann Andreas Murray (1740—1791)

Johann Beckmann (1739—1811)

Johann Daniel Titius (1729—1796)

Friedrich August Cartheuser (1734—1796)

Friedrich Samuel Bock (1716—1785)

Müller (n/a)

Civil servants outside of academia:

Günther zu Cahla (1726—1774)

Johann Daniel Taube (1727—1799)

Christian Gottfried Schulze (1749—1819)

Wilke (n/a)

Physicians:

August Christian Kühn (1743—1808)

Friedrich Heinrich Martini (1729—1778)

Clergymen:

Johann Samuel Schröter (1735—1808)

Johann August Goeze (1731—1793)

Nobleman and researcher:

Baron Friedrich August Zorn von Plobsheim (1711-1789)

Footnote 156

‘Ich finde darunter wenig Kenner und unter diesen sehr wenige die das, was sie wißen, anderen durch druckbare Aufsätze mittheilen und gemeinnützig machen können. Nun unter diesen letzten gibt’s wieder wenig, die das, so bereits bekannt ist, von dem, was neu u. unbekannt ist, gehörig zu unterscheiden wißen.’

Walch to Gebauer, July 29, 1773. Verlagsarchiv, A 6.2.6 Nr. 13235.

Footnote 157

Professors:

Johann Friedrich Gmelin (1748—1804),

Reuß (n/a),

Civil servants:

Wilhelm Buchholtz (1734—1798)

Gerhardt (n/a),

Physicians:

Johann Albert Heinrich Reimarus (1729—1814),

Joachim Friedrich Bolten (1718—1796),

Reissauer (n/a),

Johann Friedrich Carl Grimm (1737—1821),

Other:

Andrä (n/a).

Footnote 170

‘was den Titel anlangt, so überlaße Ihnen aus folgenden 1) Der Naturforscher 2) Beyträge zur Naturkunde

3) Abhandlungen zur Naturgeschichte einen zu wählen. Haben Sie einen andern der Ihnen beßer ge-

fällt, laße ich mirs auch gefallen.’

Walch to Gebauer, April 27, 1773. Verlagsarchiv, A 6.2.6 Nr. 13229.

Footnote 172

‘In den philos. Transactionen ist noch ein groser in U Deutschl. ungenutzter Schatz der Natur vorhanden.’

Walch to Gebauer, March 15, 1773. Verlagsarchiv, A 6.2.6 Nr. 13228.

Footnote 179

‘Ich unterstehe mich daher Ew. Hochedelgebohrn mit der gehorsamen Bitte beschwerlich zu fallen, mir nur eine kurtze Anzeige zuertheilen; ob diese gelehrte Sammlung von einer in Halle befindlichen Naturforschenden Gesellschaft herausgegeben werde, ob der beständige Sitz derselben in Halle zu finden, ferner, wer das Haupt oder der Vorsteher dieser Gesellschaft sey?’

Jodocus Leopoldus Frisch to Gebauer, December 14, 1774. Verlagsarchiv, A 6.2.6 Nr. 13416.

Footnote 181

‘aber einstimmig wünschte man darinnen in diesen beliebten Journal eine Abänderung, daß künfftig der größte Raum der Bögen nicht mit überflüssigen weitschweifigen und niemanden unterrichtenden Sachen [...] der einem Kenner sehr unzuverlässig und sehr entbehrlich ist [...]

Predigen Sie doch ja Ihrem Maler und Kupferstecher grösere accuratesse besonders in den Farben’

August Christian Kühn to Gebauer, November 2, 1776. Verlagsarchiv, A 6.2.6 Nr. 15037.

Footnote 184

‘Übrigens ist uns sehr leyd, daß wir Euer HochEdel durch den beygeschloßnen Brief für Herrn Hofrath Walch

bald in Ungelegenheit und Schaden gebracht hätten, denn uns dieses Verboth gänzlich unbekannt war, sonst wir uns nicht unterstandten haben würden, solchen beyzufügen, dahero auch solches hinführo unterlaßen werden, versicherende daß nach unßrer höflichsten Empfehlung mit aller Hochachtung verharren’

Georg Wolfgang Knorr Seel. Erben to Gebauer, August 7, 1774. Verlagsarchiv, A 6.2.6 Nr. 13720.

