

ON NEOLOGISMS IN NEO-LATIN



By Hans Helander

Keith carissime!

*Tibi hoc anno tredecim lustra complenti congratulamur omnes, amici tui et
collegae!*

*Litteras antiquas iudicio tuo acri et subtili
in usum orbis eruditi et rei publicae literariae
libris tuis doctissimis illustrasti.*

*Viam et methodum optimam Latine et Graece discendi
tironibus et incipientibus
scriptis tuis didacticis aperuisti.*

*Scriptores neolatinos e tenebris eruisti, in lucem traxisti, ante oculos
omnium statuisti.
vestigia auctorum sagacitate subtili secutus. Tempora eorum sollicita et
turbulenta
doctrina profunda et summa perspicuitate illuminasti.
Regiones vastissimas literarum et artium explorasti,
longius trans vastissimum illum Oceanum Neo-Latinum in terras adhuc
incognitas
velificatione plena tendens.*

*Poemata interdum obscura et recondita
commentariis tuis eruditissimis enucleasti
versione Anglica ditans,
ipse velut olim Johannes Dryden vel Alexander Pope
lucidissima pangens carmina
et Musaeo contingens cuncta lepore.*

*Utinam tibi contingat per multos annos integris animi corporisque viribus
cum eo fructu laborum tuorum eniti,
ut orbi erudito et generi denique humano, ut semper antea, utilitati laudique
sis!*

Omnia tibi fausta, felicia, fortunata ex animo optamus!

Introduction

Dear Keith! Our symposium deals with the role of Latin in the Early Modern World. I have chosen to treat, as the subject of my paper, the gradual introduction of neologisms into various types of Neo-Latin literature and genres. The rapid expansion of the vocabulary represents an area that has attracted comparatively little interest, considering the fact that neologisms must be said to mirror, in a very distinct way, the progress of knowledge, the advancement of sciences and important cultural changes quite generally.

Even in recent studies by otherwise excellent Latinists we may meet with the statement that Latin of the Early Modern and Modern period is a static language, which in the lexical field exhibits “a certain development (incorporation of post-classical words; neologisms), but this evolution has remained of a very limited character”. In my analysis of early modern Latin neologisms, I shall try to show that this is a misleading view, which gives a false picture of the role of Latin in the Early Modern age and makes us blind to the vitality and innovative potentiality of the Latin language.

My paper is an abridged, modified and reworked version of the article that I have written on the subject in Brill’s *Encyclopaedia of the Neo-Latin World*, with some additions and some extra emphasis on details that I consider worth commenting upon.

Let us start with the definition of the term neologism. According to generally accepted usage, there are two kinds of Latin neologisms, *neologisms of form* and *neologisms of sense*. A neologism of form is then any word occurring in Medieval or Neo-Latin texts that cannot be attested in ancient Latin. The concept is actually slightly absurd, since it brings together, under one single term, words like *abductor*, *directrix*, *extractio* as well as *sclopetus*, *barometrum* and *telescopium*, and *Landgravius* and *Mareschallus*, together with *zenith*, *nadir* and *ziphera*.¹ A neologism of sense, on the other hand, is a Latin word that is attested in ancient Latin, but is used, in later texts, in a new and different sense.

The various features of Neo-Latin vocabulary are elucidated in IJsewijn 1998 II:382 ff., and we find the phenomenon of neologism treated there (pp. 386 ff.). Several other scholars have contributed to a deeper understanding of Neo-Latin vocabulary and the role played by neologisms. Benner & Tengström (1977) studied learned and scholarly works in Sweden in the seventeenth century and Pitkäranta (1992) shed much light on certain

¹ It is in addition based upon quite unstable criteria: as regards certain words in this heterogeneous field (e.g. the first three which I mentioned), we cannot actually with certainty know whether they were used or not in ancient Rome, since the literature preserved to us is, in many genres, fairly limited.

derivational types in Finnish dissertations during roughly the same period. A number of Latinists at Uppsala University have treated the vocabulary of various disciplines in the seventeenth and eighteenth centuries, e.g. historiography (Östlund 2000), medicine (Örneholm, 2003), theology (Eskhult 2007) and musicology (Sjökvisst 2012). Johann Rammingner's list of neologisms (available on line) is of great interest. A most helpful tool also is René Hoven's *Lexique de la prose latine de la Renaissance: Dictionary of Renaissance Latin from prose sources* (2nd ed. 2006), not least because of the recapitulative appendices at the end, which arrange the neologisms according to origin and derivational types. An excellent dictionary in this field is actually the *Oxford English Dictionary*, which will usually supply us very generously with etymologies, semantic distinctions and first occurrences of *termini technici*. It is true that the entries are English words, but the normal background, up to the beginning of the eighteenth century, will be that the word was coined as a purely 'Latin' word (from Latin or Greek morphemes) which then some time afterwards appeared as an English word in English literature.

The Brave New World

Early modern Europe was the scene of extremely rapid changes in several areas. The Renaissance movement spread throughout the continent, with new ideals of a purer Latin and of Greek as a self-evident part of the curriculum. This was also the heroic and formative period of the young nation states. And it was the time of the Protestant Reformation and the Counter-Reformation, which both irrevocably changed the confessional map of the continent.

These upheavals coincided with the great discoveries and circumnavigations, which opened up the world for explorers, conquerors and scholars. At the same time the scientific revolution was well under way, from the beginning of the sixteenth century.

In addition, all this happened when the printing press had been introduced and its resources efficiently exploited, which meant that all the new ideas, beliefs and insights were diffused with a speed and with an impact that had not been conceivable before.

Latin was actually the most important vehicle for the diffusion of all new knowledge, from the Early Renaissance up to the end of the eighteenth century. It was absolutely necessary to treat all the expanding knowledge in all areas in Latin. This role necessitated the introduction of neologisms on a large scale.

My aim and method

I shall conduct my investigation starting from three questions: 1. What were the basic *conditions* for coining Neo-Latin neologisms and which *resources* were available? 2. What *demands* were there for neologisms in various fields, from the Renaissance onwards? 3. What was the actual *outcome* in various genres and disciplines? The last part of this paper will then be devoted to a special analysis of Emanuel Swedenborg's *Oeconomia regni animalis* I (1740), which will illustrate in detail what the conditions were in the important area of anatomy and physiology.

I shall consequently try to explain the phenomenon of neologisms in the light of the history of ideas and learning. It is important to ascertain the existence of new words in Latin, but is also necessary to explain *why* they were coined.

