16 From Latin to vernacular science

If you think that one language for science improves efficiency and understanding, the rejection of Latin appears as a monument to human folly.

Gordin (2015b: 24)

§1 This concluding chapter of part 2 of this book considers how Latin’s rôle as the leading language of science and learning came to an end. Above (chap. 14), we have seen that the eighteenth century was crucial to ending Latin’s hegemony in science. First, the more general question is taken up of whether Latin is now finally dead (§1); Latin’s main advantage, its stability in time, is considered (§2); then the question of how the vernaculars had to adapt to become vehicles of science is briefly tackled (§§3–5); and finally, the general situation is evaluated (§6). The further development of vernacular science is outside the scope of this book; the linguistic changes to Latin will be the topic of part 3.

Now, if even in scientific communication and in the Catholic Church, which may have been the two last bastions of Latin, Latin is practically no longer used today, we may wonder: is Latin now a truly dead language? It is definitely extinct as a language with native speakers who learn it from their parents. That ceased to be the case a long time ago. But does this mean that it is dead? Those native speakers developed their way of speaking, which produced the Romance languages. But rhetorical Classical Latin was not the language of everyday life, as even a cursory comparison between Cicero’s orations and his familiar letters shows. Thus, from very early on, literary Latin began to be disconnected from the spoken language. This situation can be seen as continuing until the nineteenth century, when Latin lost the most important position among school subjects.

Among humanists from Lorenzo Valla to our own days, who only consider literature written by native speakers as of intrinsic value, this situation is completely misjudged. An entire genre of ‘antibarbarus’ literature meaning to purge Latin grew up over the centuries, culminating in Krebs’s Antibarbarus, which was last reworked by Joseph Hermann Schmalz and printed in Basle in 1905. For Krebs, Latin from Late Antiquity is already of questionable value because the spoken language had drifted away from the written one. The simple amount of scientific, philosophical, and other relevant Latin texts, which is much greater and was

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1 See chap. 8 §7 above. Leonhardt (2013: 78) points out that ‘[a]fter Cicero, however, the vernacular disappeared from literature’.

2 In his *Elegantiae linguae latiniae* of 1471. In contrast to later authors, Valla saw himself as a native speaker of Latin, albeit in a colloquial form (‘Italian’), in a way similar to modern Arabs, as is pointed out below.
much more influential than in the case of purist Latin, provides a first hint that the Ciceronians’ argument misses the point. In contrast, such extreme ‘humanism’ was sometimes accused of having killed the ‘living’ Mediaeval Latin with a straight-jacket of Ciceronianism, for instance by Norden (1958: 2:767):

Der lateinischen Sprache, die im Mittelalter nie ganz aufgehört hatte zu leben und demgemäß Veränderungen aller Art unterworfen gewesen war, wurde von denselben Männern, die sich einbildeten, sie zu neuem dauerndem Leben zu erwecken, sie zu einer internationalen Kultursprache zu machen, der Todesstoß gegeben.

‘The Latin language, which had never completely ceased to live in the Middle Ages and had therefore been subject to changes of all kinds, was dealt its death blow by the same men who imagined that they could awaken it to new permanent life, make it an international cultural language.’

Taking into account the argument in this book, it is clear that this is at least exaggerated: in fact, ‘normal’, non-humanist Latin continued to flourish in early modern times, but the humanist criticism and its later consequence of disregarding ‘non-native’ Latin literature is nevertheless clearly obsolete today, as we understand much more about written and oral forms of languages. In fact, there are many similar cases of diverging written and spoken language: Swiss Germans write Standard German but speak dialects that can be as far from it as Italian is from Latin. The school language is different from one’s mother tongue, and people learn to express complicated (e.g. scientific) thought only in the former. The parallelism goes even further: depending on the amount of nationalism, people will still try to formulate ‘higher’ things in their dialect (as the Swiss Germans do), or they switch to the standard language when speaking about such matters (as Italians or Bavarians would). For the less cultivated, it feels awkward to speak the written language and they may commit errors induced by their spoken variety, both in spoken and in written Standard German. And yet, who would claim that Swiss authors such as Gottfried Keller or Friedrich Dürrenmatt wrote a language that was dead for them, were not native speakers of German, and that their works are therefore of no value? This phenomenon was first studied in depth by Charles A. Ferguson (1959), who spoke of ‘diglossia’. The difference is, of course, that there is Germany, where the ‘dead’ language can be experienced in action for the Swiss. For Arabs, not even this is the case: dialects are spoken in all Arabic-speaking countries today, but Classical Arabic is still written, even in newspapers,