Footnote 189

Johann August Goeze (1731—1793)

Johann Heinrich Friedrich Meinecke (1745-1825)

Johann Christoph Meinecke (1722—1790)

Johann Samuel Schröter (1735—1808)

Chapter Two

Footnote 231

‘HochEdelgeb. haben mir die Ehre erwiesen, auch mir die Collectur für Bunkels Leben aufzutragen: und ich habe diesen Auftrag mit großem Vergnügen angenommen. Ich habe mir viele Mühe gegeben, eine beträchtliche Anzahl Pränumeranten zu sammeln, um dadurch Ihnen einen geringen Beweis meiner vorzüglichen Hochachtung zu geben, die ich für einen Mann hege, der sich um die Ausbreitung so vieler nützlicher Wahrheiten und des guten Geschmacks in Teutschland so sehr verdient gemacht, und dazu als Schriftsteller so vorzügliche Beyträge selbst geliefert hat. Allein der Erfolg hat meinem Wunsche nicht entsprochen: und ich kann Ihnen nur vier Pränumeranten angeben: es sind Madame Rehkorf, hier im Orte; und H. Ober-Salz-Inspector Abich, und [not readable] Rahts Sekretär Hohnstein in Braunschweig: und meine Frau.’

Lorenz Crell to Friedrich Nicolai, November 13, 1777.

Staatsbibliothek Berlin, Nachlass Friedrich Nicolai/I. (henceforth: Staatsbibliothek)

Footnote 232

‘Ich kann diese Gelegenheit nicht vorbeylaßen, ohne Ihnen zu äusern, daß, wenn eine Stelle eines Recensenten in der practischen Arzneygelahrtheit, der Chemie, Mineralogie, oder Materia medica, für Ihre schätzbare allgemeine Deutsche Bibliothek etwa offen seyn sollte, und Sie sie durch mich wieder ausfüllen wollten, ich diesen Antrag mit vielem Vergnügen annehmen würde.’

Crell to Nicolai, November 13, 1777. Staatsbibliothek.

Footnote 240

‘Ich könnte Ihnen hierüber viel sagen, das ich aber unterlaße, weil es Complimenten zu ähnlich sehen mögte.

Thätiger bezeige ich Ihnen vielleicht meine Ergebenheit dafür, wenn ich mich anerbiete, (u. ich werde mein Anerbieten möglichst zu erfüllen trachten) daß im Falle noch Bücher SB[?] die für

mein Fach gehörig sind, von andern zurückgesandt werden, ich, aus Begierde zur Erfüllung Ihres Plans etwas beyzutragen, sie noch gern auf mich nehmen will.'

Crell to Nicolai, January 16, 1778. Staatsbibliothek.

'Wir er bieten uns zu ähnlich gemeinschaftl. Arbeiten über Bücher, die in so viele Wissenschaften einschlagen, Gedenkschriften von Academien.'

Crell to Nicolai, February 27, 1778. Staatsbibliothek.

Footnote 253

'Wenn Sie Ihren Berl. Profeßor der Chemie (sein Nahme ist mir entfallen:) oder sonst einen guten dortigen Chemisten, Mettelburg. oder Apotheker sprechen; so machen Sie im mein Compl. u. bitten ihn um Beyträge für mein chemisches Journal: Die Bedingungen findet er im X sten Ch. d. V. Entdeck: Sie würden mich, durch eine kleine Rekrutirung meiner Mitarbeiter sehr verbinden.'

Crell to Nicolai, November 14, 1781. Staatsbibliothek.

Footnote 254

'Ich habe aus den Antworten des Herrn v. Zedlitz Exc. und des H. Direct. Marggraffe gesehen, daß Sie, wehrtester Freund, die Gütigkeit gehabt haben, meine fast unverschämt vielen Commißionen geneigtest zu besorgen. Dafür dancke ich Ihnen auf das verbindlichste und wünsche mir Gelegenheit zu ähnlichen Gefälligkeiten.'

Crell to Nicolai, 18. October 1778. Staatsbibliothek.

