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Anglo-Dutch translations of medical and scientific texts

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Abstract

In the seventeenth century the use of vernacular languages became more and more accepted in scientific publications and communications, and began to supplement the traditional language in this field, namely: Latin. The increase in the number of languages used in science and medicine was accompanied by a heightened need for translators. The close relationship between England and the Low Countries in the seventeenth century has led to a focus in the existing research on political and religious issues, and this has been reflected in the study of translations between English and Dutch. Yet one also finds in the fields of medicine and science an exchange of ideas through translation. The language skills of both Dutch and English men and women were often not sufficient to understand each other's language, which means that translations were vital. By considering the examples of how Thomas Browne's *Religio medici* was translated into Dutch, and how letters by Antoni van Leeuwenhoek and a publication by Jan Baptista van Helmont were translated into English, this essay examines the exchange of scientific and medical ideas across the Channel.

1 | INTRODUCTION

On the first of February 1683 the physician Martin Lister wrote to the Secretary of the Royal Society, Francis Aston, asking after a publication about insects by the Dutch anatomist Jan Swammerdam. Lister said that the description of the book he had read in the *Philosophical Transactions* sounded interesting but he had not yet seen the book for himself. "Neither," he continued, "do I understand Dutch at all, I wish it were translated [...] I would you would promote the translation" (Lister, 1683 260).

Two things are especially interesting here, namely the fact that Martin Lister mentions without hesitation that he does not know any Dutch, and secondly that a scientific text was published in Dutch at all, and not in the Latin more commonly used for such works. By this stage in the seventeenth century Dutch was indeed accepted as a language for science just as much as the other Western European vernacular languages. Latin was still used widely, especially in education and the church, but vernacular languages now asserted their right to a role in learned exchange alongside

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the old language (Waquet, 2001 82-83). The increasing number of languages used in natural philosophical books and between natural philosophers in their correspondence had another effect: it enhanced the importance of translators. Following this pattern we can infer from Lister's comments that he does not look down upon a publication of a scientific text in Dutch, but rather expresses his inability to access the information it contains.

In his letter to Francis Aston, Martin Lister was referring Jan Swammerdam's book (1669) on insects, which he promised in an article in the *Philosophical Transactions* in 1667 (sixteen years before Lister wrote to Aston) (anon., 1667 535). The book, entitled *Historia Insectorum generalis, ofte algemeene verhandeling van de bloedeloose dierkens*, was published in 1669 in Utrecht, indeed in Dutch. The book was translated into French (Swammerdam, 1682) but Lister was probably not aware of this copy at the time. In 1685 the Latin version came out (Swammerdam, 1685), and although printed in Leiden, it is not unlikely that Lister would have been able to see a copy of this version. An English translation would come out only a century later (Swammerdam, 1792), too late for Lister. However, this case shows how vernacular languages and Latin were used side by side, and similarly that the seventeenth century was a good century for translators.

In this article, I will discuss the translation of Dutch¹ and English texts in the seventeenth century and will therefore touch briefly on the language abilities in both countries. What level of understanding of English existed among Dutch-speaking people and vice-versa in the seventeenth century? Some researchers have looked at the translation of religious, political and literary texts between English and Dutch, but very little has been written on the translation of medical and scientific texts in the period. In the final part of this article I will therefore give a few examples of translations and discussions about translations of medical and scientific texts.

2 | EXCHANGE BETWEEN ENGLAND AND THE LOW COUNTRIES

Both English and Dutch seventeenth-century societies were multilingual. Seventeenth-century London was a city full of foreigners who arrived as merchants, ambassadors, artists, craftsmen, refugees, and even as tourists. Most of these foreigners would come from the European mainland, and would bring with them the different languages that were spoken there. In contrast to today, English was not the *lingua franca* of Europe, and this had implications for the languages spoken between the English and foreign language speakers. Not everyone on the European continent learned English before visiting England. The Dutch, French, German, Italian, and Spanish visitors therefore had to find another way to communicate with the English, and at the same time the English could not purely rely on their native language skills in order to communicate with everyone they might meet on the street.

