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## Translation studies in the history of science: the example of *Vestiges*

NICOLAAS RUPKE\*

**Abstract.** The three translations of *Vestiges of the Natural History of Creation* invested the text with new meaning. None of the translations endorsed the book for the author's advocacy of species transformation. The first translation, into German (1846), put forward the text as evincing divine design in nature. The second, into Dutch (1849), also presented *Vestiges* as proof of divine order in nature and, more specifically, as aiding the stabilization of society under God and king in a process of recovery from the 1848 Revolution. By contrast, the third translation, into German (1851), interpreted the book as furthering the very revolutionary, anti-ecclesiastical and anti-monarchist ideals that the Dutch edition sought to counter.

### Translations and the geography of meaning

The part played by translations of scientific texts in the development of science is as yet a largely neglected field of study. The assumption has been widespread that the language of science was, and continues to be, an international language, a lingua franca, either quite literally so, in medieval and early modern times, when Latin was the medium of scholarly and scientific discourse, or conceptually, as a result of a universal, shared rationality. To the extent that the fact of translation is used at all, it commonly serves as no more than a bibliometric indicator of the success of a book, a measure of an author's achievement and the international extent of his/her fame. As Milton Millhauser commented about the translations of the anonymously published *Vestiges of the Natural History of Creation* – written by the Scottish publisher Robert Chambers (1802–71) – ‘Perhaps translation is the sincerest form of flattery’, involving, among other things, ‘intellectual submission’.<sup>1</sup>

Renditions of scientific texts into other languages can serve the historian in more significant ways, however, than as an indicator of publishing success. With respect to translation studies, historians of science could profit by turning to philologists, who have long recognized that a translation is not merely a medium of transfer, but more importantly a mental meeting point where barriers of language and culture are crossed. In *belles-lettres*, translations have been regarded, moreover, as autochthonous cultural products.<sup>2</sup> In the

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1 M. Millhauser, *Just before Darwin: Robert Chambers and Vestiges*, Middletown, CT, 1959, 145.

2 See for example the outline of a planned *International Encyclopedia of Translation Studies* by A. P. Frank, H. Kittel and F. Paul, ‘Übersetzung – Translation – Traduction’, *Spektrum: Informationen aus Forschung und Lehre*, December 1994, 20–1; see also M. Schreiber, *Übersetzung und Bearbeitung. Zur Differenzierung und Abgrenzung des übersetzungsbegriffs*, Tübingen, 1993; H.-J. Lüsebrink and R. Reichardt, ‘Kauft schöne Bücher, Kupferstiche ...’. *Illustrierte Flugblätter und französisch-deutscher Kulturtransfer 1600–1830*, Mainz, 1996.

process of transfer and assimilation into a different culture, texts can acquire an altered meaning. Translators relocate books, taking these away from the intellectual control of authors, repossessing the texts, possibly in the service of very different purposes than those for which the works were originally intended. Such alterations of meaning can be effected by new, additional prefaces, by footnote commentary, by other additions such as illustrations, by omissions and, most fundamentally, by the very act of cultural relocation. As a result, the reader may find in the text, or put into it, a different message from the one that the author had in mind.<sup>3</sup>

When young Louis Agassiz (1807–73) translated into German the Bridgewater Treatise on *Geology and Mineralogy Considered with Reference to Natural Theology* by the Oxford geologist William Buckland (1784–1856), he entirely disowned the central tenet of Buckland's treatise – the design argument – and by means of detailed commentary uprooted the geological text from its Anglican soil and replanted it in the mould of German idealism.<sup>4</sup> Conversely, when Elisabeth Juliana Sabine, née Leeves (1807–79), wife of the Humboldtian Edward Sabine (1788–1883), translated into English *Kosmos. Entwurf einer physischen Weltbeschreibung* by the Prussian naturalist Alexander von Humboldt (1769–1859), she left out passages that were considered incongruent with traditional beliefs, assuring that *Cosmos* be made to serve British natural theology.<sup>5</sup> Many more instances could be cited, especially from the late modern period when scientific texts increasingly were no longer written in Latin, but in authors' native tongues, and translations of these texts into English, French, German and other modern European languages became common.

Thus translation studies connect seamlessly with recent historiographic interest in location – an interest kindled by the work of David Livingstone, Simon Schaffer, Steven Shapin and others, who have stressed the situatedness of scientific knowledge.<sup>6</sup> A detailed and systematic study of translations should prove to be highly efficient as a tool for the analysis of scientific knowledge in terms of region and territory (national, party political, social and so on) and in the cartography of scientific meaning. Translation studies could help in answering the two questions formulated by Shapin: how does science, whatever its local mainspring, travel with such remarkable efficiency, and to what extent are local circumstances involved in the meanings that scientific texts acquire and the purposes they are made to serve? (only the latter of these two questions will be addressed below).<sup>7</sup>

3 These issues are relevant, too, in connection with translations into modern languages of ancient, medieval and early modern scientific texts (e.g. Ptolemy, Paracelsus, Copernicus and Kepler). The particular concern of translation studies as understood in this paper, however, is with late modern, mostly contemporaneous translations of scientific literature, originally written in one of Europe's several modern languages.

4 See Nicolaas Rupke, *The Great Chain of History*, Oxford, 1983, 160–1.

5 See Nicolaas Rupke, 'Introduction', in Alexander von Humboldt, *Cosmos: a Sketch of the Physical Description of the Universe*, 2 vols., Baltimore, 1997, i, p. x (compare with pp. xix–xx).

