construction of a hierarchy of publications plays a key role in the validation of scientific claims it should be integral part in the history of scientific discoveries. Finally, Secord's emphasis on the construction of literary genres in scientific publications sheds new light on the mechanisms at work in the manufacture of scientific heroes. To be sure there are many contributions on the construction of founder myths in science and the heroic images of famous scientists – such as Descartes, Newton, Lavoisier, Faraday, Pasteur... However such studies at the borderline between the history of science and the history of ideas would greatly benefit from Secord's attention to the construction of a hierarchy of values embodied in the materiality of books.

Ana Simões, Maria Paula Diogo, Ana Carneiro, *Cidadão do Mundo. Uma Biografia Científica do Abade Correia da Serra* (Porto: Porto Editora, 2006.), pp. V+185.

By José Luís Cardoso[*]

The scarcity of biographies of relevant characters of Portuguese history has been widely acknowledged. However, from the sorrows often expressed on the apparent lack of inclination of Portuguese historiography towards the biographic genre, a recent but promising tradition of portrayals

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and biographies of figures that marked Portuguese political and cultural life has finally emerged. The present book is one example, but it widens the scope of recent Portuguese biography by focussing on the life of a person whose merit derives, above all, from his contributions to science.

The life and work of José Correia da Serra (1751-1823) offer multiple reasons and pretexts for a biography. Citizen of the world (as written in the expressive title), traveller and pilgrim, man of science and culture, political refugee and diplomat, regular presence in *salons*, little inclined to Church rituals and duties, the life of the Abbé Correia da Serra is an epitome of his time; a time marked by significant events through which one can reach a deeper understanding of the evolution of Portuguese society, and especially of the construction of science at the end of the eighteenth and early nineteenth century.

The book begins with a brief historiographic overview in which the authors revisit and analyse critically the extant literature on the life and work of Correia da Serra. In this review they take the opportunity to outline their aims and methodological orientations by clearly stating their options within history of science. Their purpose is to analyse Correia da Serra's scientific legacy by focussing, not only on the content of his scientific contributions – concepts, instruments and approaches –, but also on the various contexts, environments, languages, institutions and people; in short, the world which renders historically intelligible Correia da Serra's scientific enterprise. It is thus essential to bear in mind the limitations and stimuli to the creation and diffusion of scientific knowledge in Portugal as the authors aim at

'showing the relevance of this case to the growing awareness of one aspect of eighteenth-century Portugal in the wider scope of the study of local contexts in clarifying the pluralism of appropriation of the sciences, which have always taken place in the European peripheries.' (p.12)

The chapters proceed at the chronological pace of the places where Correia da Serra lived, or visited, the influences he received, the contacts he established, the work he produced, the institutions he attended.

His trajectory began in Italy between 1757 and 1777. Those were the years spent in Naples and Rome where he was educated and influenced by one of the Portuguese illuminati then residing in Italy, Luís António Verney. Equally important were his direct contact with Genovesi, especially relevant to the understanding of the economy of the natural world, and the epistolary exchanges with Linnaeus, an early sign of Correia da Serra's scientific inclinations.

His return to Lisbon where he lived from 1777 and 1795 was marked by his contribution to the foundation of the Lisbon Academy of Sciences, in whose early activities he participated with remarkable energy and organizational ability, and by establishing a network of national and international scientific contacts essential to his future career. His initial scientific contributions to geology and botany date from this period, as well as his methodological reflections on the utility of science.

For political reasons not yet totally clear – the protection he gave to the French Girondist Broussonet does not seem enough to accuse him – Correa da Serra sought refuge in London, from 1795 to 1801. The British capital provided

the conditions for his accumulated knowledge to blossom. He participated in the activities and publications of the *Royal Society* and of the *Linnean Society*, and established a close relationship with Joseph Banks. Correia da Serra's knowledge and the modernity of his thinking are unveiled in his most famous botanical investigations on the sex of algae and the reproduction of *Cryptogamia*.

His publications on botany, the establishment of a network of friendships and his participation in the networks of academic sociability proceed in the next stops of his itinerary, first in Paris, between 1801 and 1812, and in the USA, from 1812 to 1820, where he held the position of Portuguese diplomatic representative. His friendship with Jefferson and his involvement in teaching in the recently created Universities of Philadelphia and Virginia are salient features of the American period.

Back to Portugal in 1820, following the Liberal Revolution, Correia da Serra was to die in 1823, without his fellow countrymen recognizing the international dimension of his scientific legacy.

It is precisely this legacy, which constitutes the central axis of the biography written by Ana Simões, Maria Paula Diogo and Ana Carneiro. By resorting to the existing literature and to unpublished sources kept in national and foreign libraries and archives, the authors' pleasant writing accessible to a non-specialized audience take the readers through the eighteenth-century paths of scientific observation and experimentation, and to Correia da Serra's engagement in sharing, disseminating and appropriating knowledge.

Like the science practiced by Correia da Serra this book is useful and necessary. It is a decisive contribution, which promotes and dignifies the history of science in Portugal.

Lorraine Daston, ed., *Things that Talk. Object Lessons from Art and Science* (New York: Zone Books, 2004). 447 pp.

By Palmira Costa[*]

Things that Talk: Object Lessons from Art and Science is the result of a collaboration between a group of historians of art and historians of science that met at the Max Planck Institute for the History of Science over the course of the academic year 2001-2002. The common core of the project was to take materiality as a serious challenge and as an excellent opportunity to reflect on the various and interlocked meanings of materiality and culture. If materiality has always been of crucial importance for historians of art, only recently has it received due attention from historians of science. In part, this volume belongs to this recent historiographic trend in the history of science. It can also be associated with the burgeoning interest in

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