3 As already Olschki knew (1919–1927: 2:68).
4 They just apply sound laws to words that only exist in standard German: Quantenmechanik turns into /ˈkxvantəməˈxaːnɪk/. 
although nobody speaks it as a mother tongue. So is all contemporary Arabic literature a dead literature?

Instead of using the unclear and pejorative term ‘dead’, Leonhardt (2013: 19) rightly proposes calling Post-Classical Latin a fixed language instead. It certainly makes sense to distinguish ‘dead’ languages, knowledge of which was lost at some point and whose partial knowledge had to be recovered by scholars later on, from fixed languages, which are no longer learned from one’s parents and family but knowledge of which and their literature has never been lost and which continue to play important roles in society. Among the latter, we can distinguish subforms such as liturgical languages (such as Coptic, Hebrew, Koine Greek, Latin) and fixed international languages (such as Koine Greek until the fifteenth century, Latin until the nineteenth century, or Standard Arabic until today). Leonhardt (2013: 7) points out that the trend in modern linguistics to restrict the study of language to its ‘natural’ form, that is, one that is oral, spontaneous, and ‘untainted’ by schoolmasters, is an inheritance from nineteenth-century Romanticism and is completely unscientific. The approach in the present book (as in Leonhardt’s) of not distinguishing between ‘dead’ and ‘alive’ phases of Latin is an attempt to remedy this manqué ‘humanist’ approach. Despite being fixed, we will see below in part 3 that scientific Latin did change over time. Following Christine Mohrmann, who spoke of a ‘normativisme évolutif’, Stotz called the linguistic development of Mediaeval Latin in general a ‘fortwährende Normenentfaltung’ (1996–2004: I, §9.8 =vol. 1, p. 33). In this progressive unfolding of norms, older norms remain valid (in contrast to living languages, where they are forgotten and become obsolete), but new norms may nonetheless be added. Some syntactic change happened in the Middle Ages (e.g. concerning subordinate clauses), but most importantly much new vocabulary was added to Latin’s stock. Academic Latin also changed through time, but differently than a living language: there

5 For instance, quite well for Sumerian, only piecemeal for Etruscan.
6 ‘Le latin a donc été une langue stylisée, une Kunstsprache vivante sans être la langue d’une communauté ethnique. Cette langue est vivante et variable, par suite de cette norme appliquée par les générations successives, qui n’était ni absolue ni fixe, mais qui marchait de pair avec l’évolution culturelle. Grâce à ce normativisme évolutif, le latin est devenu un instrument adéquat de la civilisation médiévale. Celui-ci, émanant de la Ideengemeinschaft des lettrés qui remplace la communauté ethnique, assure comme élément régulateur la vie du langage’ (‘Latin was therefore a stylised language, a living Kunst sprache without being the language of an ethnic community. This language was alive and changing, as a result of this norm applied by successive generations, which was neither absolute nor fixed, but kept pace with cultural evolution. Thanks to this evolutionary normativism, Latin became a suitable instrument for mediaeval civilisation. Emanating from the Ideengemeinschaft of the educated, which had replaced ethnic communities, it ensured the vitality of the language as a regulating element’; Mohrmann 1958: 273).
were no sound shifts reflected in the orthography, and hardly any change in the grammatical structure, but new constructions from within and sometimes from Greek were adopted besides, again, a lot of new vocabulary. We can thus say that Latin in the past one and a half millennia was not a dead language but (among other things) a living, although fixed, language of erudition. The linguistics of fixed languages is a field that has hardly been trodden as yet.

