What Are Words Worth?

Translating, Transforming, and Trading Natural History and Scientific Commodities

Alette Fleischer

Harold J. Cook, Sven Dupré (Hg.) 2012: *Translating Knowledge in the Early Modern Low Countries*. London: LIT Verlag, brosch., 472 S., € 34.90, ISBN-13: 978-3-643-90246-7.

Dániel Margócsy 2014: *Commercial Visions, Science, Trade, and Visual Culture in the Dutch Golden Age*. Chicago: University of Chicago Press, geb., 319 S., \$ 40.00, ISBN-13: 978-0-226-11774-4.

In 1984, economic historian Woodruff D. Smith presented a paper on Amsterdam as an information exchange. Here, he showed the various ways in which merchants gathered, processed, analysed, and filed information in seventeenth-century Amsterdam. He argued that in this centre of commerce, commodities and correspondence circulated rapidly amongst private merchants, diplomats, representatives of companies, and scholars around the globe. Pricelists, books, letters, and pamphlets written in various languages, propagated the latest commercial knowledge. Trade depended on a stable, reliable and regular network of ships and communications. Moreover, analysing data enabled traders to forecast the influx of goods and thus manipulated the level of prices.¹

Three years later, in 1987, sociologist of science Bruno Latour published his influential book *Science in Action*, introducing the concepts of the circulation of knowledge and the collection of knowledge that, made immutable and mobile, could be brought to centres of calculation, where the knowledge was made visible for “others to see”.² Science could circulate by way of the finely knit networks of commercial enterprises, such as those of the Dutch and British East and West India Companies. From then on, historians of science have written numerous volumes on the crucial role of commerce in the construction of early modern science in the Low Countries. Under the caption

commerce one can put: the vast trading network of the Dutch East India Company and other trading companies; botanizing physicians in exotic places; merchants brokering scientific knowledge and objects; sailors and scholars collecting, translating, transporting and transforming indigenous knowledge and materials; and establishing different ways of communications and exchange in distance countries and between abroad and home.³ The Dutch Republic's mercantile attitude placed itself in the scientific practices and scholarly culture.

In the early modern Low Countries, scholars, such as physicians, botanists, and apothecaries sought ways to control their learned findings and experimental endeavours while at the same time trying to find ways to communicate their accumulated knowledge, papers, and objects to a paying audience. This entailed creating a network consisting of other scholars as well as suppliers, artists, publishers, translators, merchants, skippers, and others. At the same time it was crucial to connect with potential patrons, buyers of scientific goods, and wealthy men and women higher up the scholarly and/or social ladder, in order to improve one's position as a trustworthy and knowledgeable scholar.⁴

The scholar-entrepreneur needed to establish which of his fellow-scholars had to be considered as competition. Yet, a contestant could be simultaneously or alternatively a friend, a colleague, a sparring partner, or an annoying opponent. Like any other commercial enterprise, Dutch naturalists had to determine what the market demanded and which kind of commodity was out of fashion, as well as map out the competition and its doings. A scholar-entrepreneur had to ensure his/her position in the limelight while at the same time downplaying or even discrediting the other party.

Getting a message (knowledge or objects) across to any given audience included choosing the way to deliver and convey scholarly communications. Regarding a publication, a scholar had to decide on the book size, whether or not to invest money in including images (black-and-white or colour). This was all tied to estimating how much the audience might be willing to pay for your knowledge. The purchaser, then, had to be able to comprehend the transmitted message. Choosing the right words and find a fitting language went hand in hand with investing in translators. Translated and transmitted words could be costly and this investment had to be worthwhile for a scholar or a publisher. Finding the right words, as well as finding a buyer's market formed a vital part in communicating experience and experiment in the Dutch Republic.

The edited volume *Translating Knowledge in the Early Modern Low Countries* and Dániel Margócsy's *Commercial Visions, Science, Trade, and Visual Culture in the Dutch Golden Age* show how variedly scholarly findings were accumulated, translated, transmitted, and marketed. The two books contribute to the on-going debate over the issue that the so-called Scientific Revolution in the Dutch Republic was intricately tied to the mercantile endeavours of Low Country tradesmen, artisans, sailors, artists, amateurs, and

scholars. Both publications add to this debate from a novel viewpoint. The first book addresses the role of the translator and the problems of translating regarding the gathering and circulation of knowledge. In short, this volume focuses on how early modern knowledge was communicated, transported, and subsequently adapted. The contributors discuss questions regarding authenticity, which language is best suited as a scientific language, and in this context: the problem of universality, the (in-)visibility of the translator, the translator as a go-between, a censor, or a co-author, and the function of the image. Seventeenth-century scholars, entrepreneurs, publishers, and authors sought to find their solution for this Babylonian language problem, in order to communicate knowledge.

