

*English Library:
the Linguistics Bookshelf*

Volume 7

Massimo Sturiale
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(eds)

**English Words
in Time**

Polimetrica
International Scientific Publisher

The publication of this book, whose chapters were subject to blind peer-review, was made possible by funding from the Italian Ministry of Education, University and Scientific Research (PRIN research project # 2007YRY2LY coordinated by Giovanni Iamartino).

2014 Polimetrica ® S.a.s.

ISSN 1974-0603 Printed Edition

ISBN 978-88-7699-228-5 Printed Edition

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Printed in Italy by DigitalPrint Service Srl – Segrate (MI)

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Translators as Wordsmiths: Lexical Innovations in Harvey's *De Motu Cordis* in English

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1. Introduction

In Christopher Langton's *Introduction to Phisicke*, published circa 1545, the fifth chapter deals with "The sections of the bodye". While describing the different parts of the brain, Langton comments on the inadequacy of English medical terminology:

The thyrde chambre is behynde in the laste parte of the heed, whiche before we supposed to be the place and seet, of the memorye, and in this chambre is a greate parte of the brayne, whiche the Grecians call *παρεγκεφαλις*, in latyne it is called *Cerebellum*: in oure tungue we haue no propre name for it, whiche I can do no lesse then count the negligence of our Phisitions to be the cause of: for yf they had wrytten of theyr arte in theyr mother tunge, as they do in other places, why shulde we lacke englysh names, more then we lacke eyther Latyn names or Greke names? and yet to saye the truthe, it is better for vs English men to haue English names, then eyther Latyn or Greke. (Langton c.1545: XXVIb-XXVIIa)

The promotion of English as the language of science, as it is exemplified by this quotation, went hand in hand with the evolution of science itself. Slow was the change from scholasticism to empiricism in early modern Europe: as far as medicine was concerned, it took decades, indeed centuries, for the old Galenic tradition to be broken with, and the inductive mode of knowing to spread. Correspondingly late was the surrender of Latin although an incipient sense of nationalism, in England as well as elsewhere, promoted the use of the vernacular. It has rightly been argued that, "In the field of science, medicine was in the vanguard of vernacularization" (Pahta & Taavitsainen 2004: 11): this is not surprising at all, because medicine

was both a subject of scholastic study and a practice carried out by healers without formal training, so we find medical texts in

vernacular languages, presumably aimed at bridging the gap between learned and popular medicine, which coexisted with far more numerous Latin medical treatises throughout the Middle Ages. (Crossgrove 1998: 82)

This is true of early modern as much as late medieval Europe. Latin did not easily let academic learning slip from its grasp: advances in science, even after old scholastic thinking started being rejected, were still discussed in Latin in the universities. Hence, books for the small medical elite and an international readership were written in Latin until well into the 17th century. But the situation had been changing, and it did change dramatically from the late 1640s onwards: according to data provided and calculations made by Charles Webster, 207 out of the 238 medical books published in England between 1640 and 1660 were in English, a staggering 89.6%! (see Webster 1975: 266-267, and Wear 2000: 40-45).

William Harvey's treatise on the circulation of the blood – which was originally written in Latin and came out in Frankfurt (Harvey 1628), to be later translated into English and published in London (Harvey 1653a) – can properly exemplify both the climactic moment in the use of Latin as the international language of scientific communication and the growing prestige of English as the medium for medical discourse. Between original scientific works published in either Latin or – increasingly – English, translations from Latin into the vernacular occupy an intermediate position that is indicative of a new, wider readership and the indisputable development of scientific English. Both aspects – the study and practice of medicine in the 17th century, and the features of medical English in the same period – and especially their interrelations are well worth examining in detail,¹ and Harvey's epoch-making book can make a most suitable case-study.²

¹ Much interesting research has been carried out by historians of medicine in Britain: see among others Webster (1975), French (2000, 2003), French & Wear (1989), Porter (1989, 1992, [1987] 1993, 2001) and Wear (1992, 1998, 2000). First-class research on late medieval and early modern medical discourse is found in Taavitsainen & Pahta (2004, 2010, 2011).