Basic conditions and resources 1: Early Modern attitudes to neologisms

It was, as I have stated, absolutely necessary, in the Early modern period, to treat all expanding knowledge in Latin. Extreme purism of the doctrinal Ciceronian type was very rare and quite untypical. There were some famous Ciceronian debates that have attracted much interest, but they belong to the end of the fifteenth century and the beginning and middle of the sixteenth.² On the contrary, an eclectic attitude is dominant and words are coined when they are needed. There are of course differences between genres. Poetry and historiography are as a rule more conservative, and the sciences more open to innovations, as we shall see.

Any persistent reader of Neo-Latin texts will soon notice how even the best and most elegant of purely literary works abound in words that do not occur in the ancient texts extant to us. In the literary texts we meet with a creative impetus in the field of derivation, forming new *nomina agentis* (*abductor*, *consutor*; *directrix*, *fulminatrix*), abstract nouns (*extractio*, *semotio*; *gratitudo*), diminutives (*laudatiuncula*; *scriptorculus*), and adverbs (especially those in *-im*, as *apertim*, *fusim*, *concisim*). Apparently the authors did not care whether these words existed in the preserved Latin literature, as long as they were regularly formed.³ A large number of them

² Paolo Cortesi *versus* Angelo Poliziano; Pietro Bembo *versus* Gianfrancesco della Mirandola; Giacomo Sadoletto *versus* Desiderius Erasmus. In this list of antagonists, the Ciceronian occupies the first place. See also IJsewijn 1998, 412 ff. where the Ciceronian debates are treated under the chapter *Style*.

³ In IJsewijn 1998, 382, it is remarked that "Budé was fond of substantives ending in *-tor*, and J.J. Pontanus needed lots of diminutives for his love poems. Neither of them ever checked to see if all their words had Roman testimonials. Many of the words they used are

were probably on the lips of the ancient Romans, although they have not survived in the texts preserved to us.

Actually, broadly speaking, with a view to the totality of Latin literature, all the texts that deal with all the various aspects of the nascent modern world, pragmatism is the attitude that is absolutely dominant. In so many fields the primary aim of the authors was the advancement of knowledge, and the vocabulary was enriched in order to further that purpose.

Early Modern Latin writers who comment on the actual usage sometimes feel themselves obliged to refer to Cicero's famous words in *De finibus* 3. 3: *Imponenda nova novis rebus nomina*, which may be translated, in a slightly modernized way, as "New words must be invented for new concepts". Other arguments could be found in Erasmus's dialogue *Ciceronianus*, which is a brilliant plea for the introduction of such neologisms that will be necessary in a new age with new social structures, new inventions and new ideas, epitomized the words: "Sed interim illud mihi cogites velim, optime Nosopone, quanta pars Ciceronianorum voluminum interciderit [...] Adde quod Cicero non tractavit omnes materias" and "Quot milia sunt rerum, de quibus nobis frequenter dicendum est, de quibus M. Tullius ne somniavit quidem?" (Erasmus 1995, 620 and 629)

It turned out, therefore, that it was possible to write in Latin about everything in the Early Modern world. It was only in certain fields of the humanities that problems tended to arise, and this had to do, among other things, with the more conservative and purist nature of poetry and historiography and also with conceptual changes in the political sphere that were difficult to express if Latin were to be used. I will return to this issue.

As stated in IJsewijn (1998, II:386 ff.), there were areas where the use of medieval and "barbarian" (mostly Teutonic) terms, or ancient words in a new sense was common and even obligatory, viz. (1) political and social concepts, institutions and functions (*Delphinus*, *Landgravius*, etc.); (2) the army, fleet and warfare (*bombarda*, *Campi-Mareschallus*, etc.); (3) the academic world (*baccalaureus*, *licentiatus*, etc.); (4) the ecclesiastical world (*cardinalis*, *capellanus*, etc.); (5) money, trade, industry and art (*thalerus*, *minera*, etc.); (6) plants and animals (*tabacum*, *tulipa*, etc.); (7) foods and drinks (*thea*, *caffeeum*, etc.).

Things were actually less problematic in the sciences: it is indeed a remarkable thing that the Latin language stood the test especially well in most of the scientific disciplines. Innumerable words were formed by

not found in Roman writings (or rather, in Roman writings already published in their age), but they are nevertheless quite good Latin." Hoven 2006, 605 ff. contains a very handy list of "Mots classés d'après divers suffixes ou terminaisons". See for example the huge number of 'neologisms' in *-tor*, *-sor*, *-trix* and adverbs in *-sim* and *-tim*.

analogy with the prevailing rules of ancient Latin, predominantly composite nouns and adjectives, as I will show presently. In this process, the resources of Greek vocabulary were exploited in an extremely successful way. Ancient Latin had constantly absorbed Greek words, and during the Early Modern period the number of Greek loan words steadily increases, so as to form, in certain areas, the dominant bulk of terminology and nomenclature. In this way, using both ancient languages, scholars created neologisms that could not, by any reasonable standard, be regarded as barbarisms or solecisms. The Greek element is so important that it requires a special treatment.

Basic conditions and resources 2: The Greek Element and “barbarian” words

It must be remembered that there were two good reasons for making use of Greek resources. In the first place, the vocabulary of ancient Greek was much richer than that of ancient Latin. Secondly, it is much easier to form composite words from Greek stems than from Latin.

The overwhelming majority of these coinages still belong to the terminology of the sciences and have found their way by the thousands into modern languages as *termini technici*. These neologisms were, for example, designations for new disciplines or new branches of the sciences, or names of newly invented instruments: *thermometrum* (coined around 1600), *telescopium* (coined around 1610 [Galileo]) and *barometrum* (coined around 1660 [Boyle]), or new terms for new concepts within new theories: *elasticus* (coined in 1651 [Pecquet]).

The role of Greek became especially important in medicine. Renaissance scholars translated Greek medical authors into Latin. Anatomical names were to be Latin, the names of pathology were to be Greek; this holds true for old terms as well as for the numerous neologisms. This is why the brain is called *cerebrum*, but inflammation of the brain *encephalitis*, the nose *nasus*, but inflammation of that organ *rhinitis*, and so forth in roughly a hundred similar cases (*oculus* – *ophthalmia*, etc.).

Greek compound adjectives became an important part of the epithets needed for the description of species in biology: *macrophyllus* ‘large-leaved’, *macrorrhizus* ‘with large root’, *polycarpus* ‘with many fruits’, and hundreds of others. Further, many of the names of various fields of science themselves were Greek loan-words, for example, *physiologia*, *neurologia*, *anatomia* (see further below).

