Opinion *Endeavour* Vol.29 No.3 September 2005

The descent of words: evolutionary thinking 1780–1880

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Histories of evolutionary thought are dominated by organic evolution. The colossus in our midst that is evolutionary biology casts its shadow over history, making it appear that what is so widespread and important today was always the primary subject of evolutionary speculation. Thus many histories assume that the core meaning of evolution is the change of organic life and that other forms of evolutionary thinking, such as linguistic, social or cultural evolution, are only analogies or offshoots of the main *biological* evolutionary trunk. Ironically this is an ahistorical understanding. Long before the work of Charles Darwin, scholars were independently developing evolutionary concepts such as descent with modification and divergence from a common stock in order to understand cultural change.

Introduction

Many efforts have been made by recent historians to displace the idea of a revolutionary pivotal moment when evolution displaced creationism with a more complex history of the development of life. Nevertheless the meaning of evolution in these accounts is still, tacitly, organic evolution and thereby conceals the full history of evolutionary thought. It biases us towards an anachronistic view that organic evolutionary thinking developed slowly before emerging when Charles Darwin finally put all the pieces together in the late 1830s, and presented it to the world in the *Origin of Species* in 1859. The traditional story often begins with a few Greeks like Aniximander or Lucretius before moving on to Kant, Linneaus, Buffon, Cuvier, Lamarck, Saint-Hillaire, Chambers and Spencer, then Darwin and Wallace followed by Haeckel, Huxley, Weismann and so forth [1–3].

Stephen Alter's recent work *Darwinism and the Linguistic Image* [4] might have helped to change this picture, but readers of this work would never imagine that linguistic evolutionary thinking could be anything other than an analogy to biological evolution. Linguistic family tree diagrams, with no accompanying reference to biological evolution, are even called analogies to biology. Yet, as every good evolutionist knows, similarity is not always evidence of common descent, and might indicate convergent or parallel evolution.

We must be able to see the forest for the trees. Something very important is missing from traditional accounts of the history of evolutionary thinking. Evolution and organic evolution are not, and have never been, synonymous. Long before Lamarck or Darwin, scholars wrote of the ancestral descent of humanity with modification for cultures, languages, myths, societies and artefacts.

In earlier centuries scholars influenced by Greek or Hebraic traditions imagined that words had been created as they were. In *The Bible* Adam named all of the animals and in Plato's *Cratylus*, Socrates speaks of another mythical 'name giver'. Language was the product of design or agency, and that agency was usually the focus of attention rather than language itself. As late as 1764 some people still wrote that the diversity of languages in the world was due to 'the divine majesty [thinking] proper to go down and confound their language, so that they might not understand one another' [5].

The origin of languages

During the Enlightenment it became popular for scholars to speculate about the origins of languages. These speculations were based on the vast compilations of material put together by Europeans, who by that time had outposts all over the world, concerning the world's languages. So many languages, differentially similar and vastly complex, provided a wealth of material and great mysteries. Where had they come from and how were they related?

The Darwin of historical linguistics, as recounted in the start of countless textbooks, was the jurist and linguist Sir William Jones (Figure 1). Jones read oriental languages and literature at Oxford, and later law out of financial necessity. He was appointed a judge in Calcutta, India, in 1783 and was an exceptional scholar. He spoke 12 languages *well* (including Greek, Latin, German, Turkish, Arabic, Persian, Eastern Hebrew and Sanskrit) and had some proficiency in perhaps another 20. He founded the Asiatic Society of Bengal in 1784 and was its President until his death in 1794. Each year Jones delivered an anniversary discourse to the Society. These lectures were published and were widely read and discussed, eventually being reprinted and translated throughout Europe. In his third anniversary discourse, 'On the Hindus', Jones offered his famous conclusion about the relationship between Greek, Latin and Sanskrit:

> The Sanskrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both

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Available online 10 August 2005