Fixed languages are also not ‘dead’ in the sense that they can, all of sudden, become fully ‘alive’ again, as happened with the fixed liturgical language Hebrew in the form of Ivrit in the twentieth century. Although this is not very likely to happen any time soon for Latin, Latin does not seem to be as ‘dead’ as one might think, even today. A quick glance at the Latin Vicipaedia shows that on 3 November 2018 it had 129,438 entries (54th among all languages in Wikipedia) with 112,290 users, although only 161 of them had made edits within the past month. In early 2021, it contained nearly 4 million words, only slight less than the Perseus Classical Latin text collection. The numbers for Modern Greek are only slightly higher. No other dead or fixed language comes close; Sanskrit (also a fixed language of liturgy, culture, and erudition) follows with only 11,351 entries. Vicipaedia’s main page has the traditional Latin artes & litterae opposed to scientiae (see chap. 1 §6 above), besides societas, technologia, and lingua latina as main categories. It would thus seem that the field in which Latin is still most used is that of Latin literature, science, and technology. Of course, the Latin diction used has also taken up much from the modern European languages such as English and German, the continuation of a process observed above for Jesuit Latin. Some examples of words from Vicipaedia entries: disciplina scientifica, ethnocentrismus, societas conlaborativa, psychologia gestaltica, moratismus (i.e. behaviourism), miliardum, usor (all these terms yielded 0 hits in Corpus Corporum as of 2021). The administratores of Vicipaedia have to take care that the usores do not use ‘Vulgar’ Latin; indeed, the Latinity of their pages differs significantly, but they are mostly perfectly understandable. There is a warning:

\[\text{Si paginam alia lingua ac Latina exares, velut pessimae Latinitatis insignem, sive Latinitate utar is a machina confecta, noli mirari aut queri cum pagina tua deleatur.}\]

‘If you write a page in another language than Latin, or one distinguished by horrible Latinity, or you employ Latin made by machine translation, you must not be surprised or complain when your page is deleted.’

7 See https://meta.wikimedia.org/wiki/List_of_Wikipedias (3 November 2018).
8 Estimated from the downloadable dump https://dumps.wikimedia.org/lawiki, counting only article text, without discussion and editing history.
9 The artificial language Esperanto has more entries, but it is spoken as a mother tongue by several thousand people by now.
10 https://la.wikipedia.org/wiki/Vicipaedia:De_Latinitate (21 June 2018).
§2 The truly great advantage Latin had to offer for science was its stability over time and its long memory\textsuperscript{11} – advantages that Greek shared only up to the fall of Constantinople (1453). The use of the classical form of Greek diminished rapidly and for good after this traumatic event. The linguistic studies (chaps 18–20) will show that the Latin language changed very little over two millennia, that the variation is more of a stylistic nature than of a unidirectional change over time. One could say that the positive side of a language being ‘fixed’ is its stability. Someone able to read Varro can also read Newton’s Latin (although he may not understand the maths) nearly two thousand years later. In contrast, even Newton’s English is already a significantly different kind of English than ours today. If Old English or Old High German scientific texts existed, they would be very hard for us to read now. A somewhat later example may illustrate this, the German translation of the De sphaera of John of Sacrobosco by Konrad of Megenberg (1309–1374):

Euclydes der maister beschreibt uns waz spera sei, und spricht: ‘Spera ist ain gank ainer ümverte ains halben kraizzes, deu veste und eben stet an irr mittelmezzigen lengen und di man also lang umbfurt piz sie wider kümpt an die stat irs anvanges.’\textsuperscript{12}

\textit{Spera igitur ab Euclide sic descriptur: spera est transitus circumferentie dimidii circuli quotiens fixa diametro quousque ad locum suum redeat circunducit.}\textsuperscript{13}

‘A sphere is thus described by Euclid: a sphere is the orbit of the circumference of a half circle having a fixed diameter when it is led around until it returns to its initial position.’