² A thorough analysis of this translation and its socio-cultural context will be carried out in a forthcoming paper.

However, in order to fall into line with the general topic of the present book, this chapter will focus on one specific feature of the English rendering of the *De Motu Cordis*, that is to say the translator's strategies to cope with Latin technical terminology.

2. Harvey and *De Motu Cordis*

William Harvey (1578-1657) was first educated at Folkestone, where he was born, then at Canterbury and Cambridge, where he graduated as a Bachelor of Arts from Caius College in 1597. After travelling to the Continent, in 1599 Harvey entered the University of Padua, where he was among the students of the pioneering anatomist and surgeon Fabricius of Aquapendente, and where he graduated as a Doctor of Medicine in 1602. That year he obtained the same degree from the University of Cambridge and then settled in London, holding appointments at St Bartholomew's Hospital and at the College of Physicians; he also became physician to James I and Charles I.³

When he published his celebrated treatise *Exercitatio Anatomica De Motu Cordis et Sanguinis in Animalibus* in 1628, Harvey had been working on the circulation of the blood for about ten years. His scientific discovery can be summarized as follows:

Harvey depended not only on classical doctrines but also on close empirical investigations, which demonstrated to him at least two basic facts: the valves in the veins prevent the blood from moving in any direction except towards the heart; and the heart's movement of diastole (its squeezing) rather than the systole (its engorgement) was the active motion of the heart, causing the blood to rush onward. (Cook 2006: 425)

As has already been mentioned, Harvey's treatise was published in Frankfurt, whose annual book fair guaranteed wide circulation to

³ Harvey's life has been the subject of many biographies, among others Keynes (1949, 1966), Keele (1965), and French (2004). On Harvey's work and ideas, see Pagel (1967), Whitteridge (1971), Bylebyl (1979), Frank (1980), Gregory (2001), Shackelford (2003) and French (2006); on Harvey in Padua, see Ongaro *et al.* (2006).

works written in Latin for an international readership. Although – or, rather, as – Harvey’s insights stirred heated debate, *De Motu Cordis* achieved a long-lasting publishing success, with nineteen Latin editions, fifteen of them in the 17th century: it was published in Frankfurt, Venice, Padua, Bologna, Florence, Leiden, Amsterdam, Rotterdam, London, Glasgow, and Edinburgh (see Keynes 1953: 1-23).

Harvey’s choice to write his book in Latin was a wise one. In fact, despite the ongoing sociocultural changes, “in Harvey’s world the use of Latin was associated with social authority”, and

The formal Latin argument was a good strategy for Harvey in the published work. [...] he not only had to reach a wide audience, but to convince them. Here Latin had its advantages. It was the language of philosophy, of demonstration, of rhetoric, and of proof. Harvey uses it for all these. It was the language of the medical experiment, a central part of Harvey’s natural philosophy and derived from an anatomical tradition going back through Fabricius, Colombo, and Vesalius to Galen (whom the medical men read in Latin translations). (French 2000: 26, 44)

Moreover, if we are to believe an early biographer,⁴ Harvey’s use of Latin, although traditional, was no impediment to his research methodology and innovative theory:

With respect to the style of Harvey’s works, it is, perhaps, a circumstance deserving commendation, that, when treating on subjects so perfectly modern, he did not confine himself within the rules of strict Latinity, but used, without scruple, such technical terms, as had been found necessary to express the ideas of an improved science. This is principally applicable to his treatises on the motion of the blood; in which, wholly intent on his subject, he appears only solicitous to write intelligibly, and inattentive to elegance. (Aikin 1780: 324)

⁴ John Aikin (1747-1822) was an English doctor and writer, with a particular bent for biographies. His *Biographical Memoirs of Medicine in Great Britain* is meant to describe “the progress of the medical art” while “throwing due lustre on the characters of men” (Aikin 1780: vii), and deals with fifty-five doctors from the early 13th century to Harvey’s times.

