William Croone, *On the reason of the movement of the muscles*, translation by Paul Maquet, Introduction by Margaret Nayler, *Transactions of the American Philosophical Society*, vol. 90, Pt 1, Philadelphia, American Philosophical Society, 2000, pp. 130, $20.00 (0-87169-901-X).

This is the product of a well-matched alliance: a translator (with his reviser), and an editor who has set the work in context. Croone wrote in sensible workaday Latin of his time, the long shadow of Cicero's long periodic sentences being by then much dimmed. The excellent translation is in careful workaday English of today. A single cavil: I do not think that Croone's word "autopsy" (in Greek) can be rendered nowadays by the word "autopsy", as the translator has done. As Castelli's dictionary confirms, it meant for Croone (and long before and afterwards too) "actual visual inspection". But now in Britain, according to Chambers' dictionary, the meaning is restricted to the examination of a corpse by a pathologist, the wider meaning having become obsolete. In the United States, Merriam-Webster does not mention that restriction, but no longer includes the "visual" element as necessary in the meaning.

The editor has undertaken her task with care and scholarship, teasing out Croone's inheritance and his legacy. Croone could discern with remarkable penetration some aspects of how muscles work and are controlled. The belief of his time that muscle volume increased (even if only minimally) when the muscle contracted led him to create an impressive geometric model, and to take part in experiments to show that inflation of a bladder could create substantial lifting forces. His concise reasoning carries respect whether it turned out well-founded later or not. And he must have been physically fit too: "I have easily maintained, lifted up from the ground, a weight of eighty pounds attached to the tendon of the muscle . . . the other extremity of the muscle being held in my hand. I have no doubt that I should have supported a much heavier weight, if one had been at hand" (p. 81).

The reproduction of the Latin text is regrettable. It relapses repeatedly into illegibility. The representation of the title page of Croone's work here, with large inexplicable blots and barely legible characters, can be compared with the model clarity of that in *Selected readings in the history of physiology* (John F Fulton, completed by Leonard G Wilson, 2nd ed., Springfield, Illinois, 1966, plate 42; plate 41 is a nice portrait of Croone). If adequate photocopying cannot be provided for some reason, there is another option: a faithful transcript of the original, the time-honoured procedure of Loeb editions of the classics, which do not of course start from a printed original. Such a transcript, once prepared, has the added advantage of being easily searched and styled.

Croone refers (p. 119) to the phenomenon of sneezing in response to sunlight (or indeed other bright lights). It is inherited, and found in about one in four of the population (J M Forrester, 'Sneezing on exposure to bright light as an inherited response', *Hum. Hered.* 1985, **35**: 113–14). Croone's reference is evidently the earliest yet noted; none before last century is mentioned in a recent review (Bradley W Whitman and Roger J Packer, 'The photic sneeze reflex: literature review and discussion', *Neurology* 1993, **43**: 868–71), although it would hardly be surprising if someone were to unearth an account in, say, Pliny.

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Massimo Galuzzi, Gianni Micheli and **Maria-Teresa Monti** (eds), *Le forme della comunicazione scientifica*, Milan, Francoangeli, 1998, pp. 438, L. 57,000 (88-464-0924-8).

This book on the forms of scientific communication demonstrates that certain

Italian historians are up-to-date with epistemological topics. The volume contains twenty papers and is divided into three parts: antiquity and the Middle Ages, the physico-mathematical sciences, and the life sciences. I shall briefly review that related to medical and life science, namely the third part. In the first two, historians will find much interesting information on communication in Aristotle, Agricola, Renaissance Italian philosophers and alchemists, Huygens, Stahl, Newton and others.

The range is wide with a topic such as communication, and I shall proceed chronologically, beginning with two papers concerning antiquity and the medieval period. Ivan Garofalo addresses stylistic variations in Galen's anatomy and further Galenism, and discusses the interesting problem, for antiquity, of oral versus written medical teaching. Can writing substitute for practice? and, if so, to what extent? These questions are examined especially through Galen's osteology. In a paper on Arnald of Vilanova, Jole Agrimi exposes the various aspects of Vilanova's favourite form of communication—aphorisms, parabolas and examples—and argues that the success of Vilanova's model was due mainly to his embodying the general and abstract rules learned at university in a more practical set of rules, so that his method served as a model for teaching medical knowledge for 200 years. The scholastic crisis of medicine during the Renaissance, characterized by the search for empirical and didactic methods, continued to use Vilanova's model of communicating scholarly knowledge through aphorisms.