In the mere half-millennium between Konrad’s times and ours, his German has become very hard to read for German-speakers. Some of the problems that arise are orthographic, but the more serious ones concern vocabulary: ‘mittelmezzige lenge’ is now called \textit{Durchmesser}; ‘die stat’, \textit{Ort}. By contrast, Sacrobosco’s Latin is still close enough to Cicero’s that the latter would have understood it easily (although probably disdaining its style). Thus, Antoine Meillet was spot-on when he pointed out (1928: 1):

\begin{quote}
Langue d’un grand empire [...] le latin à gardé durant quelques huit cents ans une stabilité. Quand l’unité de la langue parlée a commencé à se rompre, du IIIe au Xe siècle ap. J.-C., l’unité de la langue écrite a persisté. Le latin classique est demeuré jusqu’à une période
\end{quote}

\textsuperscript{11} This advantage was obvious to many writers before the nineteenth century. Samuel Gott addresses the three old holy languages (Hebrew, Greek, Latin) in book III of his novel \textit{Nova Solyma}: \textit{In his, tanquam tot preciosis arculis omnes artium et scientiarum gemmae conduntur} (‘In these languages, as if in as many precious caskets, all jewels of art and science are stored’; 1648 edition, p. 132).

\textsuperscript{12} \textit{Deutsche Sphaera}, ed. Matthaei, p. 4.

\textsuperscript{13} Edited in Thorndike (1949: 76).
avancée de l’époque moderne l’organe de la science et de la philosophie dans l’Europe occidental.

‘As the language of a great empire [...] Latin kept its stability during some eight hundred years. When the unity of the spoken language began to break down, from the third to the tenth century AD, the unity of the written language persisted. Until late modern times Classical Latin remained the organ of science and philosophy in Western Europe.’

The argument that Latin’s status as a ‘dead’ language actually benefited it in its rôle as language of science because the language was no longer suffering erosion by linguistic change and remained intelligible and usable as a kind of metalinguage, was already used in the time when Latin was fighting to retain but finally lost this rôle. Of course, this was already clear to the more thoughtful early modern authors. For instance, Baltasar Gracián, SJ, addressed Latin in 1651 as eterna tesorera de la sabiduría (‘the eternal treasurer of wisdom’; El criticón I.4, ed. Romera-Navarro, vol. 1, p. 164). When this state of affairs is no longer taken for granted and the discussion of the continued use or abolition of Latin in the sciences is taken up, this point is also often stressed; for instance, Renatus Carolus de Senkenberg (Meditaciones maximam in partem juridicae quinque, p. 139) pointed out in 1789:

Mortua quum sit [lingua latina], id est nulli amplius populi propria, sed communi tantum eru-ditorum consensu talis, qualem Romani scriptores nobis reliquere, pro lingua scientiarum adoptata, nullis haec mutationibus obnoxia est. Ergo omnia substantiva, omnia verba, omnia vel minima vocabula, eandem post mille annos, modo non plane exulare tunc jussa sit, apud ejus peritos habebunt, quam nunc et quam ante bina jam millia annum habuere, significatio-

‘The Latin language being dead, that is, no longer the property of any nation but only through mutual consent of scholars adopted – as the Roman writers left it to us – as the language of the sciences, it is not subject to any changes. Thus, all nouns, all verbs, all words, even the slightest – provided that Latin will not be abolished altogether – will have for those versed in it the same meaning in a thousand years as today, and as they already had two thousand years ago.’