Scientists delighted in inventing new Greek terms. Newly coined composite Greek words are frequently introduced as book titles, with the

addition of a Latin translation as an explanation. The Polish astronomer Johannes Hevelius (1611–1687) gave the name *Selenographia sive lunae descriptio* (1647) to his important work on the surface of the moon. The habit spread even to works in the vernaculars. Thomas Browne (1605–1682) named his work on Roman sepulchral vessels *Hydriotaphia or Urn-Burial* (1658).

Most *neologisms of form* in Neo-Latin were thus formed from Latin and Greek elements. This is to be expected, considering the basic orientation and ideology of the writers that provided the model and set the trends of the *Renascentes Litterae*. As regards words formed on Greek morphemes, there are two main sub-groups: (1) Greek words that existed in ancient Greek but cannot be attested in ancient Latin, e.g. *anaesthesia* and *apnoea*; (2) Greek words that did not exist in ancient Greek but were coined from the fifteenth century onwards. Here belong words mentioned earlier, viz. *barometrum*, *telescopium*; *angiologia* and *selenographia*.

There are also a number of words from other sources, words of Teutonic and Semitic origin, and even more exotic contributions to the vocabulary. For example, of Teutonic origin are a number of high titles, like *Landgravius*, *Baro* and *Mareschallus* (belonging to the first group mentioned by IJsewijn, mentioned above). They mirror Medieval feudal hierarchies that were still of the highest importance in Early Modern Europe. Betraying an Arabic origin are a limited number of important technical terms belonging to alchemy (and chemistry) like *alembicus*, or to mathematics and astronomy, as *zero*, *zenith* and *azimuth*.

In addition to these neologisms of form, we have to take into account the *neologisms of sense*, viz. ancient Latin words that are used in a new sense.

The various demands that generated neologisms

I shall now pass to the second main section of my paper, and try to answer the question why it was necessary to form so many new words.

The dramatic upheavals of Early Modern Europe, mentioned above, produced an enormous amount of literature, not least in Latin: pamphlets, polemical treatises, propaganda literature of various kinds and biased historiography. The authors needed new words that could characterize the beliefs and ideologies of the period and name the partisans of old or new convictions, and in addition serve as forceful and convincing expressions for the glory of their rulers and the wretchedness of their adversaries.

These upheavals coincided with great geographical discoveries which provided the learned world with new species, of flora as well as of fauna,

which were described and classified in the sixteenth and seventeenth centuries. The eighteenth century continued the work in more detail and on a larger scale, classifying *per classes, ordines, genera et species* all the data the seventeenth century had accumulated. Linnaeus's *Species plantarum* (1753) and *Systema naturae* (final ed. 1758) are representative works for this phase.⁴

The invention of the microscope and its gradual improvement brought about rapid progress in the anatomical and physiological sciences, documented and presented to the learned world through the Latin works of Robert Hooke, Marcello Malpighi, Antoine van Leeuwenhoek, Jan Swammerdam and others, which resulted in the introduction of a drastically enlarged nomenclature for bones, muscles, veins and arteries, never before known or named.

Actually, the sciences of anatomy and physiology, together with botany and zoology, produced the absolutely dominating number of neologisms, surpassing by a wide margin the number of new words in all other sciences and scholarly domains. Thousands of adjectives were coined in the service of description and classification.

Scientific discourse is in constant need, through its intrinsic nature, of nouns that denote qualities and processes. Further, closely linked to these fundamental components in scientific pursuit are the notions of nominalization and abstraction. All these are important sources of neologisms.

We shall look more closely at these activities of the human mind presently, since they are, I think, absolutely fundamental for the understanding of the creation of neologisms.

Expressions of qualities and processes

The dominating group among the names for *qualities* are nouns in *-itas*, gen. *-itatis*. It is interesting to note that some nouns of this type that occur as highly frequent loan-words in most modern European languages are extremely rare in the ancient Latin preserved to us, and that they in many instances occur only in factual, non-literary, technical prose. Many such nouns were coined during the Middle Ages and formed an important part of scholastic terminology. Typical Early Modern neologisms are nouns that describe qualities of matter, viz. the properties of various substances and materials, such as *compressibilitas*, *expansibilitas*, *fluiditas*, *mucositas*, *permeabilitas*, *porositas*, *serositas*, *transmeabilitas* and *viscositas*. Some of

⁴ For further discussion of the background, see Helander 2001, especially 10–26, and Helander 2004, 13 ff., 319 ff. and 398 ff.

these introduced concepts that were new and revolutionary, like *elasticitas* and *electricitas*.

A great number of nouns for *processes* may be found in ancient Latin. The absolutely dominating type is nouns in *-io*, gen. *-ionis*. Numerous such words have been adopted as loan-words in modern languages. Many of those that occur in the ancient authors are, however, rare (in many instances extremely rare and even *hapax legomena*), and they are most often late, with the character of *termini technici*, to be found only in medical texts, in treatises of natural history, etc.⁵ Typical neologisms of this kind are words like: *cribratio*, *depuratio*, *destillatio*, *evaporatio*, *fermentatio*, *filtratio*, *sanguificatio*, some of which are of medieval origin, others products of Early Modern science.

It is apparently the case that scientific prose needs nouns that refer to processes, and also nouns referring to qualities. So this is an area where we should expect to meet with numerous neologisms in Early Modern scientific texts, and there was indeed a demand for nominalizations of this kind on a grand scale, as the following section demonstrates.

Nominalizations

Words like *fluiditas* and *sanguificatio* are there for a purpose: they fulfil in scientific language the roles for which they have been created, but strangely enough very few attempts have been made to describe more in detail *what* their functions are and *in what semantic and syntactical contexts* they are used. An attempt will be made here.

Two roles seem to me to be most important, viz. A. *to act as an expression of cause*; B. *to fulfil a role in a periphrasis*. Let us look at some examples of these functions.

A. Causal elements may be expressed mainly in two different ways, either (1) as the subject of the sentence or (2) as an adverbial. I shall give some examples from a medical treatise from 1740.⁶

The following example shows a series of nominalizations as the subject of the sentence:

⁵ Typical examples are *tractio*, of which TLL gives only three instances, from Caelius Aurelianus, Palladius and Vindicianus (another medical writer [fl. AD 400]), *congelatio*, which occurs a couple of times in Seneca (*Nat. quaest.*), Columella and Pliny the Elder; *frictio*, which can be found only in some medical authors in the sense of ‘massage’; *palpitatio*, which occurs only in Pliny the Elder; *pressio*, which can be found just once in Vitruvius, in the sense of ‘physical pressure (of a construction)’ and in a concrete sense in Caesar (*B.C.* 2.9.6).