3. *De Motu Cordis* in English and the Translation of Medical Terminology

3.1. *De Motu Cordis* in English

The Anatomical Exercises of Dr William Harvey came out in London in 1653, four years before Harvey died. Just a quick look at the title-page will be enough to see that the translation was not carried out from the 1628 Frankfurt edition, but from the one published in Rotterdam twenty years later (Harvey 1648).

At least two plausible reasons can be given to explain why the English translation was based on the Rotterdam edition: firstly, because the Frankfurt edition was not exempt from typos and mistakes, which Harvey himself, who had not been able to see the book through the press, had often complained of; and secondly, because the paratext in the Rotterdam edition wholeheartedly supported Harvey's methodology and conclusions. In fact, it should not be forgotten that Harvey's ideas were often attacked, most notably by the French anatomist Jean Riolan, still an advocate for Galen: his *Opuscula Anatomica* (Riolan 1649) criticized Harvey's views, and the English doctor had to defend himself in his *Exercitatio Anatomica De Circulatione Sanguinis* (Harvey 1649), where he argued that Riolan's position was contrary to all observational evidence. Therefore, the anonymous translator⁵ was certainly glad to render Zachariah Wood's Latin preface into English, and write as follows:

Harvey did not trust other mens writings, but his own faithfull eyes, the truest reporters of Anatomy, because Anatomy is better gain'd by ocular inspection than by long reading, and profound meditation. None is forc'd to swear allegiance to a Master, whom nevertheless we likewise trust after experience. [...] Wherefore let ipse dixit never be held here, let no excellent mans Authority be brought for an argument, let no opinion have a prerogative, but let the better bear it away. Lastly, while others endeavour to defend Antiquity, let us,

⁵ In his introduction to the Italian edition of Harvey's works, Franco Alessio mentions George Ent – a close friend of Harvey's, and the author of the *Apologia Pro Circulatione Sanguinis* (Ent 1641) in defence of Harvey's theory – as the possible editor of the 1653 translation (Alessio 1963: 36).

together with *Harvey*, plead Truthes cause; Let us approve those things which are agreeable to truth, and reject those things which are contrary to it, weighing and esteeming the inventions of Antiquity not in the scale of Antiquity, but in the scale of Truth. (Harvey 1653a: The Preface, n.p.)

What is notable here, and in the whole preface, is the firm insistence on sensory, ‘autoptic’ experience as the most reliable form of knowledge, and on the related “construal of experience as ‘experiment’” (Dear 2006: 106). This is not only interesting from a cultural and historical point of view, but it is also relevant to a lexicological analysis of Harvey’s treatise and its translation. In fact, a narrative description of experience and experiment can but have recourse to pertinent, unambiguous and correct terminology: words, in a sense, are among the tools the anatomist uses to carry out his experiments, to explain his procedures, and to describe objects and facts. Anyway, while Harvey could rely on traditional scientific Latin and its lexical resources to meet his communicative needs, the translator of the *De Motu Cordis* had a much harder job to do, because the English language was on the move as “new technical lexicons were being forged or expanded in the interests of precision, and the polysemy of natural language [...] was being rejected” (Campbell 2006: 760). Of course, the most basic anatomical and medical vocabulary had been in the language since the Anglo-Saxon times, and many terms had been added to the lexical store in the late middle English period and the 16th century; but monolingual lexicography was still in its infancy in the mid-17th century, and the new ‘natural philosophy’ and scientific method required the incessant coining of new terminology.⁶ Therefore, even in those days (i.e. not long before the Royal Society was founded) translators were largely left to themselves to tackle the lexical problems posed by texts they had to work on.

⁶ For an exploration of two medical lexical fields between late middle and early modern English, see Norri 1992 and 1998; medical terminology in early modern English lexicography is dealt with in McConchie 1997 and Iamartino forthc. For a general survey on medical discourse in 16th- and 17th-century England see Gotti 2006.