 0160-9327/$ - see front matter doi:10.1016/j.endeavour.2005.07.002

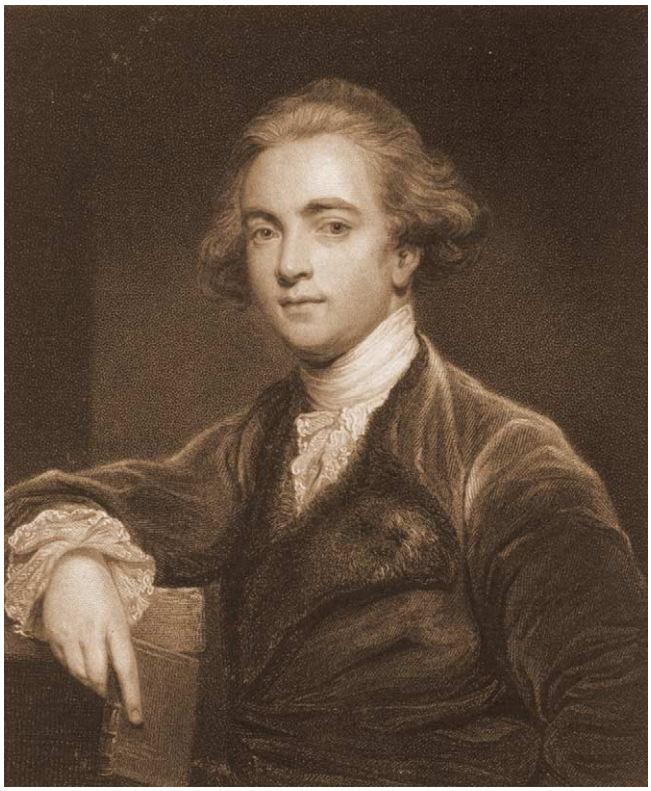

Figure 1. Stipple engraving of Sir William Jones after Sir Joshua Reynolds. Reproduced with permission of Centre for Study of the Life and Work of William Carey, William Carey College, Hattiesburg, MS, USA.

> of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists… [6]

Although many Europeans had previously noted similarities between Latin, Greek and Sanskrit, Jones was able to see a different kind of relationship: common descent. His conclusion was so authoritative and was situated in such a compelling body of comparative ethnographic work that he inspired a cascade of scholarly activity, essentially founding Indo-European studies. Philology or historical linguistics was never the same again. Inspired, other scholars began tracing back the origins of words and languages, and studying how they changed. They found it was possible to explain more and more diverse languages or dialects as co-descendants of an earlier form rather than as offshoots of an existing language, as some earlier scholars had considered Latin to be a corruption of Greek.

The Scottish judge James Burnett Lord Monboddo, a friend and correspondent of Jones, is often remembered for his insistence that somewhere in Bengal there was a race of men with long tails and that Orangutans were really just forest men too primitive or too lazy to speak. But Monboddo also argued that the Greek and Sanskrit languages were derived from the Egyptians. He tried to convince his readers of the progress of civil society and language. He wanted to refute the claims of earlier writers that 'human institutions have always been the same' [7]. Instead, Monboddo argued, language had arisen naturally and continued to change over time, with some languages becoming more perfect and others degrading. He thought it was possible that all languages could be traced back to a primitive *Ursprache* 'from whence all the others are derived' [8]. Yet he was also perfectly willing to accept that there were multiple centres of language origin, and thus multiple parents to the extant languages used across the world.

The influence of Jones quickly became widespread throughout Europe. Probably the most influential of those who subscribed to his ideas were the German philologists Franz Bopp [9] and Jacob Grimm. Grimm's *Deutsche Grammatik* was published between 1819–1837 and compiled phonetic correspondences that revealed that there had been consistent trends across many languages over time. For example, initial *p* sounds in Latin words such as *pater* (father) and *pedes* (foot) nearly always correspond to *f* sounds in their Germanic descendants, as in *vater* and *fuß*. These 'rules' as he called them demonstrated the common ancestry of the Graeco-Latin and Germanic languages. Such consistent links later came to be known as Grimm's Law.

The new philology

The 'new philology' of Bopp and Grimm began to have an impact in Britain in the early 1830s. One of the most important conduits of their style of work was Hensleigh Wedgwood. Wedgwood helped establish the Philological Society of London and prepared the etymologies for the original edition of the *New English Dictionary*, which later became the *Oxford English Dictionary*. Wedgwood was also the cousin and later brother-in-law of a young naturalist recently returned from a circumnavigation of the globe: Darwin.

This historical philology of genealogical descent became all the rage for English intellectuals. In a widely discussed open letter to geologist Charles Lyell, the astronomer John Herschel wrote in 1836:

> Words are to the Anthropologist what rolled pebbles are to the Geologist – Battered relics of past ages often containing within them indelible records capable of intelligible interpretation and when we see what amount of change 2000 years has been able to produce in the languages of Greece & Italy or 1000 in those of Germany France & Spain we naturally begin to ask how long a period must have lapsed since the Chinese, the Hebrew, the Delaware & the Malesass had a point in common with the German & Italian & each other. [10]

The first systematic attempt to reconstruct a common parent for the Indo-European languages was undertaken by the German comparative linguist August Schleicher [11]. His Indo-Germanic – now called Indo-European – was a vast and complex diverging family of languages. As early as 1853, he published tree diagrams to illustrate how languages had gradually changed and diverged (Figure 2, although these were not the first tree diagrams of branching linguistic descent) [12].