⁶ Emanuel Swedenborg’s *Oeconomia* I. See below under *The actual outcome in the field of anatomy and physiology*.

Quod Sanguinis partes, quae sphaericae describuntur, non sint simplices & individuae, sed ex diversis Salibus coagmentatae, *praeter Destillationem*, etiam *Digestio*, *Fermentatio*, *Putrificatio*, *Extractio*, *Solutio*, *Luctatio*, & *Mutatio* adjectis menstruis, aut vicissim nulla, adjectis concordibus; tum *Odor* Olfactum feriens, *Gustus* linguam, *Color*, *Tepor*, *Streptus* ad ignem, *Pondus*, *Concrescentia* in fibras, reticulares areas, stirias, ramenta; *Privatio* dictarum qualitatum peracta resolutione; *Natura* seri; *Victus*, & plura aperiunt et demonstrant.⁷

There are seventeen members in this long subject construction. To them should be added also *praeter destillationem*, which is in reality = *destillatio*. All of them represent a causal element.

The adverbial type may be represented by the following (much shortened) sentence:

Quam ingeniosa & provida fuerit natura animalis in conciliando robore & vita musculis ... ex mirabili arteriarum *transvectione* per annulos osseos & membranaceos; *applicatione* sub musculis & nervis, & *circumvolutione* per eosdem ... apparebit.⁸

We notice that both types have the same logical and semantic structure,⁹ containing three elements, expressing respectively: (I) cause, (II) the degree of certainty and (III) the state of affairs believed to prevail:

(I)	(II)	(III)
Because there is a process x	we know, or assume,	that the state of affairs y prevails.
(1) <i>Digestio</i>	<i>demonstrat</i>	<i>quod sanguinis partes non sint simplices.</i>
(2) <i>Ex mirabili transvectione</i>	<i>apparebit</i>	<i>quam ingeniosa et provida fuerit natura.</i>

That which proves something must always be a fact: concrete objects do not prove anything, but facts do. “Die Welt ist die Gesamtheit der Tatsachen, nicht der Dinge” (The world is the totality of facts, not of things), as Ludwig Wittgenstein contended.¹⁰ Concrete objects do not prove anything, but facts do. Hence, the subject will normally be a linguistic realization of a

⁷ Swedenborg 1740, 44.

⁸ Swedenborg 1740, 233.

⁹ Cf. Helander 1977, 81 ff.

¹⁰ Wittgenstein 1922, 1,1.

predication, viz. a clause, an accusative with infinitive or an abstract noun with an attribute.¹¹

B. The other important function of nominalizations is to fulfil a role in a periphrasis. We have then to do with expressions like *pulsationes fiunt* (= [*res aliquae*] *pulsantur*) or *compressiones succedunt* (= *postea* [*res aliquae*] *comprimuntur*). These abstract nouns then normally appear as the subject of the sentence, as in the examples given.

Scholarly and scientific discourse has always been in need of such nouns as technical terms in precisely the roles that I have described here. In the role of nouns, the processes, qualities and states may be handled in a manner that would not be possible if we had access only to verbs and adjectives. As nouns, they can act as the grammatical subject, receive attributes and form part of periphrases; and quite generally they may, because of the status of nouns, be the subject-matter of discussion and assessment.

Abstraction and abstract nouns

There are two main processes of abstraction that concern us here, *hypostasizing* and *classifying*.¹²

The result of the *hypostasizing* process are the so-called abstract nouns. These are, under the common definition, nouns that denote action/process, quality or state, e.g. *crystallizatio*, *fermentatio*; *elasticitas*, *fluiditas*. They are regularly formed on verbs and adjectives through the process of nominalization.

The *classifying* abstractive process results in the organization and structuring of the chaotic world that meets our senses. Explicit manifestations of this intellectual activity is the coining of words and expressions that divides and subdivides things and phenomena into genus and species, classes and orders in any kind of hierarchical system. Illustrative examples are the multiword terms, consisting of a head-word and an attribute, that form an important part of the anatomical nomenclature: names of nerves, muscles, arteries, veins and bones. But classification may proceed in other ways, too, with other linguistic tools, as we shall see.

Classification

The phenomena of nature have always been classified and named by scholars and scientists. The subdivision of a *genus* into several *species* may stand as a model for the procedure.

¹¹ Cf. Helander 1977, 11-25.

¹² For an exhaustive study of the phenomenon of abstraction, see Mikkola 1964, 10 ff.

As regards the *naming* of various species under a genus, there seem to be two methods that dominate in the classical languages. They may be exemplified through two examples: **A** *Prolapsus uteri*; **B** *Hysteroptosis*, which mean the same thing. As we shall see, both played an important role in Early Modern Latin word-formation, especially the latter.

Let us look at **A** first. Various parts of the body are typically named in the following way, to give some examples from the field of myology:

musculus pectoralis, serratus, sublingualis, trapezius;
musculi abdominales, intercostales, respiratorii, sternales.

These attributes answer questions about where the muscles are localized (*pectoralis, sublingualis, abdominalis, sternalis*), what they look like (*serratus, trapezius*), and what they are doing (*respiratorius*).

The examples given ought to be sufficient to illustrate the features and functions of what I have called type **A** *Prolapsus uteri*. We have seen that it typically consists of a head-word, denoting *genus* and attributes (genitival or adjectival), denoting *species*. This is the pattern that came to be extremely common in the sciences and it is the characteristic feature of Linnaean binomial nomenclature.

What can then be said about type **B** *Hysteroptosis*? Whereas *prolapsus uteri* is pure Latin, consisting of two words with the functions just indicated, *hysteroptosis* is a Greek, composite noun. We notice that *prolapsus* in **A** has its counterpart in *-ptosis* in **B**, and that *uteri* in **A** corresponds to *hyster(o)-* in **B**. In other words, in **B**, the order between the indication of genus and the indication of species may be said to be inverted: the later morpheme represents the *genus* and the first the *species*. There are *-ptoses* (or *-ptoseis*) of different kinds, e.g.:

hysteroptosis = prolapsus uteri
proctoptosis = prolapsus ani
blepharoptosis = prolapsus palpebrae

In certain areas, type **B** is very common. We shall below meet this phenomenon in the names of the various disciplines, e.g. *angiologia*. In the botanical sciences, the **B** system is used in the elegant neologisms that form the names of the Linnaean classes, arranged after the number of stamens (*mon-andria*, etc.).