Footnote 255

'Sie verlangen, ich solle dafür etwas von Ihren Verlagswerken fordern, allein haben Sie mir nicht erst Schmückers Schriften geschickt, die mir so angenehm waren? Wollen Sie jedoch mir ein, in mein Fach schlagendes Buch schenken, so lehne ich es nicht ab, nicht aus Eigennutz, sondern weil es mir als ein Merkmahl Ihrer Freundschaft, schätzbar ist.'

Crell to Nicolai, 15. December 1779. Staatsbibliothek.

Footnote 256

'Aber eine angelegentliche Bitte an Sie: Ich wünschte recht sehr, daß Sie die Gütigkeit hätten und, mir von den Preisen, die Ihrer Acad. xxxliß, auf Ihres Königs Geburtstage ertheilen wird, den

gekrönten Verfaßern, u. den neuen Aufgaben derselben, als dann mit nächster Post Nachricht geben wollten.'

Crell to Nicolai, 16. January 1778. Staatsbibliothek.

Footnote 268

'Wenn Sie Ihren Berl. Profeßor der Chemie (sein Nahme ist mir entfallen:) oder sonst einen guten dortigen Chemisten, Mettelburg. oder Apotheker sprechen; so machen Sie im mein Compl. u. bitten ihn um Beyträge für mein chemisches Journal: Die Bedingungen findet er im X sten Ch. d. V. Entdeck: Sie würden mich, durch eine kleine Rekrutirung meiner Mitarbeiter sehr verbinden.'

Crell to Nicolai, November 14, 1781. Staatsbibliothek.

Footnote 269

'Sollte es hier am rahtsamsten seyn, das Journal, z. B. (lt. Entdeck.) mit anderm Titel, wieder so, wie bisher, 2 kl. Theile jede Meße, herauszugeben? oder Stückweise, zu 6 Bogen, wie Balding. Magaz.): ohne [not readable] an eine festgesetzte Anzahl, (jedes Stück zu 6 ggl;) zu binden oder endl. es Monatsweise abzuliefern, u. einen ganzen Jahrgang unzertrrennt zu veräusern? F Sollte nicht mancher Chemist, z. B. Bedenken tragen, 2 ½ - 3 thl für einen Jahrgang auf einmahl gewis zu bestimmen; der doch nach u. nach im Jahr daßelbe Geld bezahlt, wenn er für jedes einzelne Stück 8 ggl gibt, nur nicht gleich auf eine solche Summe rechnet. Sie sind am ersten im Stande, mir den wahrscheinlich besten Raht in diesem Falle zu geben: u. Sie werden es gewis thun.'

Crell to Nicolai, December 6, 1783. Staatsbibliothek.

Footnote 289

'Vermuthl. gedenken Sie auch in den Nachrichten der Ankunft des Hrn Forsters als Prof. in Halle: ich wünschte, daß Sie auch der Art, wie er nach Halle kommen konnte, gedächten. Er hatte große Versprechungen von Belohnungen wegen seiner [seines?] [not readable] von der Admiralität: aber die sonst so sehr erhabene Grosmuth der Engländer [not readable] sich [not readable] gegen ihn u. sein [not readable] eben so von der [not readable] als bey H. Carrer. In Erwartung, durch [not readable] seine Versprochene Belohnung zu erhalten gerieth er nebst seiner Familie in große Schulden; und sind alle Augenblicke in Gefahr in das Schuldgefängniß auf immer zu kommen, u. zur Schande für die Engländer, u auch seine Landsleute (die einen Mann, deßen Nahme ihnen Ehre machte, nicht retteten) daselbst zu verkommen. Herzog Ferdinand von Br. (ich glaube einer der moralisch besten u. größten Fürsten) erfuhr es: schickte ihm gleich für die dringendsten

Bedürfnisse eine große Summe, u. gab einem Banquier ordre, die Bezahlung seiner Schulden zu versprechen. Hierauf munterte er die unter ihm stehenden Logen[?] auf, zur Rettung dieses Mannes beyzutragen; gab selbst große Summe, u. alles was an dem Zusammenbrechen beytrug, zur völligen Tilgung der Schulden u. am Reisegelde fehlte, her: u. so wurden über 1000 Pfund, außerdem Reisegelde, für H. Forster, bezahlt. Diese Anekdote, die den stolzen Engländern so wenig rühml. ist, H. Ferdinand u. den Deutschen Ehre bringt, verdient, glaube ich, in dem angesehensten deutschen Journale aufxxx [not readable] zu werden. Vielleicht ist schon dafür gesorgt; wo nicht: so überlaße ich es Ihrer Delicateße, so viel von der Anekdote in die Nachricht zu bringen, als Ihnen zuträgl. scheint.'