6 See, for example, A. Ophir and S. Shapin, 'The place of knowledge: a methodological survey', *Science in Context* (1991), 4, 3–21; D. N. Livingstone, 'The spaces of knowledge: contributions towards a historical geography of science', *Environment and Planning D: Society and Space* (1995), 13, 5–34; Crosbie Smith and Jon Agar, 'Introduction: making space for science', in C. Smith and J. Agar (eds.), *Making Space for Science: Territorial Themes in the Shaping of Knowledge*, Basingstoke, 1998, 1–23.

7 See F. Driver and D. N. Livingstone, 'Geographies of knowledge', *Newsletter* (Royal Geographical Society; History and Philosophy of Geography Research Group), May 1996, 1–2.

Another connection exists, namely of translation studies with book history, the latter subject long ago encouraged by, among others, Robert Darnton and more recently promoted within the history of science by, among others, Adrian Johns, Jim Secord and Jonathan Topham.<sup>8</sup> Book historians have stressed the importance of the distance that may exist between an author and his/her readers. Darnton sketched a so-called ‘communication circuit’, showing the indirect connection of an author with the readers, via publishers, printers, binders, booksellers and librarians.<sup>9</sup> One link that is missing in this loop is that of the translator/translation. Translations form a particularly good example of the perception that context of production and context of reading are two different things, because in rendering the text into another language, the translator imposes his/her reading on the new book, and additionally offers it to a wholly new readership, far removed from the author in both geographical and cultural terms.

The recent interest among historians of science in book history has led to a new, precise and programmatic expression of these issues. It should be added, however, that the issues themselves are by no means new and that audience studies of, for instance, Darwin’s theory of evolution, were carried out long ago.<sup>10</sup> Here the extraordinary extent to which a translation can relocate the text and invest it with new meaning is illustrated by the example of *Vestiges of the Natural History of Creation*.

#### ***Vestiges* in translation: Dutch and German**

*Vestiges* was, within the English-speaking world, ‘a publishing triumph’:<sup>11</sup> no fewer than four editions of the book appeared in just half a year, and eleven editions during the period 1844–60. It also was a major reviewing success, in the sense that it received many, and in some instances very substantial, critical commentaries: Secord lists over eighty reviews, which appeared in daily newspapers, popular weeklies and heavyweight quarterlies (see below).<sup>12</sup>

In stark contrast to this stands the fact that on the European mainland *Vestiges* went largely unnoticed. I have failed to find a single review of any of its many English or American editions. Admittedly, on the Continent there existed no exact equivalents to the

8 A. Johns, ‘History, science, and the history of the book: the making of natural philosophy in early modern England’, *Publishing History* (1991), 30, 5–30; J. Topham, ‘Science and popular education in the 1830s: the role of the Bridgewater Treatises’, *BJHS* (1992), 25, 397–430; A. Johns, *The Nature of the Book: Print and Knowledge in the Making*, Chicago, 1998.

9 R. Darnton, *The Kiss of Lamourette: Reflections in Cultural History*, London, 1990, 107–35. See also B. Fabian, ‘English books and their eighteenth-century German readers’, in P. J. Korshin (ed.), *The Widening Circle: Essays on the Circulation of Literature in Eighteenth-Century Europe*, Philadelphia, 1976, 117–96; M. Raabe, *Leser und Lektüre im 18. Jahrhundert. Die Ausleibbücher der Herzog August Bibliothek Wolfenbüttel 1714–1799*, 4 vols., Munich, 1989.

10 See, for example, A. Ellegard, *Darwin and the General Reader: The Reception of Darwin’s Theory of Evolution in the British Periodical Press, 1859–1872*, Chicago, 1990 (originally published 1958); T. F. Glick (ed.), *The Comparative Reception of Darwinism*, Chicago, 1988 (originally published 1974).

11 J. A. Secord, ‘Introduction’, in Robert Chambers, *Vestiges of the Natural History of Creation and Other Evolutionary Writings*, Chicago, 1994, p. xxvi.

12 Secord, op. cit. (11), 225–9.

leading British reviewing periodicals such as the *Edinburgh*, the *Quarterly* and so on.<sup>13</sup> Continental reviewing magazines did exist, however, and prominent among these was the *Göttingische gelehrte Anzeigen*. In spite of its Anglophile character, it never paid attention to any of the editions of *Vestiges* in English. No reviews appeared either in the *Allgemeine Literatur-Zeitung*, the *Heidelbergsche Jahrbücher der Literatur*, the *Revue des deux mondes* or in a range of similar periodicals. Moreover, the book was not translated into French, Italian, Spanish, Russian or Swedish, into which languages popular cosmologies were commonly rendered, as had been *Kosmos* or *La Terre avant le déluge* (1863) by the French physician and popular writer Louis-Guillaume Figuier (1819–94).

Yet translations of *Vestiges* did appear. There were in fact three, one in Dutch (which went through a second, third and fourth edition) and two in German (of which one had a second edition). The main purpose of this paper is to find out what in *Vestiges* itself or in the controversies it engendered in the British periodical press motivated the Dutch and German translators to render the book into their mother tongues. The question may seem a rhetorical one, and the answer self-evident, namely that the interest of the book on the Continent lay in the author's advocacy of a non-miraculous, natural origin of all species including humankind, which was exactly what had stirred the debate about its contents in Britain and America. To the Cambridge professor of geology Adam Sedgwick (1785–1873) and many of his British contemporaries, *Vestiges* equalled the 'rank, unbending, and degrading materialism' of naturalistic origins.<sup>14</sup> Surely, then, the translators must have been spurred into action by an enthusiastic agreement with, or at least a strong interest in, this notorious and central theme of the book?

