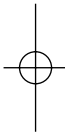





## Introduction: The Circulation of News and Knowledge in Intersecting Networks


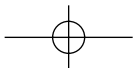

*Sven Dupré and Sachiko Kusukawa*

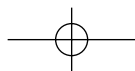
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This volume contains a selection of papers read at the European Science Foundation (ESF) workshop on ‘Institutional Contexts of Natural Philosophy’, which took place at the Centre for History of Science of Ghent University in April 2006. It was organized under the auspices of the ESF Programme ‘From Natural philosophy to Science, 1200–1700’ (team 4). Additional authors not present at the workshop were contacted to fill in lacunae or to provide interesting contrasts with other contributions. We would like to thank the director and coordinator of this ESF Programme, Hans Thijssen and Cees Leijenhorst respectively, for supporting this workshop, and our co-organizer, Hilde de Ridder-Symoens, and the other participants of the workshop, especially Mordechai Feingold, for their discussion and comments, from which this volume has benefited. We also thank the ESF for providing financial support for the cost of translation and image reproductions.

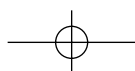
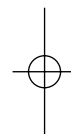
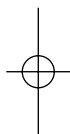
Obviously, numerous studies on specific institutions, and more generally, less formally constrained ‘sites’ in which knowledge is produced and consumed, are already available. Our concern, and point of departure of the workshop and this volume, is not only that these studies, understandably, have been limited to one specific institution or ‘site’, while most early modern mathematicians, natural philosophers or natural historians belonged to several institutions, had access to multiple networks and made knowledge in a range of places, simultaneously and successively. It is perhaps more that other assumptions came along with this artificial constraining of knowledge practices to one site or institution. Much of the recent historical literature stresses that all knowledge is local knowledge and that all knowledge practices are local practices. Nearly a decade ago, David S. Lux and Harold J. Cook concluded in this connection that ‘the emphasis on scientific practice in much of the recent historical literature, which has focused on the local activities of closed

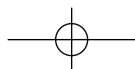




circles of virtuosi, is a valuable corrective to idealized discussions about intellectual discovery. Yet one of its weaknesses has been the implicit, and sometimes explicit assumption that all practices are local practices, undercutting the sense of a European-wide movement'.<sup>1</sup> Lux and Cook, instead, stressed the importance of 'weak ties', while pointing to much of the historical literature on correspondence and on the Republic of Letters. Needless to say, correspondence networks are central to several contributions in this volume as a corrective to the localization of knowledge practices. But unlike Lux and Cook, this volume brings into focus the multiple memberships of its historical actors to several institutes and correspondences, while it looks at the dynamics of the circulation of news and knowledge within these intersecting networks. It would be excessive to rapidly—likely too rapidly—draw general conclusions from our contributions alone.<sup>2</sup> In this introduction it is, nevertheless, possible to indicate several points which cut across the papers in this volume and which provide interesting correctives and nuances to the historical literature on the Republic of Letters.

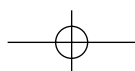
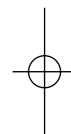
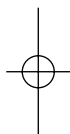
A first point that we would like to make concerns precisely this 'problem' of multiple memberships. In their book on the Republic of Letters, Hans Bots and Françoise Waquet conceived of multiple memberships of, on the one hand, the 'universal society' that is the Republic of Letters, and on the other, the various 'particular societies', either academies or nation states, in terms of a problem that called for 'reconciliation' by the historical actors.<sup>3</sup> But was there, indeed, a 'problem'? Did historical actors experience violent clashes between their memberships to correspondence networks and local institutions? Was it, indeed, necessary to reconcile these appurtenances to various and different circles? In their studies of the correspondence networks of the sixteenth-century naturalists Conrad Gessner and Carolus Clusius respectively, Candice Delisle and Florike Egmond stress how multiple membership was not a problem for these naturalists. This is not to say that belonging to an institution or circle could not be constraining. Early modern courts certainly were. Monica Azzolini points out in her article on the political uses of astrology at a fifteenth-century court in Milan that while astrological 'intelligence' and news circulated between different sites and cities, court patronage severely diminished the space for interpretation of the duke's horoscope offered to the astrologer Raffaele Vimercati. It would have been unwise of Vimercati, even a risk to his own life, to predict a 'premature' end to his ruler's life. Jeanne Peiffer similarly finds Galileo's disciple, Vincenzo Viviani caught 'prisoner of





the patronage system and its advantages'. Leibniz, instead, though well aware of how to behave as a courtier, was able to circumvent constraints by relying on publication in learned journals, she argues. But multiple memberships, as such, were not a problem—quite the opposite. Delisle points out that overlapping institutional appurtenances were a strength, rather than a problem, for a correspondent, since the importance of a correspondent depended upon what she calls his 'outreach'. To increase his 'outreach' it was important for the correspondent to belong to as many local institutions and closed circles as possible, allowing him access to news. If Gessner had a problem which was due to the multiplicity of his occupations, it was 'busy-ness', the work and information overload that resulted from this.