In what follows, the different lexical strategies adopted by the translator of the *De Motu Cordis* will be shown and commented upon. More precisely, focus will be placed on his rendering of Harvey's specialized Latin lexis employed in the close examination and description of physical details and the physiology of human and animal bodies.

3.2. General Scientific and Basic Medical Terminology

A close parallel reading of Harvey's *De Motu Cordis* and its English translation provided evidence of some five hundred words or phrases that may be said to belong to the vocabulary of science and medicine. It is hardly possible to be more precise because a degree of uncertainty and subjectivity in the selection was inescapable, since quite a few words in the source and target texts were not technical in themselves but acquired some sort of specialized meaning from their co-text. For instance, while there are no doubts at all about the everyday usage of the verb UNTIE here below, one cannot say for certain whether COMPRESSION and CAPACIOUS should be labelled as technical terms:

si vel vinculum solveris in administranda phlebotomia, vel infra ligaveris (Harvey 1648: 142)

If in *Phlebotomie* you either untie the band, or bind it below (Harvey 1653a: 69)

propter ligaturę compressionē (Harvey 1648: 139)

by reason of the compression of the ligature (Harvey 1653a: 67)

quanto minorē ventriculus capacitatē habeat (Harvey 1648: 108)

how much lesse capacious the *ventricle* is (Harvey 1653a: 49)

According to the *Oxford English Dictionary* (henceforth, OED), UNTIE has been in the language since the late Anglo-Saxon period, with literal and figurative meanings, but no technical sense; COMPRESSION had also long been in the language when Harvey's book was translated, but this French loanword had been introduced into English as a technical term through the translation of Lanfrank's *Science of Chirurgie* and was largely employed as such; finally, the very form of CAPACIOUS, only attested in English from

the early 17th century, is indicative of a learned word, apparently chosen on purpose by the translator, who might instead have used CAPACITY in the then current meaning of “ability to receive or contain; holding power” (OED, s.v. CAPACITY, 1.a).

Another interesting example is BEATING. It goes without saying that this word does not occur in *The Anatomical Exercises* in its ordinary sense of hitting somebody as a punishment but in the medical sense of the pulsating or throbbing movement of the heart; hence, it should count as a technical term. And yet, its specific meaning can only be deduced from the co-text, as the following quotations show:⁷

palpitationem & vitæ principium, ageret (Harvey 1648: 59)
it did represent a beating, and the beginning of life (Harvey 1653a: 20)

in pulsu cordis (Harvey 1648: 64)
in the beating of the *heart* (Harvey 1653a: 23)

Under the rubric of basic medical terminology, such words as ARTERY, BLOOD, BODY, HEART, SHOULDER, VEIN and many more could be listed; but they belong to the common core of the English language, were readily available to the translator as equivalents of the corresponding Latin terms, and are not worth commenting upon.

3.3. Recent Unadapted or Slightly Modified Loanwords

This category includes Greek or Latin loanwords that are either taken as such (i.e. they are formally unadapted), or show the usual modifications or removal of endings.

To the first group belong such terms as AORTA, DIASTOLE, LARYNX, SYSTOLE, VENA CAVA or URETER. These are taken verbatim from the *De Motu Cordis*, with no explanation or gloss added, as an example can show:

⁷ It should be noticed that BEATING translates both Latin PALPITATIO and PULSUS. As an illustrative quotation for this meaning of the noun BEATING, the OED (s.v. BEATING, n. 5) first mentions a line from Shakespeare’s *Twelfth Night*, and then late 18th- and 19th-century examples: one quotation from Harvey (1653a) might make a very pertinent addition.