§3 Latin had taken over the function of being Europe’s language of science and learning from Greek and was succeeded by several European vernaculars; we might speak of a translatio linguae, comparing it thus to the mediaeval concept of translatio imperii (Pörksen 1999: 649). Some of Latin’s heirs – and, one is tempted to say: murderers – were already encountered above (chap. 14 §§3, 6), especially French. After the initial success of French as the sole international language in the eighteenth century, three languages soon ended up replacing Latin as the

14 See Glei (2014).
languages of science throughout the nineteenth century: French, German, and English (Gordin’s ‘triumvirate’). Somewhat earlier, Italian\textsuperscript{15} started to be used for scientific publications, but this was not to last long, as a look at the languages in the list above (chap. 14 §3) shows. In the early twentieth century (after World War I and the exclusion of German scientists from international scientific conferences for eight years), English started to ascend to world hegemony, which (at least in the natural sciences) is today all but complete, as can be seen in Ammon’s graphic (fig. 29). The curves show how only German between the Wars and then Soviet Russian were able to briefly challenge English after the break-up of the ‘triumvirate’. Latin is not even depicted any more.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig29}
\caption{Source: Ammon (2012: 338). The values are given as percentages and are based on the natural sciences worldwide, from Biological Abstracts, Chemical Abstracts, Mathematical Reviews, Index Medicus and Medline, and Physics Abstracts.}
\end{figure}

Latin as the language of the sciences had some clear advantages, especially its ready-made vocabulary and syntax for scientific use, but most of all its international comprehensibility.\textsuperscript{16} Leibniz called it the \textit{lingua europaea universalis et durabilis ad posterioritatem} (‘the European language that is universal and durable for posterity’; 1872a: 441),\textsuperscript{17} and would have liked to see it preserved at universi-

\textsuperscript{15} For which see Olschki (1919–1927).
\textsuperscript{16} For a list of advantages and disadvantages, see Pörksen (1986: 69–71), besides Roelli (2018).
\textsuperscript{17} He points out in parentheses: ‘zumahl da die lebenden sprachen veränderlich seyn’ (‘especially as the living languages suffer change’).
ties. The three new languages of science (German, French, English) are all Indo-European languages with a similar structure and heavily indebted to Latin (and more indirectly to Greek). This made it relatively easy for them to adopt and to share the position of language of science, as any scientist with a decent education could be expected to read all three languages. A brief look at how these three vernacular languages acquired the necessary vocabulary and syntax concludes this part of the book. How their vocabulary had to adapt is discussed in more detail in chapter 21.

Scientific vocabulary

§4 As soon as the vernacular languages start to be used for scientific matters, technical terminology from Greek and Latin is quite naturally taken over. Chaucer’s (ca. 1343–1400) *Treatise on the Astrolabe*, which he proudly wrote in his mother tongue, not in Latin, can still not avoid the use of Latin and Arabic terms (underlined), as this example shows (part II, §6, ed. Skeat, p. 20):

To knowe the spring of the dawyng & the ende of the euenyng, the which ben called the two crepusculus: Set the nadir of thy sonne vp-on 18 degrees of heyhte Among thyn Almykan-teras on the west side; & ley thy label on þe degre of thy sonne, & thanne shal the poyn of thi label schewe the spryng of day.

But the extent of this can be much greater still, and may include phrases and syntax. Pörksen (1994b) speaks of *Fachwerkstil* ('timber-frame style') for what often ensued, that is, texts that although written in a vernacular language are interspersed with Latin, not only Latin words (which is to some extent still true today of much scientific English prose) but also phrases and entire sentences. An example from Leibniz (1872a: 439):

Ein Studiosus Medicinae, ob er schohn bloß ad praxin gehen will, soll neben denen communibus omni studioso dignis guthe kundschaft haben in mathesi practica et physica generali, auch deneben herbas medicinales vel officinales und andere materialien kennen lernen, die bey den Apothekern und materialisten gebräuchlich.

‘A studiosus medicinae, even if he only wants to go ad praxin, should, in addition to the communibus omni studioso dignis, have good knowledge in mathesi practica et physica generali, as well as getting to know herbas medicinales vel officinales and other materials used by pharmacists and purveyors of remedies.’