If there was one principle that held together the Republic of Letters, it was the obligation of its members to communication.<sup>4</sup> Failing that obligation was considered a serious violation of the codes of behaviour that ruled the Republic of Letters. Delisle shows that a letter 'without any of the spices of our art' provoked Gessner's ire. In Peiffer's paper, Bodenhausen, who acted as a broker for Leibniz, told him of the Florentine mathematicians around Viviani, whom he held in low esteem, that 'as nothing new happened on the scientific Florentine scene, they had nothing to report on, and therefore often lost their friends and correspondents'. Both Delisle and Egmond show that in the case of the naturalists Gessner and Clusius their correspondence arose out of the necessity of collaboration. Correspondents provided them with access to news and local knowledge of plants which, as Egmond shows, were often found in the gardens-collections of apothecaries. Access to material objects was likewise important to the members of the *Accademia Fisico-Matematica*, who in Federica Favino's contribution on this late seventeenth-century academy in Rome are shown to have gained access to the academy's glass tubes to do experiments on barometric theory. Moreover, Delisle's article on Gessner shows that not only news *about* material objects, but also the objects themselves were exchanged between correspondents. As intermediaries were also allowed to investigate these objects en route to their final destination, these correspondence networks created—Delisle argues—'a space where collections did not really belong to any one, but were available to all'. Friendship, on which the establishment of a correspondence was based in the first place, brought about this exchange of objects and knowledge on the basis of the principles of gift and reciprocity. But commerce, likewise, made possible some of these exchanges.<sup>5</sup> For



example, Egmond points out that many of Clusius' correspondents were found close to ports and the coast where they had access to ships that brought them *exotica*. While commerce thus already pervaded the correspondence networks of the sixteenth century, Peiffer shows in her contribution on Leibniz's strategies of communication of mathematics, that with the appearance of learned journals in the seventeenth century the circulation of information and scientific knowledge became even more dependent upon the market.

However, as both Delisle's and Egmond's papers demonstrate for parallel cases, even when no money was involved in the transaction, communication and correspondence took place in exchange for credit, that is in exchange for seeing one's name printed in the books of Clusius or Gessner. In fact, a second point that we would like to make is that notwithstanding the obligation to communicate in the Republic of Letters, several contributions to this volume reveal that communication was often less casual and open.<sup>6</sup> Concerns were as much with the control and the management of the circulation of news and knowledge. In Azzolini's article, Galeazzo, understandably, wished to control the politically sensitive astrological information, the rumours in which his death is astrologically predicted, as these might serve as a pretext on which his political enemies could act. Favino argues that the Jesuit members of the *Accademia Fisico-matematica* succeeded in controlling the activities and the public image of this academy. While in private meetings members were divided between different opinions, some of which were less 'orthodox', a public meeting showcased the most technically advanced experiments which, however, hid the differences of opinion among its members. Finally, Peiffer shows that Leibniz also was eager to control the circulation of mathematics. In all three cases the historical actors were as much concerned with secrecy as with communication.

A third and final point to note is the role of correspondence networks and learned journals in the formation of communities and disciplines, as demonstrated in the contributions to this volume. Delisle argues that apart from the ideological construction, there never was such a thing as the 'Republic of Letters' which truly functioned at a global level. Instead, she argues, correspondence between different groups meant that this Republic was fragmented, consisting of intersecting networks and communities. Moreover, still according to Delisle, these epistolary networks did not shape disciplinary communities. To that end books and the definition of readership were much more important. Nevertheless,

and in contrast to Delisle, Egmond argues that correspondence networks succeeded in gathering those with a passion for plants and botanical expertise, even in creating the discipline of botany. Perhaps this process is comparable to the way in which, in Peiffer's article, Leibniz used publication in learned journals to develop a new mathematical field and to build a mathematical community of 'analysts' around it. In a similar vein, another journal, Ciampini's *Giornale de' Letterati*, of which, Favino argues, the *Accademia Fisico-matematica* was a 'kind of real-world extension' was used to build a communal identity around an 'experimental' intellectual agenda. That correspondence networks and learned journals were important in the creation of these communities should—to return to our point of departure—cast further doubt on the assumption that all knowledge is local knowledge. Certainly, as several contributions to this volume do not neglect to point out, correspondence networks provided access to local news, but, as Delisle's article shows most explicitly, it was the continuous circulation of news and its introduction into other, often intersecting, networks that made it into knowledge.

## REFERENCES

1. David S. Lux and Harold J. Cook, 'Closed circles or open networks?: Communicating at a distance during the scientific revolution', *History of Science*, 36 (1998), 179–211, at 200–1.
2. Cf. also L. W. B. Brockliss, *Calvet's Web. Enlightenment and the Republic of Letters in Eighteenth-Century France* (Oxford, 2002).
3. Hans Bots and Françoise Wacquet, *La République des Lettres* (Paris, 1997), 24–6.
4. *Ibid.*, 117.
5. For the co-existence of economies of gift exchange and commodities, see Pamela H. Smith and Paula Findlen (eds.), *Merchants and marvels: Commerce, science, and art in early modern Europe* (New York, 2002).
6. For the varying degrees of publicity and privacy in medical correspondences, see Ian Maclean, 'The medical republic of letters before the Thirty Years War', *Intellectual History Review* 18–1 (2008), 15–30, at 24.