Nam qui motus vulgo cordis Diastole existimatur, revera Systole est. Et similiter motus proprius cordis Diastole non est, sed Systole (Harvey 1648: 37)

For that motion which is commonly thought the *Diastole* of the *heart*, is really the *Systole*, and so the proper motion of the *heart* is not a *Diastole* but a *Systole* (Harvey 1653a: 7)

These and similar technical words were lifted from the source text, and not unexpectedly so, as the OED makes it clear that they had been used in English since at least the last quarter of the preceding century. More recent words, though, were singled out for special treatment, as is evidenced by the translator's use of EPIGLOTTIS and PLACENTA (according to the OED, the former being first attested in English in 1615, the latter in 1638):

Larynx à musculis suis & epiglottide clauditur, elevatur & aperitur summitas gulæ à musculis suis (Harvey 1648: 62)

the *larinx* is shut close, by its own *muscles*, and the Epiglottis, the top of the *weason*, is lifted up, and opened by its *muscles* (Harvey 1653a: 21-22)

una cum materno sanguine revertente à placenta uteri (Harvey 1648: 178)

together with the mothers blood returning from the *Placenta* of the womb (Harvey 1653a: 89)

Both words – occurring only once in the *De Motu Cordis* – were recent and uncommon in English. In the first example, therefore, the translator inserted an explanatory gloss to make the word meaning clear (WEASON being a variant spelling of WEASAND, now chiefly dialectal for the OESOPHAGUS or GULLET); as to the second example, although UTERUS had been in the language since 1615, he opted for a mixed-language expression where the very recent loanword PLACENTA was retained as such, and its meaning was made clear by the subsequent English prepositional phrase.

Lexicologically less interesting, because perfectly in line with the general early modern English tendency to remove or modify the inflectional or derivational endings of Greek and Latin words (see e.g. Nevalainen 2006: 50-56), is the translator's use of such words as ANATOMIE (first attested in 1541), ANATOMICAL (1594), TO

CONTRACT (1604), TO REFRIGERATE (1525), SANGUIFICATION (1578) or THERAPEUTICK (1646).

3.4. Non-Technical Equivalents for Latin Medical Terminology

When no English terms nor recently adopted loanwords were available to him, the translator of the *De Motu Cordis* had to fend for himself, and he was often not very successful.

If all technical terms should unambiguously convey their meaning, a 1:1 correspondence is expected between terms from different languages denoting the same referent. And yet, two distinct Latin words in Harvey's book were sometimes translated in the target text by one and the same term. In fact, SKIN was used for both CUTIS and CUTICULA, and WOUND for both VULNUS and ICTUS. The most surprising instance, though, is BREATHING, which is used as an equivalent of INSPIRATIO, EXPIRATIO and RESPIRATIO:

ut inspiratio aëre contēperetur (Harvey 1648: 84)
that it may be temperd by breathing in the air upon it (Harvey 1653a: 34)

cum sanguis retro in expirationibus remigrasset (Harvey 1648: 94)
when in our breathing our blood should return backwards (Harvey 1653a: 40)

pulmonum respiratio (Harvey 1648: 96)
the breathing of the *lungs* (Harvey 1653a: 42)

It can hardly be understood why the translator did not employ INSPIRATION (first attested in 1564), EXPIRATION (1603) or at least RESPIRATION (1425), which he did use sometimes, along with BREATHING, for RESPIRATIO:

sed & respirationem in illa parte quam caudam nominant (Harvey 1648: 198)
but a respiration likewise in that place which they call the tail (Harvey 1653a: 102)

This latter instance exemplifies the reverse situation, which is found when a Latin word is given two or more equivalents in English: not only RESPIRATIO is translated as either BREATHING or