However, what interested Dutch and German translators of *Vestiges* was not what its British quarterly reviewers singled out as important. In being taken across the Channel, the book took on a different significance, and the theory of species transformation was either not mentioned or, *mirabile dictu*, specifically refuted. This extraordinary loss of British meaning, which accompanied the book's rendition into Dutch and German, justifies our central question: what did *Vestiges* mean to its translators?

### The Seubert translation

Let us discuss the three translations in chronological sequence of date of publication, starting with the first of the two German renditions. This was an 1846 adaptation of the third edition of *Vestiges*, carried out by Adolf Friedrich Seubert (1819–90), then in his mid-twenties. The adaptation was cheaply produced and entitled *Spuren der Gottheit in der Entwicklungs- und Bildungsgeschichte der Schöpfung*.<sup>15</sup> Regrettably, for our purposes, Seubert added neither a preface nor footnotes to the text, and he gave no direct indication

13 On different European reviewing cultures, see Nicolaas Rupke, 'A geography of enlightenment: the critical reception of Alexander von Humboldt's Mexico work', in D. N. Livingstone and C. Withers (eds.), *Geography and Enlightenment*, Chicago, 1999, 319–44. A rare, contemporary reference to the English original of *Vestiges* in the German scientific literature was made by the Freiberg geologist Bernhard Cotta, *Briefe über Alexander von Humboldt's Kosmos. Ein Commentar zu diesem Werke für gebildete Laien*, 2nd edn., Leipzig, 1850, 263.

14 [A. Sedgwick], 'Vestiges', *Edinburgh Review* (1845), 82, 3.

15 Published in Stuttgart, Ad. Becker's Verlag, 336 pp.

of the book's interest for his compatriots. Indirectly, however, Seubert delivered a clear message, in that his adaptation included not only *Vestiges* but, astoundingly, also *Indications of the Creator* (1845), written by the Master of Trinity College, Cambridge, William Whewell (1794–1866); and that the subtitle of Seubert's *Spuren der Gottheit* ran as follows: *Nach William Whewell's Indications of the Creator und der dritten Auflage der Vestiges of the Natural History of Creation, für deutsche Leser bearbeitet*.

As is well known, the *Indications of the Creator* consisted of passages selected by Whewell from his monumental *History of the Inductive Sciences* (1837) and *Philosophy of the Inductive Sciences* (1840) – passages that were intended as a rebuttal of *Vestiges*, reaffirming the creationist argument of design. As a critique, the *Indications* were more dignified than Sedgwick's emotive *Edinburgh Review* essay, yet no different in purport. It seems bizarre that in a single translation, *Vestiges* should be combined with a tract written specifically to counter its central tenet. One could surmise that what Seubert had in mind was to present both sides of the argument – the transmutationist versus the creationist. Yet there is good reason for assuming that this was not what made him combine the two antagonistic treatises. Rather than have Whewell's *Indications* precede or follow *Vestiges*, Seubert interwove the two texts, producing an almost seamless, integrated product by alternating chapters from the one with sections from the other; changes from one text to the other were merely indicated by changes in lettering and line spacing, the denser being used for Whewell. One might suspect that the interdigitating of the two texts in different typefaces was meant to present a controversy in an argumentative, dialectical form.<sup>16</sup> Yet the text makes no sense that way and reads like a concatenation of complementary parts.

Thus Seubert created the impression that the two books, which to in-the-know British readers were altogether antithetical, delivered one and the same harmonious message. This message could not possibly concern the issue of the origin of species, about which the two treatises differed like day and night. It follows that to Seubert the interest of *Vestiges* lay in something other than its transmutationism. This 'other' may well be revealed by his title – a combination of the titles of the two translated books – which, translated back into English, would read something like *Vestiges of Divinity*. In other words, what impressed Seubert in the Vestigiarian's treatise was less the fact that a naturalistic origin of species was advocated than that it was argued to have taken place by divinely ordained laws.

The likelihood that this was the intended reading of *Spuren* is increased by considering the author's political leanings. Seubert was anything but a Desmondian underground rebel – he had no truck with revolutionary and republican causes which Adrian Desmond has so engagingly connected, for London, with pre-Darwinian, Lamarckian literature.<sup>17</sup> Quite the contrary, Seubert was a military man who rose through the ranks to become a colonel. In 1835, still a teenager, he entered the military academy at Ludwigsburg and left active service nearly four decades later, in 1873. Significantly, during the revolution of 1848, he helped repress the rebellious uprising in Baden, and later took part in the Franco-Prussian War in alliance with Otto von Bismarck (1815–98). Seubert wrote a number of articles and

<sup>16</sup> One of the anonymous referees of this paper argues this point.

<sup>17</sup> A. Desmond, *The Politics of Evolution: Morphology, Medicine, and Reform in Radical London*, Chicago, 1989.

books, most notably on military strategy;<sup>18</sup> he also produced travel accounts, drama, comedy, tragedy and sonnets, edited the second edition of a major fine arts encyclopaedia, and produced a variety of translations. His earliest literary products belonged to this last category, beginning with a translation of Byron, which soon was followed by the German rendition of *Vestiges-cum-Indications*. In all these literary activities there was no common denominator that even vaguely resembled materialism, republicanism or avant-garde philosophical or scientific thought.<sup>19</sup>