Crell to Nicolai, September 16, 1780. Staatsbibliothek.

Chapter Three

Sir Joseph Banks's articles in Nicholson's *Journal of Natural Philosophy, Chemistry and the Arts*:

1. A Project for extending the Breed of fine-wooled Spanish Sheep, now in the Possession of his Majesty, into all Parts of Great Britain, where the Growth of fine clothing Wool is found to be profitable, October 1800
2. Experiments on the Velocity of Air issuing out of a Vessel in different Circumstances; with the Description of an Instrument to measure the Force of the Blast Bellows, &c., August 1802
3. A Report of the State of His Majesty's Flock of Fine-wooled Spanish Sheep during the Years 1800 and 1801 with some Account of the Progress that has been made towards the Introduction of that valuable Breed into those Parts of the United Kingdom where fine Clothing Wools are grown with Advantage, June 1803
4. A Report of the State of his Majesty's Flock of Fine Wooled Spanish Sheep, for the Year ending Michaelmas, 1803, August 1804
5. A short Account of the Cause of the Disease in Corn, called by Farmer, the Blight, the Mildew and the Rust. With some additional notes, April 1805
6. Some Hints respecting the proper Mode of inuring Tender Plants to our Climate, November 1807
7. On the Revival of an obsolete Mode of managing Strawberries, February 1808
8. An Attempt to ascertain the Time when the Potato (*Solanum Tuberosum*) was first introduced into the United Kingdom; with some Account of the Hill Wheat of India, May 1808
9. An Account of the Method of cultivating the American Cranberry, *Vaccinium Macrocarpum*, at Spring Grove, March 1809

10. A short Account of a new Apple, called the Spring-Grove Codling, September 1811
11. On the Forcing-houses of the Romans, with a List of Fruits cultivated by them, now in our Gardens, October 1811
12. On the Horticultural Management of the Sweet or Spanish Chestnut Tree, November 1811
13. Notice from a Work of Monsieur Lelieur, on the hereditary Diseases of Fruit Trees, October 1812
14. Some Horticultural Observations, selected from French Authors, December 1812

Chapter Five

Footnote 576

‘Ich denke noch immer, daß die Zusendung der Berichte von der Versammlung der Naturforscher an so viele Orte im In- und Ausland, wo die Isis noch nicht gehalten wird, den Absatz vermehren soll.’

Lorenz Oken to Friedrich Arnold Brockhaus, January 12, 1832.

Sächs. StA Leipzig, Verlag F. A. Brockhaus, Nr. 294, Bl. 190r-v. (henceforth only shelfmarks are provided)

Footnote 590

‘Daß unsre Unterhandlung wegen eines Schriftchens sich zerschlagen hat ist leider nicht meine Schuld, und ich bin es, der es mit Schaden – mit nicht geringem Schaden zu bedauern hat, denn von Bogen G bis N, also 7 Bogen muß ich 500 Auflage in die Makulatur werfen. Noch mehr aber als dieses muß ich bedauern, daß Sie noch glauben, Sie hätten mir ehrende Vorschläge gethan.’

Oken to Brockhaus, May 14, 1814. Nr. 294, Bl. 5r-v.

Footnote 592

‘Es ist in der That zu bedauern, daß ein Blatt aufgegeben wird, das ein großes Publicum hat. Obgleich nicht einzusehen ist, wie Sie von einem Blatte Verdruß haben können, das Sie nicht herausgeben, das nicht einmal bei Ihnen gedruckt wird; so glaube ich, ließ sich auch dieser Grund heben, wenn man, was ja sehr leicht ist, die d. B. allmählich dem Politischen ganz entzieht, und sie bloß encyclopädische Blätter im gewöhnlichen Sinn bleiben. Ohne dies, da ja so vieles anderes hineinkommen soll; so kann das Politische darinn, in welcher Form sie auch künftig erscheinen, unmöglich der Art seyn, daß es besonderes Aufsehen erregt. – Doch dem sey wie ihm wolle. so sollte doch dieses Blatt nicht zu Grunde gehen, und Sie sollten auf irgend eine Art suchen, es fort