One of the main reasons for Latin’s long persistence in a time of vernacular tongues vying for European hegemony was clearly its terminology. In many sciences, it already had a vast stock of Greek and Latin terms inherited from Antiquity, which was often considerably enlarged in scholasticism and during the heyday of
the Scientific Revolution. Besides this advantage, among the new contestants for becoming scientific languages, only German had the ability to effortlessly form new words by compounding. This flexibility, on the other hand, had the disadvantage that often several different attempts to render one Latin term coexisted. For instance, German writers from Notker Teutonicus (ca. 950–1022) to Wolfgang Bütner (ca. 1530–ca. 1596) translate *subiectum* variously as *underin*, *Vordertail des Fürschlags*, *Subjectum*, *Grundwort*. Thus, Germans had no problem forming new words, especially compounds, to render Latin concepts; the problem was only one of standardisation. Even in the seventeenth century, it will have been much easier even for educated Germans to understand standardised Latin than scholarly German authors in many fields. So, for sciences with a need for a vast and growing vocabulary, it was still Latin that offered the best solution as late as the eighteenth or even the nineteenth century. Good examples of this are botany (chap. 15 §4) and chemistry, which still uses abbreviations of the Latin names of chemical elements (chap. 21 §7 below). Medicine could also be mentioned in this respect. In order to gain the necessary vocabulary, the Romance languages and English naturalised Latin and, to a lesser degree, Greek terms from the Latin scientific literature by submitting them to some simple sound-change laws and adapting their pronunciation. German did/does this partly as well, but often translates the Greek or Latin terms into German compounds. Indeed (Pörksen 1999: 645):

> Die deutsche wissenschaftliche Prosa hat sich nicht auf der Grundlage einer eigenen untergründigen mündlichen Kultur herausgebildet, sondern als Lehnprägung der lateinischen Schriftkultur.

‘German scholarly prose did not develop on the basis of its own underlying oral culture, but rather as a borrowed formation from Latin written culture.’

The entomologist Theodore H. Savory observed that contemporary scientific language can be very easily translated, as illustrated by an example of a short entomological text he translates very closely from French to English, shown in figure 30. This observation is interesting, although it will become clear (chap. 22) that this can only work if scientists in both languages share the science in question and have established a one-to-one correspondence between terms – today, espe-

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18 See the table in Schmid (2015: 45) with a dozen or so similar examples.
19 See also Dirckx (1983).
20 Many German non-scientific terms are also clearly calqued from Latin, but this is no longer recognised by speakers, e.g. Barmherzigkeit = misericordia, Einfluss = influentia, Eindruck = impressio, Zufall = accidens, Allmacht = omnipotencia, unbegreiflich = incomprehensibilis, ausdenken = excogito (see Wiegand 1999: 642).
cially when they share the general Begriffsgemeinschaft. All of this is the case here, as most terms are of Greek or Latin origin (‘arthropod’, ‘chitinous’,21 ‘ecdysis’, and so on). Moreover, both French and English developed their scientific language out of Latin. But the situation is very different for languages that do not take over concepts easily (see chap. 23), or that do not (yet) share the Begriffsgemeinschaft – for instance, for Arabic translators from Greek in the Middle Ages. Thus, this easy translatability of scientific language is largely illusory. Besides vocabulary, one-to-one syntactic correspondences are also crucial to transplant a science from one language to another.

Fig. 30: Perfect translation of scientific language? From Savory (1953: 116–117). Line 8 in the French text has a typographical error: poinds should read poids.

Syntax
§5 Syntactic borrowing in the Western European vernaculars from Latin was probably considerable, but the field is understudied.22 Blatt (1957: 69) concluded about syntactic borrowing:

These two features taken together, viz. the architecture of the sentences or phrases and the rationalisation of the language, suffice to prove that Modern European syntax bears the stamp of the Latin genius. European standard languages of to-day may be considered useful instruments for modern thought, because tuned from Classical syntax.