RESPIRATION; but Latin VAS can be either VAS or VESSEL, and Latin FISTULA either PIPE or CONDUIT PIPE in English. Another interesting example is the translation of Latin PHLEBOTOMIA with either the learned loanword PHLEBOTOMIE (in English since the early 15th century) or the compound BLOODLETTING, which is also used as an equivalent of SANGUINIS MISSIO:

si recte in phlebotomia fiat ligatura (Harvey 1648: 129)
if in the bloud-letting the *ligature* be made aright (Harvey 1653a: 61)

qua de causa in phlebotomia (Harvey 1648: 141)
for what cause in *Phlebotomie* (Harvey 1653a: 68)

in administranda phlebotomia (Harvey 1648: 142)
in *Phlebotomie* (Harvey 1653a: 69)

in administranda phlebotomia (Harvey 1648: 146)
in the administratiō of *Phlebotomie* (Harvey 1653a: 72)

in sanguinis missione (Harvey 1648: 129)
in blood letting (Harvey 1653a: 61)

in sanguinis missione (Harvey 1648: 131)
in letting of blood (Harvey 1653a: 62)

post sanguinis missionem (Harvey 1648: 136)
after bloud letting (Harvey 1653a: 65)

This kind of asymmetrical equivalence is clearest in the case of the different English forms for Latin VALVULA and VALVULAE SIGMOIDES – a varied, somewhat confusing combination of the translation equivalents PORTAL, DOOR, SHUT or LOCK:

valvularum artificio, positione, & usu (Harvey 1648: 65)
from the *figure, place, and use* of the *Portals* (Harvey 1653a: 23)

& valvas illas tres tricuspides in orificio aortæ positas (Harvey 1648: 68)
those *three pointed doors* plac'd in the *Orifice* of the *Aorta* (Harvey 1653a: 25)

valvulæ sigmoides tres (Harvey 1648: 77)

three * *doors* of the fashion of a Σ (Harvey 1653a: 30)⁸

Sunt in orificio venæ arteriosæ, valvulæ tres sigmoides, sive semi-lunares (Harvey 1648: 91)

There are in the *orifice* of the *vena arteriosa* 3. shuts, or doors, made like a Σ , or half-Moon (Harvey 1653a: 38)

Harum valvularum necessitate & usum (Harvey 1648: 91)

the use and necessity of those shuts (Harvey 1653a: 38)

videlicet valvulæ sigmoides (Harvey 1648: 93)

that is to say those three Sygma-like doors (Harvey 1653a: 39)

Communis autem ipsorum omnium, videlicet valvularum, est usus (Harvey 1648: 94)

Indeed the use of all the shuts or portals is the same (Harvey 1653a: 40)

& hujus rei causa valvularum genera quatuor (Harvey 1648: 96)

and for this reason [...] four locks or doors (Harvey 1653a: 41)

While the presence of these variant forms may be puzzling for the translation's readers,⁹ it is also clear evidence that the translator was often at a loss to make use of consistent terminology.

Two final examples of the translator's shortcomings focus attention on problems of lexical semantics and stylistics.

Such phrases as "in amputatione membrorum" (Harvey 1648: 211 *et passim*) or "in membrorum excisione (Harvey 1648: 128 *et passim*), often found in the *De Motu Cordis*, are systematically translated by using the deverbal nouns CUTTING, CUTTING OFF or CUTTING AWAY in the English text: although there is no inconsistency here, one wonders why the translator did not make use of AMPUTATION and EXCISION (first attested in English in 1617 and c.1541 respectively); more than that, the translator must have overlooked the non-technical nature of his chosen equivalents, while AMPUTATIO and EXCISIO are very specific kinds of cutting,

⁸ Harvey (1653a:30) has "* Valvulae" printed on the left-hand page margin.

⁹ Another case in point is Latin DUCTUS, which may be found in the English text as either CONDUCT, CONDUIT, DRAUGHT, DRAWING or PASSAGE.

undoubtedly requiring proper translation equivalents in a book on *Anatomical Exercises*.

At the beginning of Chapter XVI MAD is used twice to refer to rabid dogs: that was, and still is, common usage (OED, s.v. *MAD*, 1), but the Latin text had provided the translator with the model for the loanword RABID (“aut canis rabidi morsu”, “à morsu canis rabidi”, Harvey 1648: 172,173), which had already been introduced into the English language (OED, *RABID*, 1.a, first attested in 1594), and might have been more suitable in a scholarly text.