### The van den Broek translation

Interestingly, the Dutch translator of *Vestiges* also had a career within the military establishment. His name was Jan Hubert van den Broek (1815–96), whose translation – of the sixth English edition – appeared in 1849 under the title *Sporen van de natuurlijke geschiedenis der schepping, of schepping en voortgaande ontwikkeling van planten en dieren, onder den invloed en het beheer der natuurwetten*. In the same year, his translation of *Explanations: A Sequel to ‘Vestiges’* was published: *Vervolg der sporen van de natuurlijke geschiedenis der schepping, antwoord van den schrijver van dit werk op de menigvuldige tegen zijne leer gerigte aanvallen en recensien; nadere verklaringen en toelichtingen omtrent de belangrijkste bewijsgronden zijner theorie der voortgaande ontwikkeling van planten en dieren*. Within four months of its appearance, *Sporen* was sold out, and a second edition was produced, in 1850. A third edition, enlarged with commentary, appeared in 1854, costing four Dutch guilders, and of this a cheap version, at 2.25 guilders, was published in 1866. The *Vervolg*, too, came out in a second edition, in 1851. Right from the start, van den Broek was concerned that the book should be illustrated, and he produced an atlas of the principal plants and animals discussed in *Vestiges* to compensate for the absence of illustrations in the early English editions: *Atlas van de belangrijkste plant- en diervormen, voorkomende in de Sporen van de Natuurlijke Geschiedenis der Schepping, uit de beste werken bijeenverzameld* (1850–1) (the English editions of *Vestiges* were not illustrated until the tenth, which appeared in 1853).<sup>20</sup>

Van den Broek had studied medicine at the University of Leiden, obtaining his doctorate in 1841. For some twenty years he then taught physics and chemistry at the National Military Medical College in Utrecht (Rijks Kweekschool voor Militaire Geneeskundigen). In 1880 he retired a colonel. His publications were narrower in scope than Seubert’s and primarily concerned with physics and chemistry, the latter category exemplified by his

18 For example A. F. Seubert, *Die Taktik in Beispielen*, Stuttgart, 1857; *idem*, *Die Elementartaktik der Infanterie in ihrer Anwendung*, Stuttgart, 1860; and *idem*, *Die Taktik der Gegenwart in Beispielen aus den Feldzügen der letzten 10 Jahre*, Berlin, 1875.

19 Seubert has an entry in the *Allgemeine deutsche Biographie*.

20 The several editions of the Dutch translations, together with the atlas, were published by J. G. Broese, Utrecht. Only the cheap edition of 1866 was published elsewhere, by J. van Egmond Jun., Arnhem. In some bibliographical sources, D. Bolle, Rotterdam, is additionally indicated as publisher of the 1866 edition. I. N. Bulhof mistakes the publisher van Egmond for a translator; see Bulhof, ‘The Netherlands’, in Glick, op. cit. (10) 275.

The Broese editions of both *Sporen* and the *Atlas* were published in two parts. The title of the second volume of the atlas differed somewhat from that of the first: *Atlas van de voornaamste levende dieren, voorkomende in de Sporen van de natuurlijke geschiedenis der schepping*.

textbook, *Handleiding der scheikunde* (1855). The similarity with Seubert goes further than the military rank they shared; just as Seubert combined a translation of *Vestiges* with one of Whewell's *Indications*, so van den Broek translated into Dutch, to serve as a companion volume to *Sporen*, an English treatise written specifically in refutation of *Vestiges*, namely the *Creation by the Immediate Agency of God, as Opposed to Creation by Natural Law; being a Refutation of the Work Entitled Vestiges of the Natural History of Creation* (1845), written by the musician, balloonist and sometime equerry to the Duke of Sussex, Thomas Monck Mason (1803–89).<sup>21</sup> In this case, however, the stated intention was to present two sides of the argument. Yet, as with Seubert, we do not encounter in van den Broek an anti-establishment rebel but, on the contrary, find in his career and literary activities circumstantial evidence of conservative if not reactionary sympathies.

Moreover, there is direct evidence to suggest that the Dutch translation of *Vestiges* was intended to serve reactionary socio-political purposes and traditional religious beliefs. This comes in the form of a preface to *Sporen*, written by Gerrit Jan Mulder (1802–80), who from 1840 till his retirement in 1868 was professor of chemistry at the University of Utrecht. Internationally, he became known for his *Chemistry of Vegetable and Animal Physiology* (1845–9), a book that led to a sharp conflict with the Giessen chemist Justus von Liebig (1803–73) about the composition of proteins. Much of Mulder's work had a polemical character and his arrogance led to problems with students and colleagues, but, to our benefit, they also made for plain expressions of belief. Mulder was disenchanted with the liberalization of post-1848 politics in the Netherlands and actively campaigned to keep a strong monarchy over and against parliamentary democracy. In fact, after the Dutch April Movement of 1853 he became chairman of 'Koning en Vaderland', a central electoral association of Greater Protestants whose purpose it was to protect king and country against liberalism and pan-Catholicism.<sup>22</sup> Mulder was also a committed popularizer of chemistry and of science in general. The spread of scientific learning, in his view, would significantly contribute to the moral and material elevation of the Dutch people. Knowledge of nature would encourage young people to revere the divine creator of all things. Popularization was for him not a peripheral matter, but an essential and integral part of his scientific career. Through the 1840s he gave popular lectures to the Utrecht society 'Physica'.<sup>23</sup> In one of these, delivered towards the end of 1843, and published under the title *Het streven der stof naar harmonie* ('the striving of nature towards harmony'), he outlined the developmental sequence from stellar nebulae to human beings, interpreting this as a natural progression brought about by eternal, divine laws; humankind, like all organic species, he regarded as developed naturalistically, but the human mind was of

21 The Dutch title, also published by J. G. Broese, Utrecht, ran as follows: *Schepping door de regstreeksche tusschenkomst van God, in tegenstelling van eene schepping door natuurwetten. Eene wederlegging van de Sporen van de natuurlijke geschiedenis der schepping*.