Margócsy's book, however, argues that Dutch natural historians behaved and operated like merchants in the way they collected, communicated, and commoditised their scholarly knowledge and objects. Their goal was not only to seek scholarly honour and fame but also, and equally important, financial gain. The scientific endeavours of these scholars paralleled the mercantile enterprises of their contemporaries: Dutch naturalists were not "disinterested scholars" since they had to deal with competition, advertisement, prices, checks and balances, stock keeping, addressing customers, creating networks, manipulating the market, whilst trying to ruin the reputations of their fellow scientific "entrepreneurs".

The contributors to *Translating Knowledge* present its readers the difficulties in conveying knowledge and scholarly materials to a foreign readership. How to find a communal scientific language in which to describe, argue, elaborate on, or explain scientific research, experimental findings, explorations into uncharted territories, or exotic natural history? In Protestant Low Countries the Latin languages, that is Spanish, Italian and French, were considered unfit for scholarly debate. Hence it was better to substitute all "Roman" words into the proud and Protestant Dutch language, as Johan Hofman propagated in his dictionary *Nederlandtsche Woorden-Schat*. The title translates as *Dutch Vocabulary* into English, but literally it means *Dutch Treasury of Words*. The book was published anonymously in 1650 and with Hofman's name on the preface of the second version of 1654.⁵ He argued that Italianate countries produced contaminated scholarly findings written in the language of cowards, because Latin people were slaves of the Roman Catholic Church. Whereas Dutch was a heroic language, which had to be purged from foreign, that is, Roman-Catholic words. Hofman presented lists of Latinized words with its Dutch counterparts. Some of these words are still in use in the Dutch language; other words have failed to catch on. This compilation appeared at the time that the Republic's power was at its peak, and Dutch was the language of traders around the globe. In *Translating Knowledge*, Toon van Hal explained that Dutch was superior to the Latin/Catholic languages, because of its virtues

and—alleged—status as an ancient language. This supposed origin in ancient times made it suitable for scholarly debate.

Marialuz Lopez-Terrada and José Pardo-Tomas address the discussions of politics, language and politics. In dispersing knowledge of the New World via Spain to the Low Countries, translators showed a heavy hand in editing texts to make them politically and religiously suitable for the Dutch reader. Terrada and Pardo-Tomas' chapter discusses the problem of translating translated texts: from Spanish into French into Dutch, and the role of translations as summaries. Along the same line, Krista de Jonge shows how translators manoeuvred between Latin-oriented "universal" words versus Dutch-sounding equivalents in early modern books on architecture. Thijs Weststeijn's paper is on translating art books and inventing painterly nomenclature. Differences in language and structure of books for two different audiences: for the Dutch market the language was made "Latin-free" and more Teutonic, whereas for the English audience a text contained more Latin words. Language acted as a stimulating vehicle for the emancipation of a culture. Paul Taylor highlights that even though Karel van Mander's *Schilder-boeck*, his book on the lives of Dutch and Italian painters, was closer connected to Italian art and thought than others—it used very little Italian artistic terminology.

With every translation there is something gained and something lost. This does not only depend on the translator's command of the target language, but is also a matter of how well acquainted he/she is with the subject matter of the text to be translated. Felicity Henderson exemplifies this with the case of the microscopist Antoni van Leeuwenhoek and his correspondence with the Royal Society of London, which became the »largest and longest-running translation project undertaken by the Early Royal Society« (p. 15). This was due to the fact that the Society asked Dutch natives living in London to translate Leeuwenhoek's work, who were competent in the Dutch language—but not in microscopy.

