
Science Translated: Latin and Vernacular Translations of Scientific Treatises in Medieval Europe edited by Michèle Goyens, Pieter De Leemans, and An Smets

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Science Translated is the product of an international conference on historical translation sponsored by the Institute for Medieval Studies at the University of Leuven in 2004. The 23 essays in it are organized into two sections focused on translations from Greek, Arabic, and Hebrew into Latin and translations into French, Italian, and Dutch vernaculars. Prefacing these more specific treatments of translation is a general essay by José Lambert on translation studies, in which he opens with two suggestive, if not surprising, quotations from Umberto Eco and Peter Burke, the former noting that translation is more fundamentally a shift between two cultures rather than two languages, the latter observing that history deserves a large role in the field of translation studies, and conversely that translation studies deserve a prominent place in historical work. Translation, by its very nature, signals a transmission from one person, place, time, or condition to another as well as a transformation, alteration, and renovation in the process of transmission, since the initial and final loci or cultures are rarely, if ever, the same. And sometimes the translation occurs within the same individual, place, time, and culture: in the very process of reading and understanding the object, the individual transfers meaning, sometimes literally, at other times metaphorically. Clearly, translation studies can never be a simple matter of finding isomorphisms between languages.

While the editors' approach has been to segregate the essays along linguistic grounds (Latin translations and vernacular translations), the foregoing would suggest that there may be multiple ways

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of viewing the content of this volume. It would be impossible to undertake a comprehensive attempt to do so or even to summarize all the essays contained in the volume; but three rubrics may suggest other ways to view the results of this conference. First, in keeping with Peter Burke's observation about the relationship between history and translation, there are methodological problems of translations as sources. Charles Burnett notes that many medieval translations were produced as a succession of revisions, making it difficult for the modern editor to determine which was prior and posterior, who was responsible for the various stages of the text, and, most fundamentally, how an edition of a text that lacks a base can be presented on firm scholarly grounds that follow traditional editorial procedures. William of Moerbeke's various texts, for example, were series of recensions, not strictly speaking translations: as Jef Brams suggested, it is likely that Moerbeke would not have regarded any of the successive versions as definitive. Instead, we have 'snapshots' of texts that have become fossilized by the chance survival of particular manuscripts of the recensions. Although it adds complexity to the historian's task, Burnett's conclusion is probably necessary:

Every text, therefore, makes its own demands, and no rules can be universally applied when faced with the choice of editing an 'original' translation, or one of its revisions. [20]

Joëlle Ducos presents other elements of complexity. As translators proceeded to convert texts from various base languages into French during the 13th through 15th centuries, the language itself was evolving. In the face of apparent differences that resulted from linguistic shifts, scholars have nevertheless attempted to create a typology that transcends language. While some have suggested the presence or absence of a prologue as a marker for such a typology, as Ducos observes, the prologue by itself does not always determine the nature of the translation, since among Oresme's three translations, two have prologues but are not significantly different from the third that does not. Moreover, some translations tend to insert commentary elements—e.g., changing Aristotle's first person nominative to third person in the translation—and, hence, do not follow the *de verbo ad verbum* tendency of others. And if this were not sufficiently complicated, Ducos also notes the existence of a large corpus of incomplete translations, fragments of works that either were never

completed or have suffered from the ephemeral tendency of manuscript transmission.

Laurence Moulinier-Brogi, while focusing on late medieval texts in uroscopy, provides additional examples of considerable bilingualism in medicine, yet notes that Latin was still the technical language of both physicians and apothecaries. This continued prominence of Latin resulted in back-translations of vernacular texts into Latin, as for example when a German translation of Maurus' *De urinis* was itself the object of Latin reverse translations [234]. Apparently by translating texts into the vernacular, the potential geographical circulation was limited, and so the translation back into Latin ensured a wider readership. But, of course, now the modern historian has two Latin textual traditions, one flowing from the original author, the other mediated through a German translation, thereby complicating the situation described by Burnett and Ducos.

