**Maria Luisa Maggioni**

# Modern technologies for the study of Middle English translation techniques: a computer-aided analysis of Trevisa's translation of *De Proprietatibus Rerum* (Books I-V) [1]

marial.maggioni@mi.unicatt.it

## 1. INTRODUCTION

In Western Europe, the Middle Ages was a period in which translation had a vital role in the preservation and transfer of knowledge through time and space. Thanks to the rendering of Latin texts into the various vernacular languages which were then acquiring a new status as the medium of literate culture and thought, the more-than-millennial tradition of classical and Christian learning was being made available not only to those members of the clergy who were not literate enough in the use of Latin to have access to the vast corpus of religious and secular literature written in that language, but also to students and, eventually, to laymen. As a consequence, medieval translators had to face and solve a vast range of problems when transferring the contents expressed by a highly articulated language (Latin) with a time-honoured tradition in the transmission of learning to far less accomplished linguistic media.

In late 14th-century England the practice of translation from Latin (and, although to a less significant extent, from other more sophisticated vernacular languages such as French and Italian) had a dramatic acceleration which is commonly associated with the names of Chaucer and Wyclif but which also

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owes much to a number of less celebrated writers who endeavoured to permit access to literate (i. e. written in Latin) knowledge to «Englyschmen þat conneþ no Latyn, [...] and þat ys noȝt ydo bote by Englysch translacion», as John Trevisa himself wrote in his *Dialogus inter Dominum et Clericum*, which contains the author's views on vernacular translation (cited in Waldron, 1988, 293).

## 2. JOHN TREVISA'S TRANSLATIONS AND TRANSLATION THEORY

The reason why an in-depth study of Trevisa's translations might offer an insight into the problems the medieval translator had to face and into the linguistic means he could rely on is better understood when considering that «the task he [Trevisa] undertook, and the breadth and sophistication of linguistic resources it required, are incomparable» (Lawler, 1983, 28).

Even though the output of Trevisa as a translator is amazing, we actually know very little about him. Biographical information is scarce: he was probably born in Cornwall ca. 1342 and since his youth he was associated with the patronage of the powerful Berkeley family. He went to Oxford in 1361-62 and was ordained priest in 1370. He became vicar of Berkeley (Gloucestershire) in 1390 and had died by May 12, 1402, when a new vicar took charge of the parish. During his life he translated a vast amount of Latin texts, but a date can be supplied only for his two major works (i. e. the rendering of Higden's *Polychronicon*, finished on April 18, 1387, and the translation of Bartholomaeus Anglicus's *De Proprietatibus Rerum*, completed on February 6, 1398). No other of his translations can be precisely dated: the rendering of *De Regimine Principum* by Aegidius Romanus was probably completed after *De Proprietatibus Rerum*, while the version of Richard Fitz-ralph's *Defensio Curatorum* is to be ascribed (together with the *Dialogus inter Militem et Clericum*) to his Oxford years. The dating of the translation of *Gospel of Nicodemus* is controversial and both the tradition of Trevisa's translation of the Old and New Testament and his involvement in the wycliffite *Bible* are still to be confirmed.

Apart from the astonishing amount of Trevisa's production and the significant range of the fields he worked in (he had an obvious interest in religious texts, but his main efforts – at least as far as documents can prove it – concentrate on historical and scientific works, written for a lay patronage),

he also produced a meta-translational theory which is contained in his already cited *Dialogus* and in the *Epistle ... unto Lord Thomas of Barkely* upon the translation of *Polychronicon* (for both texts, see Waldron, 1988).

From the latter two brief theoretical works, it is easy to realize that Trevisa's presuppositions and practical aims coincide with the principles followed by the Fathers of the early Christian Church (as enunciated by Jerome in his *De Optimo Genere Interpretandi*), who underlined the importance of 'serving' the source text by overcoming linguistic difference through the preservation of the original meaning. In Trevisa's own words, the translator has a crucial role, in that «bytwene strange men of þe whoche noþer vnderstondeþ oþeres speche, such a man may be mene and telle eyþer what þoþer wol mene» (Waldron, 1988, 90). The translator is therefore a *means* (*mene*) whose function is to reconcile linguistic difference and to transmit what other people *mean*; this has obviously both stylistic and technical implications.