21 This substance’s name is ultimately derived from χιτών (‘garment’).
22 Beckman (1934) made a start but remained on the quite general level of matters like the emergence of words for ‘yes’ (14) or ‘one’/man/on (15). Pörksen rightly wonders: ‘Warum gibt es keine Geschichte vom Übergang vom Lateinischen zum Deutschen?’ (‘Why is there no history of the transition from Latin to German?’; 1999: 644).
In the case of German, more infinitive and participle constructions, hypotaxis,
and more complex sentences have been named as emerging under the influence
of Latin.\textsuperscript{23} It also seems that the modern Western European languages took over
some absolute constructions from Latin. We shall confine the discussion to one
example of a potential borrowing that works in English but not in German.\textsuperscript{24} Eng-
nish can form -ing-form or passive participle clauses that resemble the Latin \textit{parti-
cipium coniunctum} and the \textit{ablativus absolutus}. Thus, one can say:

This substance, discovered almost by accident, revolutionized medicine.\textsuperscript{25}

This corresponds exactly to Latin (translating verbatim):

\textit{Haec substantia, inventa quasi fortuite, medicinam novavit.}

The English substitute for the \textit{ablativus absolutus} is sometimes called a ‘nominative absolute’. It can be traced back to a ‘dative absolute in disguise’, which was
common, for instance, in Wycliffe (ca. 1325–1384).\textsuperscript{26} A modern example:\textsuperscript{27}

No further discussion arising, the meeting was brought to a close.

This corresponds to Latin:

\textit{Disputatione absente, conventus terminatus est.}

It seems that this construction becomes fully naturalised in English only after
1660, at first in authors with classical influence.\textsuperscript{28} This cannot be done in German
or in French; both languages require a construction with a finite verb form. But
Old High German had a similar construction (also with the dative) which was sub-

\begin{itemize}
\item \textsuperscript{23} Habermann (2001: 33–57). Von Polenz (2000: 219), surprisingly, estimates the Latin syntactic
influence on German as minor.
\item \textsuperscript{24} The Romance languages have similar constructions: \textit{Questa sostanza, scoperta quasi per caso, rivoluzionò la medicina}, or cela étant dit, although this would not be used to translate the ‘No
further discussion arising …’ example below.
\item \textsuperscript{25} From Quirk et al. (1985: §15.61, pp. 1124–1125), who speak of ‘subjectless supplementative
clauses’ and note that this also works without a participle: ‘I found George, unconscious, a few
hours later.’
\item \textsuperscript{26} See Ross (1893: 302).
\item \textsuperscript{27} Also from Quirk et al. (1985: §15.58, pp. 1120–1121), who speak of ‘absolute clauses’.
\item \textsuperscript{28} Thus Ross (1893: 302).
\end{itemize}
sequently lost: *bi fatere lebendemu = patre vivente*. Modern German tends to use nominal construction for similar cases: *zu Lebzeiten des Vaters*.

§6 Science in the vernacular, of course, brings with it both advantages and disadvantages. With vernacular science, influence on popular culture is augmented dramatically (for good and for ill); it can be abused in nationalism; the texts may become unintelligible beyond national borders, which again favours a nationalist group identity and the formation of national schools; and its terminology may waiver between technical meanings and everyday ones. On the other hand, more people gain access to erudition, and new ways of practising science may become easier outside the old Latin framework. Vernacular prose certainly also profited from this influx from the sciences. As mentioned above, the inherent stability of a fixed language that had long ceased to be spoken by a people and had thus become common property is the most important point in favour of the continued use of Latin. Latin was still the only medium when the important changes of the Scientific Revolution happened; this revolution might not have happened at all in a linguistically fragmented Europe that became the norm in the nineteenth century. However, as far as the kind of science is concerned, I cannot discern a significant change in methodological *Denkstil* in the eighteenth and nineteenth centuries: the vernaculars carry on the Latin kind of science developed in the Scientific Revolution, even copying its language, especially the terminology, considerably. The revolutionary science we still practise today seems to have remained faithful to its Latin foundations in the Scientific Revolution.

29 In contrast to Pörksen (1999: 657).