The same analysis may be applied to adverbs formed from Latinized Greek adjectives in *-icus*, of which several may be said to indicate the way or method of reasoning (*analytice, categorice, geometrice, hypothetice, mechanice, synthetice, theoretice*). We could then assume that *-(ic)e* indicates method quite generally, and that the morphemes in the first parts of the word indicate the various types of reasoning, e.g.:

analytice = *methodo analytica*
geometrice = *methodo geometrica*; *more geometrico*
theoretice = *methodo theoretica*

Such adverbs are frequently found in scientific works, as in Emanuel Swedenborg's *Oeconomia regni animalis*, where the author says on the title-page that his treatise will proceed *anatomice, physice et philosophice*.

An analysis of the various kinds of classifying adjectives will illustrate the usefulness and applicability of the Latin and Latinized Greek derivational endings. The endings, most of them, have specialized roles which answer in a very practical way to the different kinds of predications that may reasonably occur with any entity. In dealing with a creature, a thing, a phenomenon or indeed any entity, we shall often have reason to ask the following questions: what may be done with it? what can it do? of which material does it consist? what does it contain? what does it look like? what does it have to do with? The derivational endings, through their semantic specialization, fulfil exactly these roles in an excellent way, answering precisely these questions:

What may be done with it? **–(b)ilis**:

compressibilis, condensabilis, plicabilis

What can it do? **–ivus** and **–orius**:

expansivus, successivus; destillatorius, excretorius

Of which material does it consist? **–eus** and **–osus**:

aqueus, nerveus, osseus; adiposus, fibrosus, tendinosus

What does it look like? **–formis** and **–oides**:

piriformis, retiformis; conoides

What does it have to do with? **–alis**, **–icus**, and **–inus**:

capillaris, muscularis; magneticus, microscopicus, opticus; raninus

Neologisms in the various literary genres and in the various fields of human knowledge

I now pass to the third part of my paper, which will deal with the actual *outcome* in various genres and disciplines. It will be an attempt to characterize the use of neologisms in some important fields. The number of areas could easily have been multiplied, but I think that the examples given will show that the propensity to accept neologisms varied widely according to the subject matter that was being treated.

High titles and distinctions

Early Modern Latin authors met the demands of their times, their society and practical life in an unorthodox and pragmatic way. Titles like *Landgravius*, *Baro* and *Mareschallus* represented an extremely sensitive and even dangerous matter; and precautions were taken accordingly. In his *Lexicon Latinae linguae antibarbarum*, Noltenius issues a peremptory warning in his treatment of hybrid titles of the type *Archidux*, *Archimareschallus*. Such titles *are* hybrids and some of them *are* barbarian, he says, but he strongly advises against any attempts to use classicizing circumscriptions in order to create a ‘purer’ Latin; the result may be ambiguity and even diminishment of the dignity of the titled people:

Vix enim haec possunt elegantius magisque Latine reddi, ut non dignitati magnorum horum Principum quidquam detrahatur. Quocumque enim modo v.g. vocabulum *Archiducis* reddideris, vix effugies reprehensionem. Si *Magnos Duces* vocaveris, pares illos reddes *Magno Duci Etruriae*, si *Supremos Duces* a nexu cum Romano Imperio eos absolves, si *Primos duces*, hoc quoque insolens erit.¹³

It is stupid, Noltenius goes on, to try to please some grammarians, who are so dull-witted that they cannot combine their care for the Latin language with common sense, and thus to prefer to displease princes and insult their majesty in order not to seem to insult the dignity of Priscian:

Stultum est, ut placeas non nullis Grammatistis, qui cum cura Latinitatis rectum de rebus iudicium propter hebetem mentis aciem conjungere nequeunt, Principibus displicere malle, et horum laedere majestatem, ne Prisciani dignitatem laesisse videaris.¹⁴

Political institutions and political philosophy

Early Modern societies and constitutions differed radically from the various political systems of the ancient world. We have here actually one of the few fields where the Latin language in the course of time was felt to be inadequate. It is obvious that the whole area became increasingly difficult to treat in Latin.¹⁵

Neologisms of Teutonic or other barbarian origin were reluctantly accepted when exactness was required, as we have seen in the previous section. In referring to feudal institutions, Medieval or contemporary practices and commissions, the authors felt they sometimes had to use

¹³ Noltenius 1744, col. 425.

¹⁴ *Ibid.*

¹⁵ Bo Lindberg has recently treated political terminology in two studies (2006, with an English summary 230–235, and 2007, 31–50).

words like *feudum*, *parlamentum* and *ambasciator*. But in more theoretical and abstract contexts, scholars tended to use ancient terms for the modern phenomena they were treating, thus producing neologisms of sense. Legislative assemblies, such as Diets and Parliaments, were called *comitia*, provincial rulers go under the name of *satrapae* and district governors *toparchae*, venerable names and titles from the Ancient world. The problem was that designations of that kind tended to be vague and ambiguous, and the associations with ancient societies that this usage entailed were often quite misleading. The situation became even worse when more abstract concepts were to be discussed: *res publica*, *civis*, *patria*, *natio*, *populus*, *democratia*. To use the words of Bo Lindberg: “The ancient words carried with them references to circumstances and conditions which were becoming irrelevant in the Early modern political world.”¹⁶

Warfare

As regards the domain of warfare, one would suppose that there was an urgent need of terminological innovation because of the introduction of gunpowder, fire-arms and artillery, difference in equipment and the organization of fighting units that were unknown to the ancients. It turns out, however, that the terminological difficulties of this area were solved mainly through neologisms of sense, most often in a classical and elegant way. The users of these words were, after all, mostly historiographers, orators and poets, viz. representatives of genres that always tended to be more conservative, purist and less open to neologisms (see above).

Gunpowder is normally referred to as *pulvis bombardicus* (or *ignivomus*, *nitratu*s, *pyrius* or *tormentarius*).¹⁷ Artillery is *res tormentaria*, and a gun is called *canna*, *catapulta*, *machina* or *tormentum*. A cannon-ball can be called *globus*, *globulus* or *sphaerulus* (sometimes with the attributes *ignivomus* or *tormentarius*). *Sclopus*¹⁸ is a musket, and musketry *sclopetarii*. *Malum granatense* is a hand-grenade, a formidable weapon of the grenadier units that were organized at the end of the seventeenth century. Firing in the sense ‘explosion of gunpowder’ is called *displosio* or *explosio*; firing with regard to the moment of launching often goes by the name *eructatio*, *jaculatio* and *iaculatio*; firing in the sense ‘shelling’, ‘bombardment’ is often expressed

¹⁶ Lindberg 2006, 231.