Semantically and stylistically, therefore, the translator of the *De Motu Cordis* might have tried harder, at least in a few instances.

3.5. The Translator as Wordsmith (and the OED)

The final section of this chapter will redress the balance for the anonymous translator of the *De Motu Cordis*, whose shortcomings have just been highlighted. Indeed, *The Anatomical Exercises of Dr William Harvey* provides good evidence of its translator's largely successful attempt to cope with the originality of Harvey's insights, scientific procedures and descriptions. He succeeded, because his translation is characterised by the timely insertion of some neologisms or new word-senses. These were detected both by referring to the OED and by reading the translated text carefully.

An advanced search of the online OED gave as a result 54 quotations from Harvey's works in English, that is to say *The Anatomical Exercises of Dr William Harvey* but also the *Anatomical Exercitationes, Concerning the Generation of Living Creatures* (Harvey 1659b), a translation of Harvey's 1651 *Exercitationes De Generatione Animalium*. It was this latter book that was most often quoted from in the OED, where only four excerpts from the former translation are listed in order to document the following words and usages:¹⁰

ALIMENTATIVE, adj., 1. = Alimentary, adj. 1

¹⁰ It is to be noted that the way the titles of the two translations are shortened in the OED is a bit confusing, and at least once wrong. S.v. *ALIMENTATIVE*, the quote from Harvey (1653a) has “vaporous”, not “vapourous”. Harvey's translation is quoted, s.v. *RECOURSE*, from the 1673 edition, which is “a reprint of the edition of 1653 with some textual errors and omissions” (Keynes 1953: 28).

1653 W. Harvey *Anat. Exercises* viii. 46 All the parts are nourished, cherished, and quickned with blood, which is warm, perfect, vapourous, full of spirit, and that I may so say, alimentative.

RECIPROCATE, v., 5.a = *trans.* To alternate the direction of, esp. backwards and forwards; to cause to oscillate. Now *Mech.*

1653 W. Harvey *Anat. Exercitations* vii. 39 [The blood] like Euripus reciprocating its motion again and again, hither and thither.

RECOURSE, n.¹, 7.a = a. Movement, flow; a course, passage, or path *to* or *into* something. Also in extended use. *Obs.*

[...]

1653 W. Harvey *Anat. Exercitations* (1673) 61 You shall quickly see the distance betwixt the heart and the ligature emptied, so that you must needs affirm the recourse of blood.

REFLUX, n. 2. *Med.* Flow of a fluid through a tubular structure, valve, or opening of the body in a direction opposite to that regarded as normal. In early use also: †flow of blood back to the heart (*obs.*). Freq. *attrib.* See also *reflux oesophagitis*.

1630 T. Johnson tr. A. Paré *Treat. Plague* xi. 31 She was some-what troubled with a difficultie of making Water, and I thinke it was, because the Bladder was inflamed by the reflux of the matter.

1653 W. Harvey *Anat. Exercitations* (1673) i. xiii. 81 [The blood] comes..into the ear of the heart in so great abundance, with so great flux, and reflux [etc.].

Although only a few, these quotations are fairly representative of the anonymous translator's contribution to the development of specialized English lexis. In fact, *RECOURSE* shows a late usage (the 1563 excerpt is preceded by 7 other quotes, ranging from c.1425 to 1620) that became obsolete one century later. *REFLUX*, instead, represents an early usage, that is still quite common nowadays. *RECIPROCATE* and *ALIMENTATIVE* are recognized by the OED as first and successful usages by the anonymous translator, the former

as a new sense of an already existing word, the latter as a full neologism first brought into the language through the translation.¹¹

This is not the only one, though, since research has evidenced that *The Anatomical Exercises of Dr William Harvey* includes first usages that have not been recorded in the OED.