## 3. TREVISA AND *DE PROPRIETATIBUS RERUM*

In a period when vernacular translation was enriching English culture and the English language, Trevisa

> stands apart from his contemporaries because of the magnitude of his accomplishment, and especially because in translating *De Proprietatibus Rerum* he helped to make English a capable instrument for conveying technical information to the average educated man. And he did so in an English that, even for the most technical medical, botanical, or physical material, is surprisingly fluent and competent – or, by his own criteria, accurate, intelligible, and idiomatic (Lawler, 1983, 288).

The encyclopaedia *De Proprietatibus Rerum* was written in the second quarter of the 13th century by the Franciscan Bartholomaeus Anglicus for the students of his *studium particulare*. It is a compilation based on both ancient and contemporary authorities, offering a description of the things and phenomena cited in the Bible as a sort of *glossa* consisting of 19 'books' «organized according to the great chain of being, beginning with God and his angels and extending downward to man and the physical universe» (Fowler, 1995, 207). This *compilatio* had a fast spread and international circulation and in the course of the 14th and 15th centuries it was translated into six vernacular languages

(French, Spanish, Italian, Provençal, Dutch, English). Trevisa likely produced his translation of Bartholomaeus's work to meet the requests of his patron Thomas, Lord Berkeley, thus creating a 'service translation' which supplied his lay readership with a faithful and useful rendering of the encyclopedic information it contained. The circulation of this text was limited at the time, but in the following century it was printed by de Worde (circa 1495; see Holbrook, 1999) and reached a wider popularity (for further information on the circulation of Trevisa's work, see Seymour, 1975).

As it can easily be understood, such a text is a gold mine for present-day study of the theory and practice of vernacular translation in the Middle Ages, which can only profit from a close study of this work because of a variety of factors which are programmatically enunciated in the following well-known paragraph:

> For to make þis translacion cleer and pleyn to be knowe and vnderstonde, in som place Y schal sette word vor word and actyue vor actyue and passiue vor passyue arewe ryȝt as a stondeþ withoute chaungyng of þe ordre of wordes. But yn som place Y mot change þe rewe and þe ordre of wordes and sette þe actiue vor þe passiue and aȝenward. And yn som place Y mot sette a reson vor a word to telle what hyt meneþ. Bote vor al such chaungyng, þe menyng schal stonde and noȝt be ychanged (Waldron, 1988, 294).

Trevisa followed a coherent translation theory with the aim of producing – to repeat Lawler's words – an «accurate, intelligible, and idiomatic» version of the Latin original. He therefore molded his English to fit his source text closely, even though he always allowed for the necessity of keeping the original meaning in spite of linguistic differences. In doing so, he not only relied on all the internal resources of the vernacular and exploited all the lexical and syntactical potentialities of English: he also took advantage of his knowledge of Latin to enrich the vernacular with loanwords, lexical and syntactical calques etc., thus becoming an innovator and a pioneer.

## 4. A COMPUTER-AIDED ANALYSIS OF TREVISA'S TRANSLATION OF *DE PROPRIETATIBUS RERUM*

A comparative analysis of the techniques used by Trevisa in his translation of *De Proprietatibus Rerum* I-V was possible thanks to the use of a computer transcription of both Bartholomaeus's original and Trevisa's work, which I

have been carrying out with the co-operation of a group of students and post-graduate students of the Department of Foreign Languages at the Catholic University of Milan [2].

Since this study of translation strategies in the rendering of *De Proprietatibus Rerum* is still in progress, and has so far concerned only about a quarter of the total text, I will just give some illustrations of the results we have reached so far in this ongoing research in order to present instances of the possibilities offered by this computerized investigation.