zu setzen, unter welcher Form es seyn möchte. Ich | habe die Überzeugung, daß ich nach dem Plan, den ich mir entworfen, etwas hätte daraus machen können, das immer Aufsehen (nicht politisches) erregt, haben würde. Und wenn das Blatt auch kein größeres Publicum bekommen hätte, so wäre das, welches es hat, ja hinlänglich. Sie selbst sollten gar nichts damit zu schaffen haben, als bloß die Kosten des Druckes und der Versendung dabei zu tragen. Die Geschäfte der Versendung würden von hier aus besorgt, und zwar, wenn Sie wollen, ganz allein unter meiner Anordnung. Brechen wenigst die Sache nicht plötzlich ab.'

Oken to Brockhaus, March 2, 1816. Nr. 294, Bl. 17r-v.

Footnote 599

'Ich bin wegen der Einrichtung des Titels nicht Ihrer Meynung. Ich habe soviele Zeitschriften zu meinem Studium brauchen müssen, und habe so durch und durch gefühlt, welche Einrichtung zum leichten Nachschlagen, Auffinden, Citieren etc. nöthig ist, daß ich hierinn eine Stimme zu haben glaube. Von der Stellung jedes Wortes auf dem Titel kann ich Ihnen Rechenschaft geben.'

Oken to Brockhaus, July 16, 1816. Nr. 294, Bl. 22r-23r.

Footnote 610

'Stellen Sie sich vor. Am Samstag bekommt Eichstädt Wind von den encyclopädischen Bl[ättern]. Er schickt zu Schreiber, und verlangt in einer ziemlich befehlenden Sprache, daß ihm ein Abdruck gemacht werde. Schreiber in Angst, Eichstädt möchte ihm bey der Regierung (von der er zu hoffen hat) schaden, geht zu ihm, und sagt, daß er keinen Abdruck mehr habe, und daß er ohne meine Erlaubniß, nichts weggeben könne. E. versucht durch Drohungen etc., was er kann, aber vergebens. Nachmittags war ich spazieren. Als ich um 6 Uhr nach Hause kam, erfuhr ich, daß Schr[eiber] erhitzt und in Angst mehrmals zu mir gelaufen war, und gesagt hatte, er müßte mich eiligst sprechen. Ich wußte von nichts, ging daher hin. Die ganze Druckerei war in Aufstand und Schrecken. Sie glaubten alle, Eichstädt würde sie verschlingen. Ich lachte, beruhigte sie, und während ich mit Schr[eiber] in seine Stube ging, trat Eichstädt in Person in die Druckerei, und verlangte einen Abdruck. Schreiber ging wieder hinunter, und verweigerte ihn ihm. Er ging in Wuth nach Hause. – Am Montag um 5 Uhr fuhr er nach Weimar zum Minister von Voigt dessen Schützling und Günstling er ist. Nach seiner Zurückkunft that er ganz lustig, sagte nichts bis heute, wo er einem Druckerjungen erzählte, daß nächstens ein Verbot würde publicirt werden, daß keine Zeitung weiter im weimarischen Land herauskommen dürfte!! – Ich lache zu diesen Tollheiten, indessen muß man doch darauf Rücksicht nehmen. Einmal wollen wir nun alles mögliche | thun, um das Blatt zu heben und halten, und es reichhaltig machen.'

Oken to Brockhaus, July 16, 1816. Nr. 294, Bl. 22r-23r.

Footnote 626

‘Es ist mir angenehm, daß wir nun über den politischen Character der Isis eins sind. Ich habe nicht ohne gute Überlegung in die ersten Stücke nichts als Naturgeschichte aufgenommen, und in die folgenden Preisaufgaben, und ich würde noch einige Zeit so fortgefahren seyn, wenn Sie nicht immer bombardiert hätten, daß es an Mannigfaltigkeit fehlt. Indessen wurde meine Absicht dadurch vereitelt, daß Sie die 4 ersten Stücke nicht versandten, und von der Zeit an, war es nothwendig, Politisches aufzunehmen. Wenn ich hierinn etwas zu sagen hätte, so würde ich noch sogleich den ersten Plan befolgen, und jetzt mit der ersten Post nur die 4 ersten Nummern versenden. Und zwar, weil Dann die allgemeine Meinung das wird, was sie werden soll, nemlich a) daß die Isis eine wissenschaftliche Zeitschrift sey, b) daß sie vorzüglich eine naturwissenschaftliche sey.’