22 See van den Broek's entry in the *Nieuw Nederlandsch Biographisch Woordenboek*. For Mulder see his entries in the *Biografisch Woordenboek van Nederland* and in the *DSB*. See further on Mulder *Levensschets van G. J. Mulder, door hem zelve geschreven en door drie zijner vrienden uitgegeven*, Utrecht, 1883; W. Labruyère, *G. J. Mulder (1802–80)*, Leyden, 1938; H. A. M. Snelders, *Geschiedenis van de Scheikunde in Nederland*, Delft, 1993, 93–108.

23 See E. Homburg, 'Van volksscheikunde tot technologie: popularisering van de chemie in de negentiende eeuw', *Gewina* (1995), 18, 72–101.

divine derivation and irreducible to material causes.<sup>24</sup> This talk was reviewed in the *British Quarterly Review* (1846), jointly with Chambers's *Explanations*. The reviewer was struck by the resemblance of *Vestiges* to Mulder's lecture, accusing the Vestigiarian of having taken 'the idea' and 'the groundwork' from the Utrecht professor, though 'unwarrantably extending the speculation'.<sup>25</sup>

In his ten-page preface to *Sporen*, Mulder did not refer to the issue of transmutation of either plants, animals or humans. The reason why he believed that the Vestigiarian's book should benefit a Dutch readership was that it constituted a fine example of popular instruction about pure rather than applied science, and as such could edify people, contributing to their spiritual well-being. Good science served to demonstrate not merely the fullness of the material and spiritual world, but also its orderliness, and the knowledge of these gave us a sense of the sublime, connecting us to immortality and God. Mulder emphatically argued against reductionist materialism and for the immortality of the soul and for the existence of a transcendent, spiritual God, separate from his material creation.

To Mulder, *Vestiges* was a salutary book at a time of post-1848 liberalization and decline. Only with respect to one point did he take issue with the author of *Vestiges*, making sure that no deism would elbow its way in front of Calvinist theism. The Vestigiarian's distinction between divinely ordained laws of nature on the one hand and divine intervention on the other was not valid: laws of nature, according to Mulder, require the continuous sustaining intervention of God, and the only thing to which one can object is the notion of an arbitrary intervention:

Personally, I see in the Creator a spiritual Creator of the spiritual and material world; the latter received from Him, together with matter, forces – forces that act according to laws which He sustains from moment to moment. The laws are the regularity according to which the forces act. Matter, forces, laws – they all need to be sustained from moment to moment; the Creator who called them into being sustains them.

Besides, the reader finds represented in this book a spiritual God, who is not one with the world. And alone because of that – even if more deviation were found in it from what we ourselves hold true – because of that is it a salutary book in these days. One rediscovers in it a God, whom one can love and worship, a personal God.<sup>26</sup>

The Dutch translation of *Vestiges* was put forward in the context of a form of Calvinist theism and of reactionary, monarchist politics. To Mulder and his circle, transmutation was not the issue; they had no difficulty accommodating a naturalistic origin of species, just

24 G. J. Mulder, *Het streven der stof naar harmonie*, second printing, Rotterdam, 1844.

25 Anon., 'The law of development in nature', *British Quarterly Review* (1846), 3, 178–90, 178.

26 G. J. Mulder, 'Voorwoord', in van den Broek, *Sporen van de natuurlijke geschiedenis der schepping*, Utrecht, 1849, p. xiv:

Ik voor mij zie in den Schepper eenen geestelijken Schepper der geestelijke and stoffelijke wereld, welke laatste van Hem, met de stoffen, krachten ontving; krachten, werkzaam naar wetten, die Hij van oogenblik tot oogenblik onderhoudt. De wetten zijn de regelmaat waarnaar de krachten werken. – Stof, krachten, wetten, zij alle moeten van oogenblik tot oogenblik onderhouden worden; de Schepper, die ze in het leven riep, onderhoudt ze.

Overigens vindt de Lezer in dit boek eenen geestelijken God voorgesteld, die met de wereld niet een is. En daarom alleen, al kwamen er meer afwijkingen in voor van hetgeen wij zelve voor waar houden, daarom is het een heilzaam boek in deze dagen. – Gij vindt er eenen God in weder, dien Gij kunt liefhebben en aanbidden, een' persoonlijken God.

as later, in the decades following the *Origin of Species* (1859) by Charles Darwin (1809–82), some of the leading evangelical intellectuals in the English-speaking world had little trouble, according to David Livingstone,<sup>27</sup> reconciling their conservative theological views with Darwin's new theories. The value of *Vestiges*, to Mulder and his circle, was that it spoke the message of a divinely ordered nature to a large public, helping keep a traditional, stable society under God and king.

### The Vogt translation

Who in the common rooms of England's ancient universities could have imagined that across the Channel *Vestiges* served the cause of reactionary monarchism and anti-materialist theism? To Sedgwick, Whewell and other concerned dons the real purport of the book was more accurately expressed by the preface to the second German translation of *Vestiges*. And indeed, hardly a bigger contrast could be imagined than that between the stated purpose of the Dutch translation of *Vestiges* and that of the second of the two German translations.