The strangers' communities (i.e. communities of foreign nationals) in the city of London were of such a size that from the mid-sixteenth century onwards London was the base of several stranger churches, such as the Dutch and Walloon church in the church of the former monastery Austin Friars (Pettegree, 1986 23-45). The members of this particular church would speak mainly French and Dutch, and the sermons would be held in these languages. At the same time the people in the community were also expected to learn English as Vivian Salmon describes in her essay on seventeenth-century scholarship on language and linguistics (Salmon, 1996 32-34).

London was not the only place where there was a Dutch presence. Many Dutch-speaking people settled down in Norfolk, Kent and East Anglia (Joby, 2014). And let us not forget the university towns of Oxford and Cambridge, where foreigners went to study. Latin was used as the language of education, as well as the language of communication amongst the learned. If a foreign visitor was not able to speak Latin, this could cause frustration, as Henry More described in a letter to his friend Lady Anne Conway. In reporting to her on October 13th 1670 about his dinner guest from Brussels, the philosopher and physician Franciscus Mercurius van Helmont, More wrote that 'he can speake French and Italian, but Latin very brokenly'. Van Helmont was able to express himself best in Dutch, which More did not speak, but with the help of an interpreter they were eventually able to converse over dinner (Nicolson & Hutton, 1992 323).

Multilingualism was also the norm in the Low Countries, which in the seventeenth century were divided in the Spanish Netherlands and the Dutch Republic (Frijhoff, 2010 23-25). In the Dutch Republic the local language was Dutch, with French as a close second, since it was the first or second language of many immigrants from the Spanish Netherlands,

and both languages were used in politics and science. These languages were complemented by the languages spoken by foreign merchants, seamen, soldiers and artists visiting and (temporarily) living in the Low Countries, the majority of which came from the German lands (Lucassen, 2002 21). However, just as there were many Dutch-speaking people living in England, by the same token many English lived in the Low Countries. Thanks to the research by Jan Lucassen, there are rough numbers of the quantities of foreigners living in the thirteen largest cities in the Dutch Republic in the seventeenth and eighteenth century. Over the course of 200 years the percentage of foreigners living in these cities went down from 33% in 1600 to 16% in 1800. The presence of British people had its peak in 1650, with just over 9,000 men and women living in these thirteen cities in the Dutch Republic. In comparison, almost 60,000 Germans lived in the Dutch Republic at the same time (Lucassen, 2002 22). According to Christopher Joby there were about 3,000 people from the Low Countries living in London at the beginning of the seventeenth century (Joby, 2015 21-25).

How would these visitors and immigrants have learned the languages they encountered through their displacement? Some immigrants would have learned foreign languages at school. In the case of Dutch-speaking people, if they would have gone to school, they would have learned Latin and/or French. Also outside of school one could have learned a language from personal teachers, house teachers, and self-study, and by talking to foreigners (Frijhoff, 2010 39-45; and Van Els & Knops, 1988 206-207). For English children who went to school Latin would have been the foreign language or French in the case they went to a French school. Other modern languages could be learned from private teachers and self-study (See for example Gallagher, 2016).

Not all Dutch and English immigrants and visitors who came to England or the Low Countries would, however, have learned foreign languages before travelling (Salmon, 1996 21-22). In many cases they learned the new language in the new country, by talking to native speakers, and, presuming they could read, by self-study of the grammars and language guides that were printed ever more frequently (Salmon, 1996 36-38).