Translators, then, could equally act as editors, compilers, as go-betweens or even as brokers of knowledge, by creating a new vocabulary for natural knowledge. In the publishing houses, the knowledge transfer in Europe about the worlds beyond depended on the translators. Printers acted as entrepreneurs catering for a worldwide audience by publishing books in multiple languages, expensive picture books in colour (as images explain more than a thousand words), and thirdly by using the same printed image for different publications. The Republic was an entrepôt of commercial images and centre of publishers and reliable translators, as Ben Schmidt and Michiel van Groesen show. Publishers edited or manipulated knowledge to best suit a buyers market. Not only publishers operated on the market of books and translators, as Arjan Dijkstra argues. The entrepreneur-mathematician professor Adriaan Metius issued, translated, reprinted and re-translated books he had written

himself, whilst engaging his students as translators. Since Metius took credit for these translations, the identity of the true translators remains undisclosed.

In early modern history, translators are not always visible, which is intricately linked to the question of authorship, the conditions under which translators worked, and how and in what way a translator edited or even rewrote a text. Antonio Barrera-Osorio's paper illustrates how a translator selected the texts he wanted to translate, and how he interpreted them. A translator, thus, became a broker of knowledge by negotiating texts for new purposes, by re-ordering words, creating emphasis, leaving out descriptive stories and by keeping facts and/or data. The result was that translated indigenous knowledge stood far removed from its original source.

The authors of *Translating Knowledge in the Early Modern Low Countries* address a wide range of questions regarding translations and translators, authorship, the argument regarding which language is best suited for scientific inquiry, interpretation, the use of images for multiple languages, the amount of editing, the translators inexperience with the translatable texts, and the loss of local knowledge by introducing a new nomenclature. By choosing the right word, the ardent translator allowed early modern knowledge to travel between different languages and cultures. Finding the right word was priceless for both, the author as well as the foreign reader, in conveying knowledge in its utmost form.

To make sure that information was conveyed, scholars developed different ways of communication. Naturalists and amateurs did not only exchange knowledge and materials to study nature, in the Low Countries natural historians moreover adopted merchant's strategies. Like true *commerçants*, they mapped out how to get ahead commercially and thus financially of their learned rivals. In his book *Commercial Visions, Science, Trade, and Visual Culture in the Dutch Golden Age*, Dániel Margócsy conveys the different methods how students of nature publicized their findings for scholarly success and financial motivations. Keeping the secrets of their "trade" close to their chests, naturalists tried to sell them only to the highest bidder.

In his book, Margócsy brings on various examples on how scholars, publishers, naturalists and patrons tried to collect and capitalize natural knowledge and objects. He does that in Chapter Two by showing how accumulators of *naturalia* in Europe tried to make knowledge and objects communicable and movable. Collecting small objects, such as plants, seeds, bulbs, shells, minerals, insects, little animals, and birds, was cheaper to transport than big animals or large trees. Indeed, in 1677, the Dutch East India Company prohibited shipping plants and trees since the ship: "covered and obstructed in such a way with boxes, and in such great numbers, as if they were whole gardens, resulting in so great a weakening and damaging of the ship by all the weight on top".⁶ The scholarly market, then, opted for objects that were easy to pack and ship. To negotiate their wish list of natural specimen to be

obtained, botanists and naturalists referred to images and texts that had been published in natural history books. Margócsy argues convincingly that scholars used encyclopaedic books on botany or on natural history as a sales catalogue. They simply had to refer to a book title and a page number in order to purchase or exchange *naturalia*.

For publishers of expensive multi-volume books it was a big loss when an author suddenly died, as it happened in the case of the famous Dutch pharmacist, zoologist and collector Albertus Seba [1665–1736]. Margócsy tells us that the publisher hired ghostwriters, who used Seba's manuscripts and notes for the subsequent volumes of his *Thesaurus*. They pretended that Seba had already written these books, or at least, nearly finished the manuscript. Since Seba was already dead copyrighting his material and its publication posed a problem for the publishers given the issue of authenticity. How to keep on publishing after the demise of a natural historian in the line of his work, but also: what to do with new insights and findings? Should these be included in the book or not? Commerce valued authenticity. However, by resorting to fakes or forgeries, a publisher could save his financial investment into an expensive book series.