The second German translator was none other than the notorious materialist and anti-monarchist rebel, Carl Vogt (1817–95), a close contemporary of both Seubert and van den Broek. Vogt had been one of Liebig's favourite pupils at the University of Giessen, his native city, where in 1847 he became professor of zoology. Not long after, he translated the sixth edition of *Vestiges*, but because of the social turmoil that accompanied the March Revolution of 1848, the proofs of the translation were left untouched and were not completed until Vogt, having fled Germany in the wake of the failure of the revolutionary uprising, found temporary repose in Berne, Switzerland. Vogt's translation appeared in 1851, entitled *Natürliche Geschichte der Schöpfung des Weltalls, der Erde und der auf ihr befindlichen Organismen, begründet auf die durch die Wissenschaft errungenen Tatsachen*. In 1858 a second edition appeared, by which time Vogt occupied the chair of geology at Geneva.<sup>28</sup> In neither edition was mention made of Seubert. Like his Dutch counterpart van den Broek, Vogt felt the need for illustrations, and he much enhanced the readability of his translation by adding no fewer than 164 woodcuts, taken from his own *Lehrbuch der Geologie und Petrefaktenkunde* (first edition 1846). Also, Vogt added eighty-three footnotes with corrections, new information and expressions of disagreements.

The frame in which Vogt presented *Vestiges* was of an entirely different nature from the one in which Mulder had offered the Dutch version. To Vogt, the book was an antidote neither to the March Revolution of 1848 nor to the evil of materialism; on the contrary, revolution and materialism were causes of which Vogt was a leading champion. In fact, Vogt embodied the very 'evils' that Mulder sought to combat with the Dutch translation of *Vestiges*. Vogt's political position was as unambiguous as Mulder's in its diametrical difference. He played an active and major part in the political agitation of 1848, and, as a member of the German Ante-Parliament and the German National Assembly in Frankfurt

<sup>27</sup> D. N. Livingstone, *Darwin's Forgotten Defenders: the Encounter Between Evangelical Theology and Evolutionary Thought*, Grand Rapids, 1987; see also his 'Situating evangelical responses to evolution', in D. N. Livingstone, D. Hart and M. Noll (eds.), *Evangelicals and Science*, Oxford, in press.

<sup>28</sup> See Vogt's entries in the *Allgemeine deutsche Biographie* and the *DSB*.

and subsequently in Stuttgart, passionately argued for unlimited freedom of the individual, for a true democracy of *Volkssouveränität*, for republicanism and against both monarchical autocracy and also, increasingly, against parliamentary democracy.<sup>29</sup> In order to establish the congruity of *Vestiges* with his radical, political agenda, he highlighted Chambers's deistic view that the laws of nature are regulations that in the beginning were enacted by divine will but since have operated autonomously. If this is how nature functions, so should society, Vogt argued, and the autocratic rule of the monarch should be succeeded by constitutional rule. Vogt ended his brief introduction with the following paragraph:

I recommend this book in a spirit of pure goodwill to the constitutional party in Germany, whose effectiveness before long will be limited to the innocent reading of innocent books. It will find in the book a constitutional Englishman, who has constructed a constitutional God, who, admittedly, in the beginning autocratically decreed laws, but then, out of his own volition, gave up his autocratic rule, letting the laws act in his place, by themselves, without himself exerting direct influence on his subjects. A beautiful example for sovereigns!<sup>30</sup>

This was written with a certain degree of facetiousness – the sort of which Vogt was soon to provide more of in his *Untersuchungen über Thierstaaten* (1851). After all, he did not believe in Chambers's God, nor in any other God, and said so in one of his corrective footnotes: if all laws of nature had been enacted from the beginning by a divine lawmaker, and no special fiat had since been needed, the supreme legislator would have been leading a useless existence and, Vogt concluded, 'One sees that every notion of a creating or legislating being that exists outside the world leads to absurdity' ('man sieht, jede Ansicht von einem, ausserhalb der Welt stehenden schöpfenden oder gesetzgebenden Wesen führt zur Absurdität').<sup>31</sup> Moreover, Vogt was far too radical – in fact he became a Bakuninian anarchist – to favour a constitutional monarchy in any shape or form.

Did Vogt then not represent a fine Continental analogy to Desmond's British anatomy school rebels whose radical politics made them favour French transmutationist ideas?<sup>32</sup> Was Millhauser not right in speculating that the impulse that made Vogt render *Vestiges* accessible to his compatriots must have been his sympathy with the evolutionary principles of the book?<sup>33</sup> After all, not so many years later Vogt translated one of the evolutionary tracts by 'Darwin's bulldog', Thomas Henry Huxley (1825–95), and in his *Vorlesungen über den Menschen, seine Stellung in der Schöpfung und in der Geschichte der Erde* (1863), Vogt paralleled Huxley's *Evidence as to Man's Place in Nature* (1863), firmly siding with Darwin. The answer is that Vogt, just like Huxley, through the 1840s and 1850s, was an outspoken opponent of the transmutation theory and a sharp critic of the Parisian

29 See in particular E. Hirschmann, 'Karl Vogt als Politiker', unpublished dissertation, Universität Frankfurt a. Main, 1924.

30 Carl Vogt, *Natürliche Geschichte der Schöpfung*, Braunschweig, 1851, p. vi:

Der constitutionellen Partei Deutschlands, deren Wirksamkeit binnen Kurzem auf das unschuldige Lesen unschuldiger Bücher beschränkt sein dürfte, empfehle ich dies Buch aus reinem Wohlwollen. Sie wird darin einen constitutionellen Engländer finden, der einen constitutionellen Gott construiert hat, welcher Anfangs zwar als Autokrat Gesetze gab, dann aber aus freiem Antriebe seine Autokratie aufgab und, ohne directen Einfluss auf die Regierten, nur das Gesetz an seiner statt gelten lässt. Ein herrliches Beispiel für die Fürsten!