Although Dutch or English foreign language skills could be acquired in both England and the Low Countries, most readers would have depended on reading translations in their own language. Clearly there was a group of translators who could do what many could not, namely: read and write in both English and Dutch. Using two very useful resources, it is possible to get an idea of the types of texts that were translated between Dutch and English in the seventeenth century. First of all there is the database from the project *Renaissance Cultural Crossroads* (www.hronline.ac.uk/rcc), which contains all translations printed in Britain between 1473 and 1640. It allows a search of printed texts based on the language of the original. This yields a list of about 220 titles of books published in English, and translated from Dutch (Hoftijzer, 2013 212), in comparison with, for example, about 2000 translation from Latin, and 1100 translation from French (Barker & Hosington, 2013 xviii). A search for the same period in the Short-Title Catalogue of the Netherlands (STCN) for books translated from English into Dutch results in 474 hits. A checklist of 641 books translated from English into Dutch between 1600 and 1700 can be found in Cornelis W. Schoneveld (163-245). This checklist does not include pamphlets and therefore should be supplemented with the information that can be found in a recent book *The Royalist Republic* (Helmets 30-32), particularly with regard to the translation of political pamphlets. Additions to the checklist by Schoneveld with regard to religious works can be found in Jan van der Haar (1980). On the translation of navigation manuals between Dutch and English the recent research by Susanna De Schepper (2012), based on the data from the RCC, forms an important source. It is striking that most research by modern scholars has focused on translations from English texts into Dutch; it is only thanks to the efforts of the Renaissance Cultural Crossroads project and Paul Hoftijzer that the output of translations from Dutch into English have been discussed. Peter Burke has also written about the translation of historical and political texts in the seventeenth century between Dutch and English and English and Dutch (Burke, 2013 41-50).

In terms of content of the texts, the majority of translated texts are religious and political in nature, and the pamphlets are mostly devoted to current events or what we would call the "news." (See for English to Dutch translations of news Helmer J. Helmers (30-32), and for Dutch to English translations Hugh Dunthorne, 2013 (7-16)). Despite the fact that the RCC database only includes publications until 1640, it is a very useful source for the current purpose of determining what types of text were translated; to a large extent the answer seems to be comparable with the topics translated from English into Dutch, i.e. mainly religious and political texts.

Let us then finally turn to science and medicine. Based on the mainly religious and political nature of the texts translated between English and Dutch it is probably not surprising that secondary literature about the translation of scientific and medical texts between these languages is relatively rare. Hoftijzer mentions the translation of a mathematical text by the Dutch author Simon Stevin, translated into English by another mathematician Edward Wright and published in 1599 (Hoftijzer, 2013 212). Vivian Salmon discusses briefly the interest in the Netherlands and England in the seventeenth century for developing a universal language, and the translations between English, Dutch and Latin related to this discussion (Salmon, 1996 40-43); De Schepper discusses navigation (De Schepper, 2012 89-106); and finally Cornelis Schoneveld has discussed the translation of Thomas Browne's *Religio medici* (1642) into Dutch (Schoneveld, 1983 1-28).

3 | DUTCH - ENGLISH MEDICAL AND SCIENTIFIC TEXTS

Even though this essay discusses English-Dutch translations, it is necessary to briefly mention the role of Latin in this linguistic landscape. Since Latin was still the language of university education, and is known for its importance in scientific communication, it might come as a surprise that we can discuss Anglo-Dutch translations at all. However large the role played by Latin might have been in seventeenth-century education, as well as more generally in the Republic of Letters, vernacular languages assumed an increasingly prominent place in the course of the seventeenth century (Burke, 2004 & Burke 2007a). The transition from Latin as the dominant language in science to the use of vernaculars was not a simple, linear development, as Peter Burke has shown (Burke, 2004 61-64). Rather the seventeenth century was a period in which some texts were written in Latin and translated into vernacular languages, but many texts were also translated in the opposite direction, i.e. from the vernacular into Latin (Burke, 2007b 65-80). And translations would occur from the language the books were first published in, as well as from intermediate languages, which could be Latin as well as vernaculars.

Harold J. Cook and Sven Dupré have made an important contribution to the study of translations in the early modern Low Countries with a special emphasis on knowledge and science (Cook & Dupré, 2013). Isabelle Pantin previously discussed the translation of texts between vernaculars (Pantin, 2007 165-167), and several articles in the Cook and Dupré collected volume pay attention to the translation between Dutch and English, especially those by Peter Burke (2013, 41-52) and Felicity Henderson (2013b, 243-268). The editors of the volume point out that the multilingual character of the society in the Low Countries, in conjunction with a high level of education and the presence of numerous important publishing houses, created the conditions for a flourishing culture of translation (Cook & Dupré, 2013 12-13). While it is possible to assent to these arguments, it can be added that this phenomenon was not confined to the Low Countries; translation as a cultural practice flourished throughout seventeenth-century Europe.