Margócsy presents various examples of how early modern scholars constructed, advertised and sold knowledge and materials. Chapter Four informs us about the competition between the physicians Govert Bidloo [1649–1713] and Frederik Ruysch [1638–1731] and their ways on how to present and preserve the human body. While Bidloo favoured illustrations, the anatomist Ruysch worked with human preparations that gave a three-dimensional impression of the body. This presented the physician with the problems of how to stop the process of decay and how to render a human corpse lifelike. Ruysch's specimens were valued and valuable, and he counted Peter the Great among his clients, to whom he sold his collection in 1717.

Margócsy adopts a different position than Harold Cook in his acclaimed book *Matters of Exchange: Commerce, Medicine and Science in the Dutch Golden Age* (2007). Margócsy emphasizes Cook's argument that the mercantile culture may have driven Dutch naturalists in their desire to build scholarly knowledge on reliable and empirical facts. Yet while merchants were able to negotiate with each other, they did not need to agree with one another, he argues. In the Low Countries, naturalists operated like merchants, by manipulating and questioning the authenticity of knowledge and objects. Equally, naturalists, in their quest for scholarly and financial acclaim, contested each other in their pursuit for a wealthy audience. Commerce and competition went hand in hand with questioning secrets, fakes and forgeries, and establishing credibility, authenticity, and reliability.

Commercial Visions invites us to consider Dutch naturalists rather as entrepreneurs than as "disinterested scholars". However, we must bear in mind that there were other Dutch naturalists active in the same period, who

were not acting like merchants, or running scientific-commercial enterprise aimed at financial gain. Various naturalists contributed to early modern science, many of them without acting as manipulative merchants or deceptive publishers. These included, for instance, the physician Willem ten Rhijne, who examined Japanese plants, which he transmitted together with tea and ginger plants saplings to his friend, Jacob Breynne. Or Paulus Hermann, a physician in the service of the Dutch East India Company, who became a botany professor at Leiden University and head of the Leiden Hortus Botanicus. He contributed greatly with his manuscripts and publications to the growing body of exotic botanical knowledge, apparently without ever capitalising on his natural specimens, manuscripts, and botanical books.⁷ The Physician Jan Commelin, and subsequently his nephew Caspar, was in charge of the Amsterdam botanical garden, and the Commelins commissioned the construction of the Moninckx Atlas. This expensive manuscript filled with 420 watercolour plant drawings was created by at least three artists. And as a last example, two wealthy women botanists: Margareta Poulle and Agnes Block, who were both active experimenters in the field of exotic plant growing and botanical exchange.⁸ The young Dutch Republic wanted to create its own language and culture. The mercantile citizens set the tone themselves, as there was no King to follow, establishing a culture that was based on commerce, profits, account books, data, collections, shipping and civic pride.

To conclude: both books display a wealth of examples that inform today's historians how complex the construction and communication of knowledge and materials was in early modern history. Both deal with the difficulty of authenticity, finding the right words, images, names, translations from one language to another and translations from object into image, and other means of communication. The papers presented here show that there is still so much to learn about the complex ways on how natural history, early modern science, objects and knowledge, books, and images were collected, stored, transmitted, translated and marketed. The most difficult part of the collection and communication of natural knowledge was and still is: finding the right words (in any language) as well as financial resources to convey scholarly experiences and experiments.

Alette Fleischer, Independent Scholar

Anmerkungen

1 Smith (1984).

2 Latour (2003).

3 Just to name a few of the volumes published on the topic of science and commerce: Roberts (2011), Huigen, de Jong and Kolfin (2010), Schaffer, Roberts, Raj and Delbourgo (2009), Cook (2007), Dear, Roberts and Schaffer (2007), White (2007), Schiebinger and Swan (2005), and Smith and Findlen (2002).

- 4 Fleischer (2016a). In this paper I argue the competition between Christian Huygens, a scholar in the service of the King Louis XIV of France, and Willem Meester, an engineer working for the Dutch Stadholder William III of Orange.
- 5 Hofman (1654). See Van Hardeveld-Kooi (2000).
- 6 Den Hartog and Teune (2002: 194). Brievenboek Heren XVII VOC archive Den Haag.
- 7 Fleischer (2016b), Den Hartog and Teune (2002) and Gunn and Codd (1981).
- 8 Breyne (1678) and Commelin (1696). See Sikkens-de Zwaan (2002), Heniger (1986), Wijnants (1983), and Poelbekke (1965).