On Renaissance anatomy, following the trend of studies on the public sphere and anatomy, Nancy Siraisi discusses contexts and social values stemming from reports of two late-fifteenth-century Italian autopsies. She establishes that reports on and interpretations of autopsy were determined by reasons other than medical. Indeed religious motivation was among the most important; because, for instance, autopsies could lead to greater devotion. In one case, the autopsy was carried out to support a trial of canonization, a far from usual medical practice. The public expected supernatural evidence to be revealed by the knife of the surgeon, while physicians read such proofs with a physiological key. The seventeenth century is represented by a paper from Guido Giglioni on Swammerdam. Following a topic opened by Edward Ruestow on the visual obstacles of microscopical investigation, Giglioni reconsiders Swammerdam's relation to images and communication of observation, to visual and rhetorical culture. How do images communicate, and what do they communicate? In what way do images help understanding and repeating observations?

Marino Buscaglia, Walter Bernardi, and Maria-Teresa Monti each examine eighteenth-century physiological and naturalistic works, on Abraham Trembley, Lazzaro Spallanzani and Albrecht von Haller. A classic topic, at least for Italian historians, is presented by Bernardi. Between 1761 and 1765 Spallanzani changed from an epigenetist to a preformationist point of view. It is a matter of dispute whether this change was determined by his experimental procedures or by a strategy that would bring Spallanzani closer to famous preformationists such as Charles Bonnet. Through examination of the correspondence of several people, Bernardi decides in favour of the latter, a position already defended long ago by Giuliano Pancaldi. By contrast to this classic study on Spallanzani, the two other papers examine more closely the issue of communication. Indeed, is communication the message by which knowledge is transmitted, or is it the medium? These questions are dealt with in Marino Buscaglia's paper on Trembley, and especially in Maria-Teresa Monti's, which

compares the journals of experiments of Spallanzani and Haller to published results. I will not expand on Buscaglia's essay, in which the now familiar path of investigation on the rhetoric of experiment is pursued. How iconography complements a text, how publishing can influence one's understanding of previous laboratory research, are issues tackled there and investigated through Trembley's astonishing 1744 *Mémoires* on fresh-water polyps.

Maria-Teresa Monti's is, in my view, the most impressive paper. Indeed, no one before, to my knowledge, has used the methodology of comparing a laboratory journal to published work for a stylistic comparison of two authors. Monti's analysis of Haller's embryological works and Spallanzani's essay on regeneration reveals the ways in which various forms of writing shape the forms of communication, as well as the changes in scientific opinions of the scholars. Interaction between many levels of the agonistic field, and particularly between forms and contents, shows that the way of writing can influence the way of thinking. In such a study, laboratory journals are concerned with both experiments on animals and experiments with communication. I would especially draw attention to Monti's acknowledgment of self-conviction, in Spallanzani, as a process close to communication. An illuminating outcome of Monti's—and other papers—is that if the comparison of two journals shows so many differences in style, communication, self-conviction, forms of writing, types of influence, how can broad generalizations such as Woolgar and Latour's stochastic model of construction of experimental protocols be maintained?

This collection shows a combination of two concepts—at least—of the form of communication. The first relates to a classic methodology, looking for the public to whom a work is addressed, and reconstructing, through analysis of certain texts and their reception, the strategies used to reach such a goal. A second emerges in certain studies, particularly in Monti's. In addition, she aims at understanding how strategies are elaborated during the writing process, in the course of practice, during reading, re-reading and re-writing. As a consequence, the question is not what is the strategy, but how could this strategy be elaborated, and according to what factors. While in the former, the forms of communication are treated as if discovered, or revealed, in the latter, they are definitely constructed.

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Stephen Porter, *The great plague*, Thrupp, Sutton Publishing, 1999, pp. ix, 213, illus., £20.00, $34.95 (hardback 0-7509-1615-X).

From the sixth and seventh centuries CE until the fourteenth, plague epidemics did not occur in Europe, but from the Black Death of the 1340s until the early eighteenth century, Europe seldom experienced thirty years without an outbreak of a plague epidemic somewhere. Then plague, in its meaning of human infection with the bacillus *Yersinia pestis*, disappeared in Europe. No one knows why; nor does anyone know why the bubonic form of plague, with perhaps a 60 per cent case fatality rate in the seventeenth century, was much more common in the early modern period than pneumonic plague, which is more lethal, though both are caused by the same microorganism. While reliable knowledge of the vagaries of plague epidemiology in Europe continues to elude investigators, the wealth of extant primary sources from the Black Death onward provides historians, among others, with sufficient evidence to assess the impact of