One is ANEURYSM, which is first attested three years later in the OED, and gets clearly explained in the translation:

A certaine person had a great swelling which did beat on the *right side* of his *throat* neer to the descent of the *subclavial arterie*, into the *armpits*, call'd *Aneurisma*, begotten by the corrosion of the *arterie* it self (Harvey 1653a: 12)¹²

The same kind of short antedating is found for GASTRICK, which the OED first refers back to the definition of “gastrick vein”, s.v. *VEIN*, in Blount's dictionary of 1656:

From the *splenick veins* drawn down into the *Pancreas*, there arise *veins* from the upper part of it: the *Coronall*, *Postick*, *Gastrick* and *Gastroepiploick* (Harvey 1653a: 92)

The adjective PATHOLOGICAL is another neologism in Harvey's English translation, only first attested in 1663 in the OED:

in all parts of *Physick*, *Physiological*, *Pathological*, *Semeiotick*, *Therapeutick* (Harvey 1653a: 91)

As to SIGMOID, found in

the function of the *portall* in the *veins* is the same as that of the *Sigmoides*, or three-pointed *portals* (Harvey 1653a: 78)

¹¹ The Latin text of the two quotes is as follows: “partes omnes sanguine calidiore, perfecto, vaporoso, spirituoso, (& ut ita dicam) alimentativo nutriri, foveri, vegetari” (Harvey 1648: 104); “instar Euripi, motum identidem, huc atque illuc reciprocans” (Harvey 1648: 93).

¹² This translates “Habuit quidam tumorem ingentem, pulsantem, Aneurisma dictum, in dextra parte juguli, prope descendum arteriæ subclaviæ in axillas, ab ipsius arteriæ exesione prognatum” (Harvey 1648: 45), which proves that the term was recent in medical Latin as well, thus requiring an explanation.

there is actually no example for its nominal use in the OED. It is a hapax in the translation, and the word may well have survived in its adjectival use only.¹³ It can only be explained as a false start by the translator.

4. Concluding Remarks

As far as the late medieval period is concerned, it has been claimed that

the translation occupied a niche between formalized textbooks and colloquial collections of recipes or tales, between the rational stance of schoolmasters and the sensual grasp of common folk. [...] As for the transmitting agent, it is clear that the translator reached out for comprehensibility, while he looked down on the illiterate masses as much as he looked up at bookish authority. (Demaitre 1998: 101)

This is no longer true of the 17th century, and certainly not of the English translation of Harvey's *De Motu Cordis*. Although further research must be pursued into the identity of its translator and readership, and indirect evidence must be gathered by systematically analysing the translation itself, it can safely be argued that *The Anatomical Exercises of Dr William Harvey* was meant for a wide range of readers – both practitioners at various levels of medical expertise and interested lay readers, proficient in Latin or otherwise – who might want to pore over an internationally known treatise in their own (and its author's) native language.

Whether their readers realize it or not, translations do not simply provide them with a text in a familiar, rather than an unfamiliar tongue; translations may also have a significant cultural impact on their readership and the society at large. The English text of the *De Motu Cordis* did have such an impact, in more than one way. Firstly, it somehow sanctioned Harvey's discovery: once the most important objections had been raised and met in Latin, and more and more scholars came to accept his ideas, the English translation confirmed Harvey's book by using it as the authoritative source text

¹³ See OED, s.v. SIGMOID, which actually includes a very late and very rare nominal use of the word.

of a now completely established discovery. Secondly, the English translation provided Harvey's doctrines with a wider context and circulation: scientific knowledge originally produced for an international but restricted discourse community of university-trained physicians was now available to a vaster and more varied readership. Thirdly – and most importantly from the perspective of the present chapter and book – the English translation showed how different solutions might be found to make up for the existing lexical gaps in scientific English, all the more so as part of these gaps depended on the very novelty of Harvey's discovery. In some cases the translator exploited the existing resources of English, either ordinary everyday language or scientific usage; in others, he opted for more personal, creative solutions.

William Harvey's *De Motu Cordis* has been fundamental for the development of scientific thought in early modern Europe. Its English translation, while making his discovery better known in Britain, notably contributed to development of English scientific and medical terminology.

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