Oken to Brockhaus, September 27, 1816. Nr. 294, Bl. 26r-29r.

Footnote 639

‘Für Ihre Sorge um Abhandlungen für die Isis, danke ich Ihnen. Indessen müssen wir so viel möglich uns die politischen und zankischen Abhandlungen vom Halse schaffen. Höchstens selbige 1-2 im Monat aufgenommen werden.’

Oken to Brockhaus, October 22, 1816. Nr. 294, Bl. 30r-31v.

Footnote 652

‘Am Donnerstag abends um 5 Uhr trat ein Polizeyrath aus Weimar mit dem Universitätsactuar in mein Zimmer, las mir ein Decret oder wie man’s nennt, vor, daß im Stück 195 der Isis (Geschichte des Festes auf der Wartburg) gegen Regierungen verunglimpfende Ausfälle und pp. seyen, dieses Blatt daher zu confisciren, und der Fortdruck der Isis provisorisch untersagt sey, bis die Justiz-Behörde (die Regierung in Weimar), der die Sache schon übergeben sey, entschieden habe. Ich ließ mir Alles gefallen, weil es mein Grundsatz ist, mich der obrigkeitlichen Gewalt nie zu widersetzen.’

Oken to Brockhaus, November 29, 1817. Nr. 294, Bl. 52r-v.

Footnote 653

‘Vorgestern war ich in Weimar, um zu horchen, was man vor hat. Da erfuhr ich denn, daß man eigentlich gegen Nr. 195 gar nichts hat; aber dagegen schreckliche Dinge gegen mich nicht bloß im

Plan sind, sondern wirklich schon vor Gericht. Es wird nehmlich die weim[arische] Regierung durch Oesterreich und Preußen wegen der Preßfreiheit so in die Enge getrieben, daß sie, nach ihrer Meynung ein Beyspiel statuieren und ein Opfer bringen müsse, um den Mächten zu zeigen, daß man bey uns nicht völlige Preßfreiheit habe, und um diese Mächte zu versöhnen. Zu diesem Opfer bin nun ich auserlesen.'

Oken to Brockhaus, December 1, 1817. Nr. 294, Bl. 71r-v.

Footnote 670

'Ich kann mich deßhalb nicht auf Unterhandlung wegen der Isis einlassen, weil Sie diese Unterhandlung mit Zurückhaltung des verhaltenen Geldes für die Isis, mithin mit der Honorierung der Isis angefangen haben.'

Oken to Brockhaus, July 24, 1820. Nr. 294, Bl. 96r-98v; 1 Bl.

Footnote 671

'Danke auch für die zugeschickten Aufsätze. Sie sind sehr klug. Ich soll die Kohlen aus dem Feuer holen – Ich werde es indessen thun.'⁸⁶⁸

Oken to Brockhaus, January 8, 1821. Nr. 294, Bl. 106r-v; 1 Bl.

Footnote 706

'Wagner geschrieben, daß Sie für 1835 keine Aufträge haben, ihm ein Exemplar zu schicken, da ich Sie doch schon oft gebeten habe, jedem zu antworten: „Sobald wieder etwas in der Isis von Ihnen erscheint, werden Sie auch dieselbe wieder zugeschickt erhalten.“ Nun bleibt mir nichts übrig, um mir Wagner nicht zu verfremden u. seine Beiträge zu verlieren, wozu ich ihn doch zwingen wollte, als Sie zu bitten, ihm auch den Jahrgang 1835 zuzuschicken.'

Oken to Brockhaus, March 3, 1836. Nr. 294, Bl. 227.

ABSTRACT

Today, editors of science journals exercise a significant power over academic careers and the production of scientific knowledge—their editorial influence is rooted in the period 1770-1830 and the advent of *sole editorship* (in contrast to group-based editorship at scientific societies and academies).