Literatur

- Breyne, Jacob 1678. *Exoticarum aliarumque minus cognitarum Plantarum centuria prima*. Gdansk: David-Fridericus Rhetius.
- Commelin, Caspar 1696. *Flora Malabarica sive Horti Malabarici catalogues*. Leiden: Fredericum Haaringh.
- Cook, Harold J. 2007. *Matters of Exchange, Commerce, Medicine, and Science in the Dutch Golden Age*. New Haven/London: Yale University Press.
- Dear, Peter, Lissa L. Roberts and Simon Schaffer 2007. *The Mindful Hand; Inquiry and Invention from the Late Renaissance to Early Industrialisation*. Amsterdam: Edita.
- Den Hartog, Elizabeth and Carla Teune 2002. Gaspar Fagel (1633-88): His Garden and Plant Collection at Leeuwenhorst. *Garden History, Journal of the Garden History Society* (30) 191-205.
- Fleischer, Alette 2016a. Hydraulics in Horto: Levelling between Water and Power in Seventeenth-Century Gardens in France and Holland. In: Juliette Ferdinand (Hg.), *From Art to Science: Experiencing Nature in the European Garden 1500-1700*. Treviso: Zel Edizioni, 46-61.
- Fleischer, Alette 2016b. Gardening Nature, Gardening Knowledge: The Parallel Activities of Stabilizing Knowledge and Gardens in the Early Modern Period. In: Hubertus Fischer, Volker R. Remmert and Joachim Wolschke-Bulmahn, *Gardens, Knowledge and the Sciences in the Early Modern Period*. Basel: Birkhäuser, 289-304.
- Gunn, Mary and L.E. Codd 1981. *Botanical Exploration of Southern Africa*. Cape Town: A.A. Balkema.
- Heniger, Johannes 1986. *Hendrik Adriaan van Reede tot Drakenstein (1636-1691) and Hortus Malabaricus: A Contribution to the History of Dutch Colonial Botany*. Ph.D thesis, Rijksuniversiteit Utrecht.
- Hofman, Johan 1654 [1650]. *Nederlandsche Woorden-Schat*. Thomas Fonteyn: Amsterdam.
- Huigen, Siegfried, Jan L. de Jong and Elmer Kolfin 2010. *The Dutch trading Companies as Knowledge Networks*. Leiden/Boston: Brill Publishers.
- Latour, Bruno 2003 [1987]. *Science in Action; How to Follow Scientists and Engineers Through Science*. Cambridge: Harvard University Press.
- Poelbekke, J.J. 1965. Elf brieven van Agnes Block in de universiteitsbibliotheek te Bologna. *Mededelingen van het Nederlands Historisch Instituut te Rome* (32). Den Haag: Ministerie van Cultuur, Recreatie en Maatschappelijk werk.
- Roberts, Lissa L. 2011. *Centres and Cycles of Accumulation in and around the Netherlands During the Early Modern Period*. Münster: LIT Verlag.
- Schaffer, Simon, Lissa L. Roberts, Kapil Raj and James Delbourgo 2009. *The Brokered World, Go-Betweens and Global Intelligence, 1770-1820*. Sagamore Beach: Watson Publishing International, 2009.
- Schiebinger, Londa and Claudia Swan 2005. *Colonial Botany, Science, Commerce, and Politics in the Early Modern World*. Philadelphia: University of Pennsylvania Press.
- Sikkens-de Zwaan, Marisca 2002. Magdalena Poulle (1632-99): A Dutch Lady in a Circle of Botanical Collectors. *Garden History, Journal of the Garden History Society* (30): 206-220.
- Smith, Pamela and Paula Findlen 2002. *Merchants and Marvels: Commerce, Science and Art in Early Modern Europe*. New York/London: Routledge.

- Smith, Woodruff D. 1984. The Function of Commercial Centers in the Modernization of European Capitalism: Amsterdam as an Information Exchange in the Seventeenth Century. *The Journal of Economic History* (44), 985-1005.
- Van Hardeveld-Kooi, I. 2000. *Lodewijk Meijer (1629-1681) als lexicograaf*. Ph.D thesis, Leiden University.
- White, Richard 2007. *The Middle Ground, Indians, Empires, and republics in the Great Lakes Region, 1650-1815*. Cambridge/London: Cambridge University Press.
- Wijnands, D.O. 1983. *The Botany of the Commelins*. Rotterdam: A.A. Balkema.