¹⁷ For documentation (with authors, year and quotations) of these words and of the following terms in this section, see Helander 2004, 175–198.

¹⁸ Basilius Faber Soranus, in his 1686 *Thesaurus*, believed (like other lexicographers) that *sclopus* was an ancient Latin word, identical with *stloppus* (to be found in Persius 5.13): “*Sclopus sonus est, qui emittitur e buccis inflatis [...] Legunt et stlopus; inde ad bombardas minores transfertur.*”

through *fulminatio* or *verberatio*. A regiment is in most writers a *legio*, and a battalion is suitably and adequately named *phalanx*. The heavily armoured cavalry that survived until the middle of the seventeenth century make their heroic and intrepid charges under the name of *cataphracti* (like their equivalents in late antiquity), and the units of modern mounted infantry that became increasingly important during the course of the seventeenth century was suitably called *dimachae*.¹⁹ A colonel of a dragoon regiment was then a *tribunus dimacharum*. A *cohors praetoria* is a life guard regiment.

Polemics and debates

In this area, there was an urgent need for disparaging and defamatory terms, new invectives, suitable to describe the utter moral baseness of heterodox adversaries.²⁰ Diminutives turn out to be a reliable resource: a bad author is a *scriptorculus*, a ridiculous Roman priest a *sacrificulus* or a *sacerdotulus*. Other derivatives are also useful. The Catholics could for instance be named *papistici*. New compound designations were in vogue: the Roman Catholics are *papicolae* in Milton's *In Quintum Novembris* and in Protestant epics during the 30 Years' War; they could also be said to suffer from *papimania*. Nomina agentis in *-tor* (*-sor*), or the feminine equivalent in *-trix* turned out to be useful as characterizations of one's opponents: *Lutherozelator* is a follower of Luther. Popular and useful were also new words, coined with the help of the Greek μάστιξ, 'scourge', 'whip', together with a name of a person or a nation as the first element,²¹ e.g. *Capniomastix* (i.e. one who lashes Reuchlin), *Erasmomastix*, *Huttenomastix*, *Lutheromastix*.²² These designations could be used both for praise and for blame.²³

A type of word-formation apparently felt to be open for innovation was the creation of a verb formed with the Greek verb suffix *-izo* (sometimes spelt *-isso*) which came into fashion in the sixteenth century. It provided a convenient way to express religious and political sympathies, e.g. *Lutherisso*, *Papizo*. Patronymica require a special commentary. Many authors rejoice in forming new fanciful and learned compositions by means of Greek patronymic suffixes that might be used as indication of the glorious ancestry of their sovereigns and compatriots. The *Hectoridae* are

¹⁹ After a type of mounted infantry named δῖμαχαι in e.g. Diodorus Siculus, a word subsequently used by Curtius.

²⁰ For documentation (with authors, year and quotations) of these words and of the following terms in this section, see Helander 2004, 319 ff.

²¹ As will be remembered, the grammarian Zoilos was known as the *Homeromastix*, 'the scourge of Homer', because of his criticism of the Homeric poems.

²² Hoven 2006 lists several very learned and very amusing composite nouns of this kind.

²³ *The Oxford English Dictionary* lists, s.v. *-mastix*, among other instances *atheomastix* (1619), *Episcopomastix* (1660) and *Papisto Mastyx* (1662).

the French, since they were thought to be the off-spring of Francus, son of Hector,²⁴ likewise *Pepiniadae* (as descendants of Pepin le bref).

New inventions, instruments and parts of machines

Many of the names for new inventions are two-word terms. The compass goes under the name of *pyxis magnetica* (or *navigatoria* or *vitrea*). The *acus index* (or *magnetica*, or *navigatoria*) is the needle of the compass.²⁵ We have seen above that gunpowder was called *pulvis pyrius* (with many variant attributes). The normal word for an air-pump was *antlia pneumatica* (early seventeenth century) and a magnifying glass was called *lens microscopica* (early seventeenth century).

Other inventions were named by means of elegantly formed composite Greek nouns, such as the ones mentioned earlier, viz. *telescopium*, *thermometrum*, and *barometrum*, all coined in the course of the seventeenth century. The microscope, *microscopium*, revolutionized the exploration of the human body. The term *microscopium* is said to have been coined by the Greek scholar Demiscianus around 1614. The last part of these Latinized Greek composite nouns (*-metrum*; *-scopium*) then carry information of the genus, and the first part expresses the species, exactly as we have seen above.

The noun *elater* (ἐλατήρ), which in ancient Greek means ‘one that drives’, was used from around 1650 with reference to a spring in a clock, which must be regarded as a neologism of sense. From the stem of this word were formed the abstract noun *elasticitas* and the adjective *elasticus* (coined around 1651 by Jean Pecquet [1622–1674]), which were words for a new concept within a new theory.

Names for the various fields of science

A great number of the names of various fields of science were created in Early Modern Europe. Very few such designations of this type existed in ancient Latin, most of them are Greek loan-words, normally ending in *-logia*, or *-ice* (*-ica*) (with the suppressed head-word *techne*), such as *anatomia* and *optice*. In Early Modern times such words were created *en masse*, regularly from Greek stems.

The general tendency in this area is quite clear and may be summarized as follows: a few exist in ancient terminology; some, regularly those with a quite general or vague sense, were coined in the sixteenth century (*patho-*

²⁴ E.g. in George Buchanan’s *Sylvae (Francisci Valesii et Mariae Stuartae [...]* *epithalamium*).

²⁵ For documentation (with authors, year and quotations) of these words see Helander 2004, 221 ff.

logia, physiologia, psychologia); but most of the terms that denote sub-disciplines were introduced during the dynamic seventeenth century and at the beginning of the eighteenth; and most of them are in use today (*adenologia, angiologia, myologia, neurologia, etc.*).

Anatomy and physiology; chemistry

The last part of this paper is devoted to a special analysis of Emanuel Swedenborg's *Oeconomia regni animalis*, which will illustrate in a most concrete way, what the conditions were in this area. I have included there a number of words for processes that we today would call chemical, since they were used by scientists in the analyses of bodily fluids and tissues.

In these areas, terminology and nomenclature were enriched through an enormous number of new words. They actually, together with botany and zoology, produced the absolutely dominating number of neologisms, surpassing by a wide margin the number of new words in all other sciences and scholarly domains.