In fact, a more thoroughgoing explanation for what might be called the "Golden Age of Translation" is necessary. Obviously it was largely connected to the fact that the linguistic landscape was in a state of flux. Latin was well on the way to losing – but by no means had completely lost – its status as the pre-eminent language of scholarly exchange. The vernaculars were in the ascendant; a trend promoted by increased literacy in these languages. More generally, the Republic of Letters was becoming less exclusive; it was in the process of transforming itself from a network of learned, humanist correspondents into a public sphere based on printed material in several languages. Such factors all played their part in creating a situation in which the demand for translators and the publication of translations flourished more than ever before.

In the remaining part of this essay I will discuss several cases of translation of science and medicine between English and Dutch. First of all the focus will fall on the Dutch translation of Thomas Browne's *Religio medici*, as described by Cornelis Schoneveld (1-28). This case represents translation from English into Dutch. Second, I will turn my attention to the case of the Royal Society and the way the Fellows dealt with their multilingual correspondence and especially the letters they received in Dutch (Henderson, 2013a; Henderson, 2013b). This example is of importance since it reflects upon a network of international authors, and the way in which they made themselves

understood. And finally, I will briefly discuss a translation into English of the Dutch medical text *Dageraad* written by the Flemish physician Jan Baptista van Helmont, which represents a case of translation of one single author from Dutch into English.

The title of Thomas Browne's *Religio medici* 1642 should not lead the reader astray: this was a book in English, whose first unauthorized publication occurred in 1642 and whose official publication took place in the following year. In this book the author and physician Brown relates his own observations on his profession and his religion. His thoughts on religion and medicine were undoubtedly influenced by his experiences as a medical student in Padua, Montpellier, and Leiden where he took his degree in Medicine in 1633. Although the book was printed only in the 1640s, Browne wrote his observations in the years immediately after his return from Leiden (Browne 1644). After publication the book would soon attract attention, and it was already in 1644 that a Latin translation was published in Leiden. An English student, John Merryweather, who started studying theology in 1643 in Leiden, prepared the translation. This meant that, whereas the book was available for an English-reading audience in their mother tongue (Schoneveld, 1983 3), in the rest of the world it could be read in the Latin translation. Consequently beyond the border of the English-speaking world the book only reached the Latin-schooled elite. To make the book available for a Dutch audience, the physician Abraham van Berkel translated the text from English into Dutch and published it in 1665 (Browne 1665). It is unclear where he picked up his English, but he certainly learned it, as he would later also translate Thomas Hobbes's *Leviathan* (1667) (Schoneveld, 1983 4, 209). Van Berkel prepared a second amended edition of the translation of the *Religio medici* in 1683. In 1688 another Dutch translation from the English was published, this time translated by Willem Sewel (Browne 1688), a Dutch translator of English descent and a Quaker. Instead of being an expert in medical material, he was an expert on religious and linguistic matters and responsible for many translations of religious texts into Dutch from English, but also from Latin, French and German (Hall 2004). He was not only a translator, but also produced a new English-Dutch and Dutch-English dictionary, which would become the standard dictionary throughout the entire 18th century (Sewel 1691). The recurrent Dutch translations of Thomas Browne's *Religio medici* show the interest in English writings in the Dutch-speaking parts of the European continent, and at the same time the need for translations. In the case of the Dutch translations of *Religio medici*, Van Berkel was of a medical background with a special interest in politics (Wielema, 2017), and in the case of Sewel, he was a professional translator who became specialized in religious and scientific texts.

As mentioned earlier, most recent research has been focussed on the translation of texts from English into Dutch; for this reason, the next two examples show a translation moving in the opposite direction.