Finally, Erwin Huizenga observes that vernacular translations were themselves products of an evolutionary rather than monolithic development. If his investigations of Middle Dutch translations of surgical works can be extrapolated to other vernacular communities and genres, it would point to articulated stages of the vernacularization movement. As Huizenga notes, from the early 13th century, short marginal vernacular notes appear in blank spaces within manuscripts of the so-called *artes*-literature. After 1250, and continuing into the 14th century, whole texts were translated to inform laymen who had no formal education in Latin, partly in response to the movement of the surgical center of Europe from Italy to the North at the end of the 13th century. And finally, around 1300, there seems to have been two categories of surgical professionals, one with feet in both the Latin and the vernacular worlds, the other whose linguistic abilities were limited to the vernacular. Surgeon translators like Jan Yperman catered to this new community, which moreover preferred shorter, abbreviated versions of the grand encyclopedic texts of the previous two centuries. When placed next to Moulinier-Brogi's conclusions about vernacular texts and bilingualism, we can see that translation efforts did not conform to a single trajectory, either linguistically, or nationally, or disciplinarily.

A second rubric, not surprisingly, concerns linguistic problems in scientific translation. While Burnett had focused on the issue of

the evolutionary development of translations from Arabic into Latin, Carla Di Martino observes that part of the problem of translating from Arabic to Latin was the very different syntax of Arabic and occidental languages. Already in the 12th century, translators were aware of the prolixity of Arabic, and some at least considered this helpful in expanding the sometimes terse and confusing Greek original. To illustrate this, Di Martino compares the Arabic original of Averroes' *Talkhīs Kitāb al-Hiss wa-l-Maḥsūs* (*Epitome of De sensu et sensato*), the Hebrew translation, and two Latin versions. In some instances, the Latin translator attempted to provide a faithful rendition of the Arabic concept, either by using a grammatical similarity or by providing a paraphrase that expanded the term. But in other instances, he did not. For example, in a section on happiness and intellectual faculties in book 2 chapter 3, the Latin translator sometimes omitted or added—for example, he added the idea of the difference between dreams (caused by angels), divinations (caused by demons) and prophecy (caused by God). In Averroes, by contrast, the issue is the distinction between veridical and non-veridical dreams. Both, according to Averroes, are the result of the imaginative faculty; so both have human causes. This is an instance of doctrinal corruption of the text.

Joëlle Ducos observes that translators into French also remarked on the difficulty in finding an accurate equivalence: to them French did not have as rich a scientific vocabulary as Latin. The practice of borrowing and creating neologisms varied more or less successfully with the discipline; astronomy found it easy to coin technical terms from Latin, while in meteorology it was restricted to certain areas of the text. And, of course, the act of borrowing itself contributed to the development of the language.

In his essay on Renaissance translations of *Meteorologica* 4 and the commentary tradition, Craig Martin argues that book 4 is important because of the large number of technical terms it contains, terms that translators found difficult to render accurately in the object language. Moerbeke's translation was an improvement on earlier medieval ones; and despite humanist criticisms, Renaissance commentators frequently continued to use it. Beginning with Palmieri's translation in the 1460s, there were several new versions; and particularly within the humanist tradition represented by Leonardo Bruni

and Theodore Gaza, emphasis was frequently placed on the scientific vocabulary that avoided medieval use of graecisms. Adoption of a new vocabulary, the humanists believed, would produce more elegant Latin versions and make medieval translations obsolete. While several humanists rejected Gaza's goals for creating an Aristotelian 'tabula rasa', contemporary translators did avoid transliterations of terms. Martin gives as an example the term $\pi\acute{\epsilon}\psi\iota\varsigma$ (often rendered by modern scholars as 'concoction') and related terms. Aristotle's problem here and elsewhere was the creation of a technical term out of ordinary language, but the byproduct of this agenda was imprecision or (as many critics have charged) obscurity. Although early modern commentators on *Meteorologica* 4 slowly adopted humanist terminology, only four (Francesco Vimercati, Francisco Vallés, Johannes Hawenreuter, and Christoval Nuñez) used Renaissance translations as the basis for their commentaries. In many cases, the medieval text was emended with Renaissance terminology; and by the mid-16th century, a new type of commentary formed, dedicated to patterns of translation, with appendices explaining terminology. Even this did not satisfy every reader: beyond the disagreements over the particular choice of words used to translate technical Greek terms, commentators also criticized translators for having disregarded the sense of the passage.