Botany and zoology

The numerous neologisms in this area are as a rule elegantly formed on Latin or Greek morphemes. From the early Renaissance onwards, natural historians aimed at the radical extirpation of medieval barbarisms and distortions that had abounded in the nomenclature. Otto Brunfels in his *Herbarum vivae icones* (1530) demanded that his colleagues should adhere to the correct terminology of Theophrastus and Pliny, *relictis [...] barbarorum neniis [...] immo nugacissimis nugis*. This, however, did not mean the prohibition of well-formed neologisms on Greek and Latin stems. On the contrary, this practice was encouraged and flourished.

Among the neologisms in this area, two kinds stand out as especially important: adjectival attributes as designations of the species and the names of higher categories.

The adjectival attributes naming botanical species are numerous.²⁶ They may carry information about geographical occurrence, colour, characteristic features, smell and taste, time of blossom or officinal use. The number of neologisms is overwhelming. In Linnaeus's *Species plantarum* (1753) we meet for example Latin compounds such as *angustifolius, cuneifolius, hyssopifolius, integrifolius; grandiflorus, nudiflorus; bulbifer; atropurpureus, purpurocaeruleus*. As a rule, they are self-explanatory and well formed, on analogy with adjectives like *latifolius* and *bacifer* (both in Pliny). There

²⁶ In Zander 1984 there is a list of 57 pages, with two columns, of such attributes, together more than 5,000 names.

are also Greek compounds in abundance: *monopetalus*; *pentaphyllus*, *ceratophyllus*; *polyspermus*; *antidysentericus*. These are either Greek words that existed in ancient Greek but cannot be attested in ancient Latin (*πενταφύλλος* and *πολυσπέρμος*, e.g., are both in Theophrastus) or words coined in the Early Modern age.

Compound neologisms are in frequent use as species attributes also in zoology. We find them in every province of the Animal kingdom. Just to give a few examples from that rich material, there are in Linnaeus's *Systema naturae* (the edition of 1758–59) Latin compounds like *caudiverberus*, *laticaudatus*, *ovivorus* (species under *Reptilia*) and *quadripunctatus*, *sexpunctatus*, *ruficornis*, *biguttatus* (species under *Insecta*). As in the previous section, they are mostly well formed, in accordance with ancient Latin word formation. Greek adjectives also occur everywhere, e.g. *lagocephalus* (species under *Pisces*); *lithophagus*, *argyrostomus* (species under *Vermes*) and *glaucopterus*, *leucocephalus* and *leucophthalmus* (species under *Insecta*).

In the names for higher categories, Greek compound words play an important role. An illustrative example is found in the names of the Linnaean classes, arranged after the number of stamens. They are formed by means of the Greek cardinal numbers as the first morpheme and a later element –*andria* (of Greek *άνήρ*, *άνδρός*, ‘man’, and here ‘stamen’) as the second component: *mon-andria*, *di-andria*, *tri-andria*, *tetr-andria*, *pent-andria*, etc.

The actual outcome in the field of anatomy and physiology: an analysis of Emanuel Swedenborg's *Oeconomia* I (1740)

Swedenborg's *Oeconomia* I must be regarded as highly representative of its genre, since it mainly consists of quotations from, and discussions of, the theses of the most important anatomists, microscopists and physiologists immediately preceding Swedenborg or contemporary with him: the English physician William Harvey (1578–1657), the Italian anatomist Marcello Malpighi (1628–1694), the Dutch microscopist Antoine van Leeuwenhoek (1632–1723), the Danish anatomist Caspar Bartholin the Younger (1655–1738), the Dutch physician Hermann Boerhaave (1668–1738), the German anatomist Lorenz Heister (1683–1758), etc., i.e. the most outstanding of the scientists who brought about the revolution in medicine which I mentioned earlier.

Some introductory words about Emanuel Swedenborg are necessary. He was a Swedish scientist, polyhistor and mystic, author of numerous works in different scientific and philosophical fields, nearly all of them in Latin. Born

in 1688, he studied at Uppsala University. Between 1710 and 1715 he travelled in England, the Netherlands, France and Germany, primarily with the aim of studying the sciences. In 1716 he became the editor of *Daedalus Hyperboreus*, a scientific journal which contained descriptions of new inventions (among them many innovations made by the ingenious Christopher Polhem [1661–1751]). At the end of 1716 he got the opportunity of meeting Charles XII, who appointed him *Assessor Extraordinarius* in the College of Mines. The works that Swedenborg published in the 1720s and 1730s dealt with physics and technology. In the 1730s appeared *Opera philosophica et mineralia*, in three gigantic volumes (Dresden & Leipzig 1734). The first of these, *Principia rerum naturalium* deals with physical theory and cosmology, the second and third, *De ferro* and *De cupro*, with metallurgical processes. Gradually, Swedenborg's interest shifted from the questions of physics and metallurgy to anatomy, physiology and to psycho-physical problems. At the beginning of the 1740s he published *Oeconomia Regni animalis* I [on the blood and the heart], Amsterdam 1740; *Oeconomia Regni animalis* II [on the brain], Amsterdam 1741; *Regnum animale* I [on the abdomen] and *Regnum animale* II [on the thorax], both The Hague 1744. These works should all be read against their background: the first half of the eighteenth century was the golden age of science in Sweden, the age of Linnaeus and Anders Celsius.

In 1743 his life underwent a radical change through a religious crisis which led to visions which he interpreted as divine revelations. He was, from that point on, convinced that he was the chosen tool of God, indeed that he was a prophet, with a mission to explain to the world the hidden, hitherto misunderstood, spiritual meaning of the Scriptures. The remarkable prose poem *De cultu et amore Dei* (London 1745) belongs to this period: In this work he developed his theory of correspondence, which more than anything else has made him famous. His ideas of corresponding planes were the source of inspiration for a number of authors with an interest in transcendental speculation, e.g. Blake, Emerson and Baudelaire, who almost always distorted and misunderstood Swedenborg's ideas, though often in a most fruitful way. Important works from this last period of Swedenborg's life are *Arcana coelestia* (London 1749–56), *Deliciae sapientiae de amore conjugiali* (Amsterdam 1768) and *Vera Christiana religio* (Amsterdam 1771). He died in 1772.

Swedenborg's mastery of the Latin language is striking. Among his earliest publications were a panegyric speech on Charles XII's return from Turkey, a political allegory and a collection of poems, all of them written in a high-strung style, full of elegant allusions to the Augustan poets, especially Ovid, whose *Metamorphoses* were to inspire him throughout his

life. In the scientific works which followed (from the 1720s and 1730s), he treats his subjects (mineralogy, physics, physiology, etc.) with ease and efficiency, often in a very plain style, well suited to the subject-matter. The same holds true about the physiological works from the last phase of his scientific period. He adapted his prose to the common and then normal discourse of men of science, but there are, in all the treatises, passages in which Swedenborg suddenly rises to a higher level, soaring in a rapture of poetic inspiration. The abovementioned prose poem *De cultu et amore Dei* illustrates Swedenborg's capacity in this regard in a most fascinating way.