31 Vogt, op. cit. (30), footnote on 229.

32 Desmond, op. cit. (17), *passim*.

33 Millhauser, op. cit. (1), 146.

zoologists Étienne Geoffroy St Hilaire (1772–1844) and Jean Baptiste de Lamarck (1744–1829). The majority of Vogt's more substantial footnotes to the *Natürliche Geschichte der Schöpfung* were unequivocal denunciations of organic evolution. He firmly sided with Geoffroy's opponent Georges Cuvier (1769–1832), and with Karl Ernst von Baer (1792–1876), in maintaining that the animal kingdom is made up of four basic types that are separated from one another by unbridgeable gaps. He ridiculed the Lamarckian notion of an inner urge to change: the desires of an animal are circumscribed by its organization, and therefore cannot go beyond its *status quo*. Vogt believed that the species of one geological period did not transform or continue into those of the next, but that with each geological revolution a period's flora and fauna had been wiped out and that each time wholly new ones had originated (without a creator, in some unspecified, naturalistic way). Progressive development, which Vogt did not deny, occurs in nature as well as society in consequence of revolutionary destruction, not as a result of evolution.<sup>34</sup>

What then may have motivated Vogt to translate *Vestiges*? At this time, too, Vogt became embroiled in the most notorious controversy of his controversial scientific career – the so-called *Materialismusstreit* of the early 1850s. In one of his *Physiologische Briefe für Gebildete aller Stände* (1845–7), Vogt had expressed the materialistic view that the human soul is nothing more than a function of the brain and that thought is a product of the brain in the same way that bile is secreted by the liver or urine is produced by the kidneys. The Göttingen professor of anatomy Rudolph Wagner (1805–64), in 'Physiologische Briefe' of his own, which began appearing in 1851, attacked Vogt's view and defended the traditional belief in the immortality of the human soul. The exchanges that followed were, in tenet and ferocity, much like the Owen–Huxley hippocampus clash of approximately a decade later.<sup>35</sup> Could the *Vestiges* translation have functioned as a pawn to help Vogt in his effort to checkmate his anti-materialist enemies? After all, at Cambridge, Sedgwick spat at the book for its alleged materialism and its 'low and pestilent exhalations of a dull material Pantheism'.<sup>36</sup>

Moreover, this possible translation motive cannot by itself have been what prompted Vogt to render *Vestiges* into German. Chambers explicitly defined 'mind', 'soul' and 'immortal part of man' as synonyms – and in Utrecht, Mulder was happy to see in this synonymy his metaphysics confirmed. If anything, *Vestiges* would have supported the Wagnerians in the *Materialismusstreit*, not Vogt, and accordingly he added a sharp footnote to the contrary: if, as the *Vestiges* said, ordinary mental phenomena can be looked upon as manifestations of material organization, 'why then additionally an immortal spirit' (*wozu dann noch ausserdem ein unsterblicher Geist*)? The belief in an immortal soul being the only foundation for religion and church, its increasing untenability would soon lead to the collapse of 'the whole nonsensical building' (*das ganze unsinnige Gebäude*).<sup>37</sup>

34 Vogt, op. cit. (30), footnotes on 124, 98, 148, 170, 185. See also Vogt, *Lehrbuch der Geologie und Petrefaktenkunde*, 2 vols., Braunschweig, 1854, ii, 382–92.

35 See H. Degen, 'Vor hundert Jahren: die Naturforscherversammlung zu Göttingen und der Materialismusstreit', *Naturwissenschaftliche Rundschau* (1954), 7, 271–7. Also Nicolaas Rupke, *Richard Owen*, London, 1994, 259–322.

36 Adam Sedgwick, *A Discourse on the Studies of the University of Cambridge*, 5th edn., Cambridge, 1850, p. ccxxxvi.

37 Vogt, op. cit. (30), footnote on 267.

However, this footnote showed, too, that Vogt regarded the position of the Vestigiarian as nearly similar to his own, merely to be cleared of some inconsistencies. Sedgwick may well have gone over the top in stigmatizing *Vestiges*, yet the closeness of its message to materialism, and thus to Vogt's own convictions, seemed obvious. In the very first sentence of his preface, Vogt mentioned that *Vestiges* had 'caused a great stir' (*ungemeines Aufsehen erregt*) in England. He may have liked the book, in spite of disagreement about transmutation, because of its subversive and anti-establishmentarian potential. This also is Frederick Gregory's view, who argues that it was 'the furore the book had created in England on all sides that caught his eye, including the denunciation from theologians and official scientists. Vogt, who had been rejected by the Establishment, had something in common with this unknown author who was drawing forth the scorn of many'.<sup>38</sup>

Although the views of the Vestigiarian failed to engender a major controversy among German academics, Vogt did succeed in irking the Wagnerians with his materialistic footnote commentary. In the *Göttingische gelehrte Anzeigen*, the famous geographer and statistician Johann Eduard Wappäus (1812–79), friend and colleague of Wagner, condemned the *Natürliche Geschichte der Schöpfung* as an unprepossessing popular geology, unworthy of serious discussion, and castigated Vogt's materialistic denial of the immortality of the human soul.<sup>39</sup>

## Discussion

In spite of the fact that translators conferred on the text local and personal meaning, a degree of uniformity was in fact imposed on all three language-versions of the text, and a certain 'policing' of the international readership did take place. This central control was not imposed by the author, translators, preface writers or any of the other links in Darnton's communication circuit; it was done by the reviewers of the book.