Allowing for the inevitable drawbacks of such a study (the labelling of entries is obviously subject to personal idiosyncrasies and errors, which include both misprints and possible misunderstandings; moreover – in spite of the use of scanners and other technological aids – most preliminary work requires the exploitation of human resources), the recording and sorting out of data enables the analyst to treat the data he or she has organized objectively and quickly.

After choosing the three basic translation strategies of Coincidence (C), Reduction (R), and Expansion (E) as main typologies, they were sub-divided into a series of sub-categories or techniques which were identified by conventional labels, as shown in a simplified form in the following table:

## Table 1

| STRATEGY | SUB-CATEGORY | LABEL |
|---|---|---|
| Coincidence | Transcription of Latin words | C1 |
| | Calques | C2 |
| | «word-for-word» translation | C3 |
| | «non-word-for-word» translation | C3 |
| Expansion | Addition of words or clauses | E1 |
| | Latin words glossed in English | E2 |
| | Latin words translated with 3 or 4 English words | E3 |
| | Latin words translated with a periphrasis | E4 |
| | Latin words translated with a *doublet* | E5 |
| | Explicitation of lexical items: | |

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|---|---|---|
| | – explicitation of pronouns, adverbs and adjectives | E6a |
| | – explicitation of implicit textual references | E6b |
| | Explicitation of implicit verbal forms: | |
| | – explicitation of verbs in Latin clauses | E7a |
| | – explicitation of Latin ablative absolute | E7b |
| | – explicitation of Latin participles and gerunds | E7c |
| Reduction | Omission of Latin words | R1 |
| | Omission of Latin clauses | R2 |
| | Two Latin words translated with one English word | R3 |
| | Latin phrases translated with shorter English expressions | R4 |
| | Latin terms or phrases translated with pronouns or adverbs | R5 |

The two texts, divided into corresponding syntactic units, were then transferred into a database [3], which permitted to organize the textual data according to fixed parametres. The Latin and English texts were then analytically examined and the labels identifying the various translating strategies were applied to lexical and/or syntactic units.

The following table shows a simplified example of this transcription, taken from the *Preface*; for the sake of clarity it only contains the basic information as to the text and to the main strategy chosen by Trevisa (C, E, or R):

**Table 2**

| LATIN TEXT | ENGLISH TEXT | STRATEGY | LINE | PAGE |
|---|---|---|---|---|
| cum | for | C | 4 | 41 |
| proprietates | propirtees | C | 4 | 41 |
| rerum | Þinges | C | 4 | 41 |
| sequantur | folewiÞ | C | 4 | 41 |
| substantias | substaunce | C | 4 | 41 |
| ordinem | ordre | C | 5 | 41 |
| distinctionem | distinccioun | C | 5 | 41 |

[3] Excel for Windows '98, 7. 0 TM Microsoft Corporation.

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|---|---|---|---|---|
| substantiarum | propirtees | C | 5 | 41 |
| ordo | ordir | C | 5 | 41 |
| distinctio | distinccioun | C | 6 | 41 |
| proprietatum | substaunce | C | 6 | 41 |
| adiutorio divino | by help of God | C | 6 | 41 |
| est...compilatum | is compiled | C | 7 | 41 |
| praesens | Þis | C | 6 | 41 |
| opusculum | werk | C | 6 | 41 |
| utile | profitable | C | 7 | 41 |
| mihi | to me | C | 7 | 41 |
| forsitan | on cas | C | 7 | 41 |
| aliis | to oÞir | C | 7 | 41 |
| qui | Þat | C | 7 | 41 |
| naturas | kyndes | C | 8 | 41 |
| rerum | Þinges | C | 8 | 41 |
| proprietates | propirtees | C | 8 | 41 |
| per... libros | in bokes | C | 9 | 41 |
| sanctorum | of holy seintes | E | 9 | 41 |
| philosophorum | philosophris | C | 9 | 41 |
| dispersas | Þat beth toschift and isprad | E | 8 | 41 |
| | ful wide | E | 9 | 41 |
| non cognoverunt | knowith nought | C | 7 | 41 |
| ad intelligenda | to undirstonde | C | 9 | 41 |
| aenigmatica | redels and menynges | E | 10 | 41 |
| scripturarum | of scriptures and of writings | E | 10 | 41 |