In a similar vein, Pieter Beullens focuses on Aristotle's nomenclature of fish, which medieval and Renaissance readers found problematic in part because Aristotle believed that once fixed, the names would not change, and because he provided little descriptive information about the organism. Consequently, beyond the limitations of natural habitats, it was difficult for medieval and Renaissance scholars to determine which animal Aristotle was naming. In the absence of other evidence, medieval and Renaissance translators—Beullens examines the approaches of William of Moerbeke, George of Trebizond, and Theodore Gaza—fell back on surveys of names in previous works (like Pliny's *Natural Histories*) or transliteration of Greek terms. The success of Gaza's reformulation of fish nomenclature can be seen in its use by (among others) Conrad Gesner and Linnaeus and the almost complete obscuration of earlier translations.

Géraldine Veysseyre argues that Jean Corbechon's translation of Bartholomaeus Anglicus' *Liber de proprietatibus rerum* was a 'service translation': there is no reorganization of content, and the chapters

and headings are all retained as in the original. This makes comparison of terms very easy. In some cases, where the French term is not identical in meaning with the Latin one, Corbechon inserts a paraphrase; for example, 'animal' is explained as 'beste et personne' because the French term 'animal' was not generally applied to beasts and humans. The same technique is employed when Corbechon used neologisms. When the Latin text employs concise syntactical forms (e.g., *econtra*, *e converso*), Corbechon does not translate the phrase but instead employs a different syntax to express the same idea, and this seems to have been done consciously to preserve clarity for his French readers. In particularly difficult passages, Corbechon inserts a brief gloss that explains the untranslatable material. When there is no single word that translates a Latin term, especially verbs, Corbechon's habit is to substitute either *faire*+adjective or *estre*+adjective for an action verb. This makes the vernacular text less creative linguistically. Nor does he like the frequent Latin tendency to make double verbs joined with a copulative; instead, he reduces this to one verb that preserves the general sense but alters the cadence of the phrase. The same is true for substantives: 'venas et arterias' is rendered 'vaines'. While the goal of the encyclopedist is universal knowledge, Corbechon takes this one step further: he attempts to make the vernacular version wholly self-sufficient, so that the reader need not know the allusion in the text or look up a quoted or paraphrased text, even if it is from the bible. Although Corbechon attempted to remain true to the Latin text, he also realized that he was addressing a different audience, the royal court. It is interesting to note that the majority of the surviving copies of Corbechon's translation, in contrast to the Latin base, are *de luxe* copies, illuminated and with fewer abbreviations than contained in the Latin text.

Other linguistic issues may be dealt with more concisely. Sara Marruncheddu, for example, observes that the French translation of the falconry treatise *Moamin* by Daniel de Lau (about whom little is known) uses more North Italian words than any other non-French terms, making the translation an example of Franco-Italian literature. With the discovery of a second manuscript (Bruxelles, BR IV.1208) of the French text, it is possible to analyze the lexical structure of the translation more completely. Among other things, Daniel de Lau adopts words from a variety of French dialects because they are living representations of the language. The Franco-Italian version is

also rich in Latinisms and Arabisms, as well as a few Greek derivations. Alessandro Vitale-Brovarone assesses this more theoretically. In an ideal situation, the act of translation sets up two languages and two texts mediated by the act of translation. But this ideal situation is never perfect: the two linguistic communities may not be completely separate and, in addition to texts, there may also be oral interaction that affects translation. The translator as the medium between communities sets up several senses: the bilingual, the borrower, the diplomatic exchange. Indicative of the complexity of translation, Vitale-Brovarone describes the etymologies of four ‘mots sans mémoire’—words that have a common use, reflect multiple linguistic origins, and whose developments are poorly understood or recollected. Overlaid on this, individual translation techniques demonstrate that the common assumptions about direct translations do not apply universally. And finally, we cannot ignore the social context of translation: one cannot limit the phenomenon of translation to a formal act of moving from one written text to another. Rather, translation is a relationship between two different groups of peoples involving a dialogue between the translator, the source, and the destination.