So – what is there to find in Swedenborg's *Oeconomia* that may be of interest to our subject? In my experience, the kinds of neologisms that stand out in in this work belong to two categories, viz. (1) nouns (nominalizations) expressing qualities and processes, and (2) adjectives used for classification.

Let us look at the nouns first. In *Oeconomia* I we find a great number of neologisms in *-tas*, *-tatis*, e.g. *accidentalitas*, *compressibilitas*, *elasticitas*, *expansibilitas*, *fluiditas*, *mucositas*, *permeabilitas*, *plicabilitas*, *porositas*, *viscositas*, etc. They are, most of them, well formed nominalizations from ancient Latin adjectives. Some of them ought to have existed in ancient Latin, others are typical of scholastic discourse (*accidentalitas*). The majority are words that describe the properties of matter (materials, substances), or nouns that anatomists and physiologists must have been in urgent need of (*fluiditas*, *mucositas*, *porositas*, etc.). Some of these mirror recent progress in physics (*elasticitas*).

In all, I found in my material 32 neologisms of this kind. I counted also the number of nouns in *-tas*, *-tatis* that were attested in ancient Latin. There were 33 (some of them extremely rare, such as *rigiditas* [Vitruvius] and *vitalitas* [Pliny the Elder]). Thus, in *Oeconomia* I, half of the nouns of this kind are neologisms.

We also find a considerable number of neologisms in *-io*, gen. *-ionis*, e.g. *calcinatio*, *chrysalisatio* (*cristalisatio*), *circumvolutio*, *cohobatio*, *coloratio*, *constabilitio*, *cribratio*, *depuratio*, *destillatio*, *evaporatio*, *fermentatio*, *filtratio*, *gyratio*, *luctatio*, *praecipitatio*, *putrificatio*, *resupinatio*, *reverberatio*, *sanguificatio*. Most of these words are perfectly natural nominalizations from well-known Latin verbs, nouns that for some reason do not occur in extant ancient Latin literature, many of which will perhaps require an explanation as technical terms (*loricatio*, “covering with plastering”), *luctatio* (“agitation due to chemical action”), *reverberatio* (“treatment in a reverberatory kiln”). I found a very limited number of non-Latin origin: the term *decantatio* is derived from Greek (*de* and the Greek κάλυθος, “rim of a

cup”, so it has nothing to do with the noun *decantatio* in Jerome); the stem of *filtratio* is Teutonic, and *cohobatio* (“repeated distillation”) is one of the fanciful inventions of Paracelsus. All of them have come into the vocabularies of modern languages. (They were all corrected by my computer, as I wrote them, into *depuration*, *fermentation*, etc.)

Many of the terms, especially those that denote processes in the (al)chemical laboratory were formed already in the Middle Ages, like *fermentatio*, *praecipitatio*, and *sublimatio*.

In all I found in my material 90 neologisms of this kind. I counted also the number of nouns in *-io*, *-ionis* that were attested in ancient Latin. They were 141. Thus, in *Oeconomia* I, around 39 % of the nouns in *-io*, *-ionis* are neologisms.

Among the adjectives, I found neologisms of all the types which I mentioned earlier. In several common types, the neologisms turned out to outnumber those adjectives in *Oeconomia* I that are attested in ancient Latin, e.g. in the following:

- alis*, –*aris*: *abdominalis*, *bronchialis*, *intercostalis*, *jugularis*, *lienalis*, *tendineo-muscularis*, etc. (42 neologisms against 23 of this type attested in ancient Latin [among which some are extremely rare], viz. 65 % neologisms).
- (*b*)*ilis*: *adaptibilis*, *condensabilis*, *expansibilis*, *inobservabilis*, *replicabilis*, etc. (32 against 28, viz. 52 % neologisms).
- icus*: *adenologicus*, *aneurysmaticus*, *diaphragmaticus*, *epigastricus*, *hepatico-cysticus*, *magneticus*, *myologicus*, etc. (43 against 24, viz. 67 % neologisms!).
- orius*: *deglutorius*, *destillatorius*, *excretorius*, *expansorius*, *manducatorius*, *resorptorius*, *respiratorius*, *secretorius*, etc. (25 against 4, viz. 86 % neologisms!).

Noteworthy, too, are composite adjectives derived by means of the Greek *-eus*, such as *stylopharyngeus*, referring to the muscle that has its origin in the *styloid* process and its innervation in the *pharyngeal* plexus. Further, there are also in *Oeconomia* I many new adjectives ending in *-formis* (*coniformis*, *falciformis*, *restiformis*, *retidormis*, *scutiformis*). All these new words belong to the common vocabulary of science, to the terminology and nomenclature that had grown especially rapidly during the last part of the seventeenth century and during the decades preceding Swedenborg’s work.

From the end of the seventeenth century right through the eighteenth century we find a revolution of values and mentality, *La crise de la conscience européenne*, and of knowledge. The impact of modern science is clearly illustrated if we look at the content of academic dissertations, written

in Sweden during the seventeenth and the eighteenth centuries. Anna Fredriksson, Latinist and librarian at Uppsala University library, has recently published a paper treating the presence of ancient sources in Uppsala dissertations from various epochs, in various disciplines.²⁷ She has been able to demonstrate the following striking development in the medical dissertations: in the period 1625–1650, classical authors constitute 60 % of the authors quoted, in the period 1685–1710 they constitute 24 %, and in the period 1760–1785 only 6 %. So, as early as from the end of the seventeenth century, that is from the beginning of the long eighteenth century, the ancient authorities disappear and the modern take their place. *Exeunt* Hippocrates and Galen, *intrans* Marcello Malpighi, Antoine van Leeuwenhoek, Caspar Bartholin the Younger, Hermann Boerhaave and Lorenz Heister!

To sum up

To sum up: the study of Latin neologisms is a field that will inevitably, almost automatically, shed light on the growth of knowledge in Europe. The neologisms also bear witness to the gradual changes in mentality and to the birth of the brave modern world we are living in. It is an area for further research, which I hope will attract many scholars. *Multi pertransibunt, et augebitur scientia!*

Haec, carissime Keith, habui, quae de neologismis dicerem.

²⁷ Fredriksson 2015.

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