The successive English-language editions of *Vestiges* generated a storm of reviewing interest and controversy. Among the heavyweight reviews were the infamously scathing, eighty-five-page-long denunciation in the *Edinburgh Review* (1845) by Sedgwick, who characterized the book as a poisonous fruit of crass materialism if not of moral depravity,<sup>40</sup> and the review of the tenth edition for the *British and Foreign Medico-Chirurgical Review* (1854), written by Huxley, who accused the Vestigiarian of 'charlatanerie' and characterized *Vestiges* as 'the product of coarse feeling operating in a crude intellect'.<sup>41</sup> Less condemnatory was the fifty-page essay in the *Westminster Review* by the gentleman-scholar John Crosse (1810–80), who coreviewed and contrasted the book with the then just published first volume of Alexander von Humboldt's *Kosmos*.<sup>42</sup>

As mentioned above, there were no Continental-language reviews of any English editions of *Vestiges*. A further cross-Channel contrast was that the translations received only a few reviews – I have come across no more than five: none of Seubert's translation,

38 F. Gregory, *Scientific Materialism in Nineteenth Century Germany*, Dordrecht, 1977, 70–1.

39 [J. E. Wappäus], *Göttingische gelehrte Anzeigen*, 29 March 1851, 509–12.

40 [A. Sedgwick], op. cit. (14), 3.

41 [T. H. Huxley], 'The Vestiges of Creation', *British and Foreign Medico-Chirurgical Review* (1854), 26, 425–39, 426, 429.

42 [J. Crosse], 'The Vestiges, etc.', *Westminster Review* (1845), 44, 152–203.

two of van den Broek's rendition, and three of Vogt's. A third difference was that none of the Continental reviews were as venomously against *Vestiges* as some of the British. Apart from the *Göttingische gelehrte Anzeigen*, the Continental reviews were structured to match the British periodical discourse rather than the local 'reading' with which the translators had invested the text.

Specifically, the Dutch and German reviewers placed their comments in the context of the British clamour about the transmutation issue. The two Dutch reviewing periodicals that carried reviews were both of a liberal slant. In *De Tijdspiegel* both *Sporen* and *Vervolg der Sporen* received substantial reviews (by an unidentified J. A. B.).<sup>43</sup> The same two books received a large, ninety-one-page review (in three instalments), in the leading monthly *De Gids*, founded and at the time still edited by the merchant, writer and poet E. J. Potgieter (1808–75). The review was written by the physician Johannes Zeeman (1824–1905),<sup>44</sup> who speculated that the anonymous author of *Vestiges* might be someone from the south of England whose mind was shaped by the genteel setting of a country seat such as Blenheim Palace and informed by the holdings of a private library. Zeeman filled most of the many pages of his review with references to Continental, mainly German, scientific literature that were missing in *Vestiges*. The attacks in the British periodical press were specifically mentioned (he cited the *North British Review*, the *Edinburgh Review*, the *British Quarterly Review*, and in addition to Whewell's *Indications* also an 1845 pamphlet by Abraham Hume, *Examination of the Theory Contained in the Vestiges of Creation*), respect and sympathy were shown towards the Vestigiarian, and although some criticism was expressed, the review was, on balance, favourable. Both Dutch reviews, it should be added, especially the one in *De Tijdspiegel*, indicated a basic agreement with Mulder's transcendentalist, non-materialistic position.

Vogt's *Natürliche Geschichte der Schöpfung* received a few notices. Those in the *Literarisches Centralblatt für Deutschland* and in the *Blätter für literarische Unterhaltung* ignored Vogt's anti-transmutation protestations and discussed his translation of *Vestiges* for its espousal of evolution – the former magazine with vague approval, the latter with condemnation, calling the book an imitation of outdated German *Naturphilosophie*,<sup>45</sup> a point Vogt himself had made specifically about transmutationism.

## Conclusion

*Vestiges* and its Dutch and German translations are a fine example of the fact that a scientific text may be invested with a multiplicity of readings. Sedgwick saw in it a threat to the moral fabric of society; Seubert found in it proofs of divine design in nature; to

43 J. A. B., 'Sporen van de natuurlijke geschiedenis der schepping', *Tijdspiegel* (1849), 334–44; 414–26; 'Vervolg der sporen van de natuurlijke geschiedenis der schepping', in *ibid.* (1850), 337–49.

44 J. Zeeman, 'De natuurlijke geschiedenis der schepping', *De Gids* (1850), new series, 3, 133–67; 339–68; 474–99. The review was published anonymously, but reviewers were identified in the *Register op de veertig eerste jaargangen van De Gids. 1837–1876*, Amsterdam, 1877. For a rare, secondary reference on nineteenth-century, Dutch reviewing periodicals, see R. Aerts, *De Gids sinds 1937: de geschiedenis van een algemeen-cultureel en literair tijdschrift*, Amsterdam, 1987.

45 The review in the *Literarisches Centralblatt für Deutschland*, 28 Dec. 1850, 246–7, was a small, four-paragraph, early announcement. The review in the *Blätter für literarische Unterhaltung* (1851), 408–9, was a more substantial, two-column review.

Mulder it helped advance the cause of king and country; to Vogt it had the smell of revolution. The Dutch and German translations of *Vestiges* underscore the validity of the recent ‘spatial turn’ in intellectual history and of the belief that local circumstances are implicated in the production of meaning. The three Continental translations, each embodying a different reading of the English original, demonstrated the considerable distance that may develop between the author and a foreign-language reader. The English-, Dutch-, and German-language versions of *Vestiges* show less a geography of the spread of Chambers’s ideas than a map of the different meanings with which the text was invested across north-western Europe.