Vitale-Brovarone’s reference to the social context of translation brings us to the third rubric, the cultural domain of scientific translation. While this cuts across most if not all the essays in the collection, two are especially illustrative of the relationship between culture and translation. Focusing on Latin translations of the Pseudo-Aristotelian *Problemata* and their readers, Iolanda Ventura observes that translation of scientific works into vernaculars involved more than just transferring a text from one language to another. Because the recipients of the translated text were largely excluded from the cultural networks of the original language, the translator had to provide in addition the information derived from glosses and commentaries. Both Latin and vernacular translators faced the problem of enlarging the native vocabulary with technical scientific terms that did not exist prior to the translation. The *Problemata* was particularly problematic (an unintended pun) for several reasons: the existence of two sets of translations, that is, medieval and Renaissance versions, each provided different translation strategies and goals; the structure and content of the work allowed translators and commentators different ways of approaching the text; and finally, the intrinsic difficulty of the text required specific strategies to access the text.

Some indication of the difficulty of the work can be seen in the fact that while the 13th-century translation by Bartholomew of Messina is extant in some 70 manuscripts, only 14 non-anonymous commentaries have been identified. While medieval commentators (especially Pietro d'Abano) were interested in correct and precise terminology in the text, subsequent translators were even more scrupulous in this regard. In addition to retranslating the Aristotelian corpus in the Renaissance, humanist translators also discussed new theories of translation. In particular, newer translators favored more nuanced translations than *de verbo ad verbum*, aimed at more expert grammar, syntax, and vocabulary; and they attempted to contextualize the texts they were translating. Once again, Theodore Gaza is illustrative: in his translation of the *Problemata*, he gave emphasis to the form, even to the point of sometimes sacrificing the exactness of the content. The criticisms articulated by many of these Renaissance translators may derive from several sources, but one (according to Ventura) was a changed culture, in which the privilege that Latin once held was now giving way to the reality that scholars more and more could consult the original Greek text. Moreover, the emerging patronage system of the Renaissance supported these translation efforts, especially in Italy.

Marianne Elsackers' examination of early medieval Latin and vernacular terms for abortion and embryology provides a very interesting and nuanced example of cultural influences on translation. The early Middle Ages produced two sets of embryological treatises, one descriptive, the other normative, the latter generally restricted to two stages of development (corresponding to murder of the foetus or some lesser infraction), while the former employed finer and more numerous stages of embryonic development. At the same time, while normative treatises gravitated toward a bifurcated fetal development, they also created multiple synonyms for the criteria distinguishing early- and late-term abortions, including formation, movement, sensation, vivification, and the most elusive of all, ensoulment. Moreover, normative legal treatises can be found in both civil and canon law traditions, making abortion in the early Middle Ages a more complicated phenomenon than the distinction between secular and sacred. Within this confusing framework, because embryological terminology was largely restricted to normative discussions, the richness of descriptive terminology increasingly came to focus on the issue of abortion.

From an ambiguous passage in Augustine, the idea of ensoulment probably arose to explain what earlier descriptive embryologists referred to as formation. As Europe became more Christianized, the use of ‘anima’ became more ambiguous: earlier it may have referred to animation or movement, but gradually it came to be synonymous with ensoulment. The use of 40 days as the moment of ensoulment had both textual and theological foundations, the latter rooted in the fasts of Christ or the period of Lent. Although one might assume that authors of normative texts would consult embryological descriptive texts, there are very few early evidences of that. In the end, the normative texts—undoubtedly written by men—depended on the testimony of women to determine the particular stage of development of the embryo. And, thus, it was unlikely that women would incriminate themselves or other women as murderesses.

As a whole, *Science Translated* is a sophisticated and far-reaching examination of an extraordinarily complex and extensive field. I would simply offer two criticisms of the volume, both focused on tools of entry into the book and the field. First, while the editors have included two indexes—one of the manuscripts cited in the essays, the other of proper names of medieval and Renaissance authors and anonymous works—there is no subject index. Given the broad array of topics covered by *Science Translated*, such an index would help readers to see the connections among the individual essays. Second, while José Lambert’s essay focuses on preliminary considerations of medieval translations and translation studies, it does not really constitute an introduction to the volume, and it raises more questions than it answers—even provisionally. It would have been very helpful had the editors themselves expanded the prefatory remarks beyond the fairly evident observation that the volume examines Latin and vernacular scientific translation. Nevertheless, this is a richly rewarding collection of clear and precise studies that will be cited both for their contributions to translation studies and their conclusions in more specific disciplinary investigations.