This dissertation focuses on six sole editors from Britain and the Holy Roman Empire to investigate why individuals founded natural philosophical periodicals, how their editorship played out on a day-to-day basis, and what it meant for their professional and personal lives.

The contrasting experiences of Johann Ernst Immanuel Walch, Lorenz Crell, Lorenz Oken and William Nicholson, Alexander Tilloch, William Thomas Brande demonstrate the importance of personal motivations and local contexts. In the German lands, monarchs and their administrative elites indirectly incentivized academics to assume natural philosophical editorship. On the British side, there were no such incentives and editorship challenged established natural philosophical infrastructures. This thesis discusses both national contexts and their influence on the editorship of the six editors.

This thesis also reveals a crucial transnational parallel for the first generation of sole editors between 1770 and 1810: editorship of natural philosophical journals could be used by those on the philosophical periphery to design a philosophical identity for themselves, at a time before the development of formalized mechanisms for becoming a man-of-science.

The experiences of editors after 1810 show that, even once sole editorship had become a familiar concept among men-of-science, it was not necessarily easier to be a successful editor than it had been for its pioneers: sole editorship could, in fact, be outright detrimental to scientific self-fashioning.

This thesis also investigates what contributed to the ‘success’ of sole editorship. It turns out that neither a supportive publisher, nor a steady stream of contributors, was as important as one might expect. While acknowledging that *economic* concerns did matter, this thesis demonstrates that

sole editorship was a highly adaptable *socio-cultural* instrument. And that the editorial activities of sole editors were not as far distant from learned society publishing as has often been assumed.

Candidate's declaration

I, Anna Maria Gielas, do hereby certify that this thesis, submitted for the degree of PhD, which is approximately 80,000 words in length, has been written by me, and that it is the record of work carried out by me, or principally by myself in collaboration with others as acknowledged, and that it has not been submitted in any previous application for any degree.

I was admitted as a research student at the University of St Andrews in September 2014.

I received funding from an organisation or institution and have acknowledged the funder(s) in the full text of my thesis.

Date

Signature of candidate

Supervisor's declaration

I hereby certify that the candidate has fulfilled the conditions of the Regulations and Regulations appropriate for the degree of PhD in the University of St Andrews and that the candidate is qualified to submit this thesis in application for that degree.

Date

Signature of supervisor

Permission for publication

In submitting this thesis to the University of St Andrews, we understand that we are giving permission for it to be made available for use in accordance with the regulations of the University Library for the time being in force, subject to any copyright vested in the work not being affected thereby. We also understand, unless exempt by an award of an embargo as requested below, that the title and the abstract will be published, and that a copy of the work may be made and supplied to any bona fide library or research worker, that this thesis will be electronically accessible for personal or research use and that the library has the right to migrate this thesis into new electronic forms as required to ensure continued access to the thesis.

I, Anna Maria Gielas, confirm that my thesis does not contain any third-party material that requires copyright clearance.

The following is an agreed request by candidate and supervisor regarding the publication of this thesis:

Printed copy

No embargo on print copy

Electronic copy

Embargo on all of electronic copy for a period of 5 years on the following ground(s):

- Publication would be commercially damaging to the researcher, or to the supervisor, or the University

Supporting statement for electronic embargo request

I have a publishing contract pending

Title and Abstract

- I agree to the title and abstract being published.

Date

Signature of candidate

Date

Signature of supervisor

Underpinning Research Data or Digital Outputs

Candidate's declaration

I, Anna Maria Gielas, understand that by declaring that I have original research data or digital outputs, I should make every effort in meeting the University's and research funders' requirements on the deposit and sharing of research data or research digital outputs.

Date

Signature of candidate

Permission for publication of underpinning research data or digital outputs

We understand that for any original research data or digital outputs which are deposited, we are giving permission for them to be made available for use in accordance with the requirements of the University and research funders, for the time being in force.

We also understand that the title and the description will be published, and that the underpinning research data or digital outputs will be electronically accessible for use in accordance with the license specified at the point of deposit, unless exempt by award of an embargo as requested below.

The following is an agreed request by candidate and supervisor regarding the publication of underpinning research data or digital outputs:

No embargo on underpinning research data or digital outputs.

Date

Signature of candidate

Date

Signature of supervisor