From the very start of the Royal Society, its first secretary Henry Oldenburg established a wide-ranging international network of correspondents. Letters to the Society were written in many different languages, such as Latin, French, English, German, Italian, and Dutch (Henderson, 2013a 107). In the weekly meetings of the Society, in which the Fellows would come together to discuss experiments and incoming letters, some of these letters were read out to the group in their original language, including English, Latin and French (Henderson, 2013a 245). However, Dutch was not understood well enough and needed translating into English before it was presented to the group. Unfortunately for the Society, its most prolific correspondent in the early years after the foundation in 1660, the Delft microscopist Antoni van Leeuwenhoek, was Dutch, and only wrote in Dutch. Henderson argues in her article on the reception of the Van Leeuwenhoek letters at the Royal Society, that the translation project that was established around these letters was 'not just the largest translation project of the early Royal Society', but 'arguably the most important', due to the many new discoveries that this correspondence brought to light (Henderson, 2013a, 268). In her article Henderson was able to identify the translators as people well-known to the Fellows of the Royal Society; sometimes they were asked because they were native-speakers of Dutch (such as Francis Lodwick) but more often especially because they were 'competent translators' (Henderson, 2013a 266). In the case of Van Leeuwenhoek it was initially Henry Oldenburg himself who translated his letters. As a native German-speaker with a clear affinity for language, it must have been rather straightforward. Robert Hooke started to learn Dutch in the 1670s but was not competent enough to translate Van Leeuwenhoek himself, and he often asked Theodore Haak (another German-speaker, who had studied in Leiden); Francis Lodwick, who was of Dutch descent; and Francis Aston, about whom we know very little. The final years of Van Leeuwenhoek's correspondence was translated by John Chamberlayne who worked as primary translator while Hans Sloane was the Secretary

of the Society (Henderson, 2013b 244-255). In her discussion of translation theory as perceived and used by literary translators at the time, and the theory or rules applied by the translators at the Royal Society, Henderson argues that understanding the text was more important than conveying its 'spirit' (Henderson, 2013b 117). This had immediate implications for the necessary skills of the translator; familiarity with the topic outweighed in importance mastery of the language (Henderson, 2013b 117). Antoni van Leeuwenhoek also communicated with the Fellows of the Royal Society by sending drawings of his observations with his letters. Images might overcome language barriers, but often still need explanation and cultural translation as described by Edward Wouk, 2017 (8-9). The translation of images in the context of the Royal Society, especially the way in which they were used, copied, and translated between the Académie des Sciences in Paris and the Royal Society, has been a recent topic of investigation for Meghan C. Doherty, 2015 (543-569).

My final example concerns an English translation of the Dutch medical text *Dageraad* ("Daybreak") by Jan Baptista van Helmont. Van Helmont was a physician from Brussels and published several medical books between 1621 and 1644. All these publications were written in Latin and published, together with his posthumous works *Ortus medicinae* ("The Rise of Medicine") (Van Helmont, 1648). However, he also wrote one book in Dutch (Van Helmont, 1659). After abandoning his original intention to write all his works in Dutch – a decision prompted by his realization that Dutch as a language was not (yet) adequate to the task of medical writing – Van Helmont gave the Dutch manuscript to his daughter, as reported by Knorr von Rosenroth, 1683 (sig.) (iii'). In 1659, fifteen years after Van Helmont's death this Dutch book was eventually published in Amsterdam. At that time a partial translation into English of some of the Latin treatises by Van Helmont already existed, as produced by the physician Walter Charleton (van Helmont, 1650). And in 1662 the physician John Chandler translated the entire Latin *Ortus medicinae* into English (Van Helmont, 1662). It is unclear from the reception history whether Van Helmont's Dutch *Dageraad* was read very much at all, since most references have been made to the Latin texts. However, the English physician Daniel Foote had a great interest in Van Helmont as is clear from the manuscript copies he made of the index to Van Helmont's *Ortus medicinae* (British Library, Sloane MSS 615 and 633); his own English translations of several chapters from the Latin *Ortus medicinae* (British Library, Sloane MSS 617, 629, 630, 633); the transcription of the *Memoirs* of Van Helmont's son, Franciscus Mercurius (British Library, Sloane MS 530); and finally an English translation of the beginning of the *Dageraad* (British Library, Sloane MS 632). It is unclear where Daniel Foote learned his Dutch. He came from Cambridgeshire, studied in Cambridge, and eventually moved to London. He does not seem to have travelled to the Low Countries, and must therefore have been one of those Englishmen who learned Dutch from text books, and or speaking with native speakers in England, as described by Joby (2015, 53-55). Regardless of the method of learning Dutch, his understanding of the language was extraordinary. This was a skill that served him well later in life, when he would write down the observations and reminiscences as told to him by Van Helmont's son, who did not speak much English, as we previously heard from Henry More. Despite the fact that these manuscript translations by Daniel Foote were not made for a wider audience, it still is indicative of an interest in medical literature published in the Low Countries. Van Helmont wrote (in Foote's translation), "as these diseases, for the most part, are common to the vulgar, it hath seemed good to me to write in a tongue, wherein the commonly can best understand me" (British Library, Sloane MS 632, f. 29v). The prospect of reaching an audience without Latin education provided a strong incentive to write in the vernacular, and therefore also to translate to and between vernaculars.