The whole text of Books I to V was transcribed in the same way. The resulting four hundred pages or so of computerized data were organized according to various ratios, once all entries had been properly labelled and the selection parametres had been fixed. The five Books that have been processed so far consist of thousands of lexical and/or syntactical units, that is to say individual entries of the database (for example, the analysis of the Preface and of Books I and II has produced 6, 292 entries, while 18, 853 entries were identified for Book V).

It is obviously possible to order these data according to different parameters, choosing for example to sort out the data belonging to one specific 'book' and/or chapter or to select only a particular strategy or sub-category. These – in turn – can be ordered according to different ratios (e. g. alphabetically, in conformity with either the Latin text or the English one) and

calculated from a mathematical and/or statistical point of view. For instance, if the three main translation strategies of Coincidence, Reduction, and Expansion are taken into consideration, it is possible to ascertain that Coincidence is the prevailing method chosen by Trevisa (roughly 75% of entries belong to this type), while Expansion accounts for about 17% of cases, while Reduction is limited to 8% of occurrences. It is clear that fidelity to the original – *literal* translation or, to use Trevisa's own phrase, *word-vor-word* translation – is the largely prevailing choice, while omission is virtually absent. In the cases where Trevisa adopts expansions, these are used both at lexical and structural levels to explain a difficult word, to clarify a point, to parallel a sentence or a clause.

The same technique was employed in a study on the use of doublets in Books I and II of the translation of *De Proprietatibus Rerum*, thus isolating all the recordings belonging to this group. The data collected for the aforementioned study show that the two words forming a doublet can be either

> of the same origin (Germanic or Latin) or by a combination of words of the two origins. The homogeneuous pairs (i. e. those formed by words of the same origin, such as *principium and cause* for *principium* or *schewith and techiþ* for *manifestat*) account for ca. 49% of the total 172 doublets appearing in Books I and II of Trevisa's translation, with a clear prevalence of Germanic pairs, while 87 (about 51%) doublets are formed by mixed pairs (52 made up of Latin word preceding a Germanic one, 35 composed by a Germanic word preceding a Latin one). [...] To do this, he *employs a doublet* as a *'gloss'* of the obscure Latin word, which may also appear as a loanword as the first element of the English pair. Trevisa may sometimes rely on the techniques of calque, composition and derivation to create new words, but above all imparts new meanings to words already incorporated into English (Maggioni, forthcoming).

Another result which was reached through the computerized analysis of the two texts regards Trevisa's treatment of particular Latin syntactic forms. This study, whose results are illustrated in detail in an article published by one of the persons involved in this project (Gorla 1999), allowed to recognize

> a tendency of Trevisa [...] to employ, where the language allows it, the active form rather than the passive one; [...] Trevisa has a strong tendency to pass from the nominal form to the verbal one, and from the adjectival form to the nominal or verbal one (Gorla, 1999, 193).

Another aspect the same analysis brought to the fore is Trevisa's habit

to transform the hypotactic structure of the Latin text into a paratactic one by replacing the Latin gerunds and participles with finite verbal moods (Gorla, 1999, 184).

As it can be inferred from the first results of this computer-aided study of the translation techniques employed in Books I-V of *De Proprietatibus Rerum*, it has already been possible to verify from a statistical (i. e. objective) viewpoint what empirical analysis can only perceive as an intuition: Trevisa managed to be true to his word and did produce a faithful translation, thus serving both his original and his readers.

What I wish to underline at the end of this paper is that the use of new technologies for the study of a Middle English translation is not to be considered as incongruent: in the same way as a medieval translator employed all the tools the culture and learning of his time put at his disposal to enlarge the knowledges of his contemporaries, the tools and methods the culture and learning of our time have produced can help us reach a better understanding of the past.

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