4 | CONCLUSIONS

Most recent research in translation studies between English and Dutch in the early modern period has been done on navigational, religious, political and literary texts. Even the important publication by Theo Hermans about the reflections on translation by early modern translators into Dutch barely touches upon scientific and medical texts. Instead, this volume discusses the paratexts (translator's introductions, etc.) of translated publications and shows the motivation of the translators for making their source texts available in Dutch. Also Hermans recognises the increase in production of translations in the seventeenth century (Hermans, 1996 5).

Since the publication by Hermans in 1996 in the field of translation studies the topic of translation has sparked the interest of researchers in other fields, such as history (Barker & Hosington, 2013; Burke, 2004; Burke & Po-chia Hsia, 2007; Coldiron, 2014), and the history of science (Cook & Dupré, 2013; Fransen, Hodson, & Enenkel, forthcoming; Henderson, 2013b; Gordin, 2015). In 2004 James Secord made an important contribution to the history of science with his article 'Knowledge in Transit', acknowledging the importance of translation in the transmission of knowledge (Secord, 2004 654-672). Within the field of early modern history of science and medicine the research into the role of translation is still a growing field. And with the increase in research on the topic, a shift of meaning of the term has occurred as well: from purely textual comparative studies, to "cultural translation" as described by Burke (2007a 7-38), to the definition given by Cook and Dupré: "Translation is the process by which information and knowledge is transferred from one place to another, often being altered in the process; it also affects the parties involved, whether speakers or listeners" (Cook & Dupré, 2013 10). The way this definition is phrased makes it possible to also look at objects and images as knowledge carriers which can be "translated" into different places. In other words, the idea of translation has broadened its scope beyond the exclusive study of texts, to include the study of materiality and texts in the context of networks of communication. It is still a relatively young field within the history of science and medicine; all indications suggest that it will yield new insights and inspire more projects and publications in the coming years.

The study of Anglo-Dutch exchange is not as young as the study of translation in the history of science; as mentioned above, the concentration thus far has been on religious, political, navigational, and literary texts. While those studies have uncovered a lively exchange of information and knowledge between the England and the Dutch Republic in the seventeenth century (Helmets), there is still much more work to be done on the more specific exchange and translation of medical and scientific knowledge in this context.

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ENDNOTES

¹ When using the term "Dutch" I mean the language spoken in the seventeenth-century Low Countries. And with the Low Countries I mean both the Dutch Republic and the Spanish Netherlands. In the seventeenth century the Dutch language included several regional dialects, such as Hollands and Flemish, and also dialects of specific cities such as Antwerp and Amsterdam. Since the inhabitants of the Spanish Netherlands might have spoken French as their first language, I will refer to those people from the Dutch Republic and the Spanish Netherlands with Dutch as their first language as "Dutch-speaking".

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