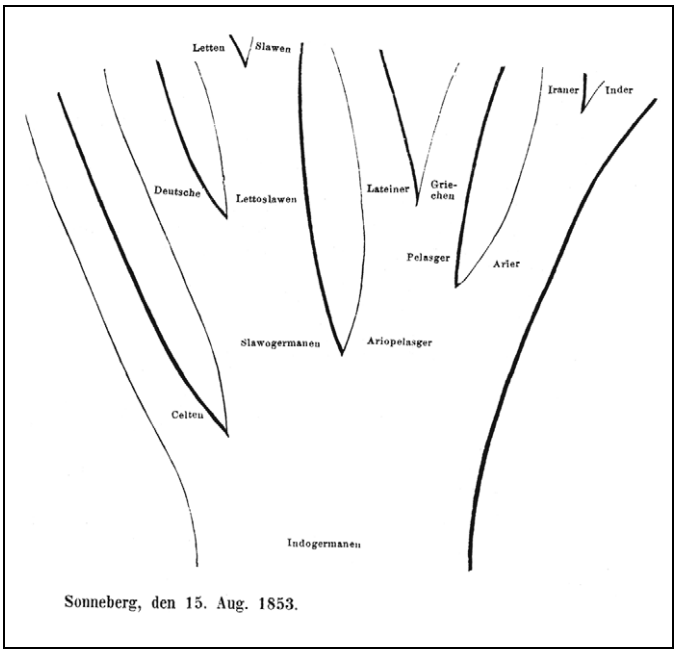

Figure 2. August Schleicher's diagram illustrating the development of language. At the base of Schleicher's 'branching tree' is Indo-Germanic with the derived language groups emerging upwards [12]. Reproduced with permission of Cambridge University Library.

After reading Darwin's *Origin of Species* in 1860, Schleicher hurriedly produced a pamphlet comparing Darwin's theory of the evolution of life with the historical development of language – *Die Darwinsche Theorie und die Sprachwissenschaft* [13]. Schleicher was excited by the coincidence that the differential relationship between the diverse organic forms in nature that Darwin had shown was the same as the relationship philologists like himself had illustrated between diverse languages. Schleicher hoped that biology and the science of language were about to converge because branching descent with modification was so evident in both. A new way of thinking about evolution seemed possible and Schleicher included a genealogical diagram of the Indo-European language family in his pamphlet (Figure 3). However, he pointed out there was also one major difference between philologists' trees and Darwin's 'diagram' in the *Origin of Species* (Figure 4) [14]. Darwin's diagram illustrated a general kind of process of descent with divergence from a common parent, but philologists diagrams were records of actual historical lineages.

Darwin recognized the advantages that philologists, with their abundant textual evidence, had over biologists. In an oft-cited passage from the *Descent of Man* published in 1871 he remarked:

> The formation of different languages and of distinct species, and the proofs that both have been developed through a gradual process, are curiously parallel. But we can trace the formation of many words further back than that of species, for we can perceive how they actually arose from the imitation of various sounds. We find in distinct languages striking homologies due to community of descent…The frequent presence of rudiments, both in languages and in species, is still more remarkable…Dominant languages and dialects spread widely, and lead to the gradual extinction of other tongues. A language, like a species, when once extinct, never…reappears…We see variability in every tongue, and new words are continually cropping up; but as there is a limit to the powers of the memory, single words, like whole languages, gradually become extinct…The survival or preservation of certain favoured words in the struggle for existence is natural selection. [15]

From 1859, every evolutionary philologist was aware of Darwin and his theory of biological evolution. Nevertheless, it would be a mistake to believe that suddenly they were only making analogies to a different discipline rather than continuing the 70-year-old tradition of their own science. For example, the Anglican clergyman Frederic William Farrar argued in his many works on the origin and relationships of languages that they developed according to 'laws of progress'. Starting from a germ implanted by the creator, language had developed naturally according to natural laws. He favoured an onomatopoetic source for words; a theory notoriously condemned by others as the 'bow wow theory' of language origin. Farrar's 1870 work *Families of Speech* provided another diagram of the Indo-European family of languages (Figure 5) [16]. At the source of it are hypothetical primitive languages, less complex and refined than modern languages. It seems probable that Farrar was inspired by his understanding of Darwin to incorporate some new elements (e.g. the progress towards perfection) into the scheme of language evolution. The fact that Farrar's materials dealt with the gradual change of language, the descent of words and dialects from one another, the finality of extinction and the pattern of branching divergence cannot be attributed to an analogy with Darwinian biology.

The works of German-born Oxford Professor Friedrich Max Müller, probably the most influential linguist of the Victorian era, did more than any others to popularize the new comparative philology in the English-speaking world. Müller did not accept that Man's capacity for language had come about through natural selection, yet he was the most convinced language evolutionist. He resented the overwhelming association between Darwinism and evolution he perceived as becoming dominant. In his 1887 book *The Science of Thought* Müller confronted the issue of whether or not evolution was synonymous with Darwinism:

> If Darwinism is used in the sense of Entwickelung [development], I was a Darwinian…long before Darwin…How a student of the Science of Language can be anything but an evolutionist, is to me utterly unintelligible. He has to deal with nothing but evolution from beginning to end, Latin becomes French before his very eyes, Saxon becomes English, Sanskrit Bengali…It is the same wherever we approach the study of any single language. We always find it changing or changed, and related to other languages, that is to say, like them evolved from a common type. Long before Darwin made the

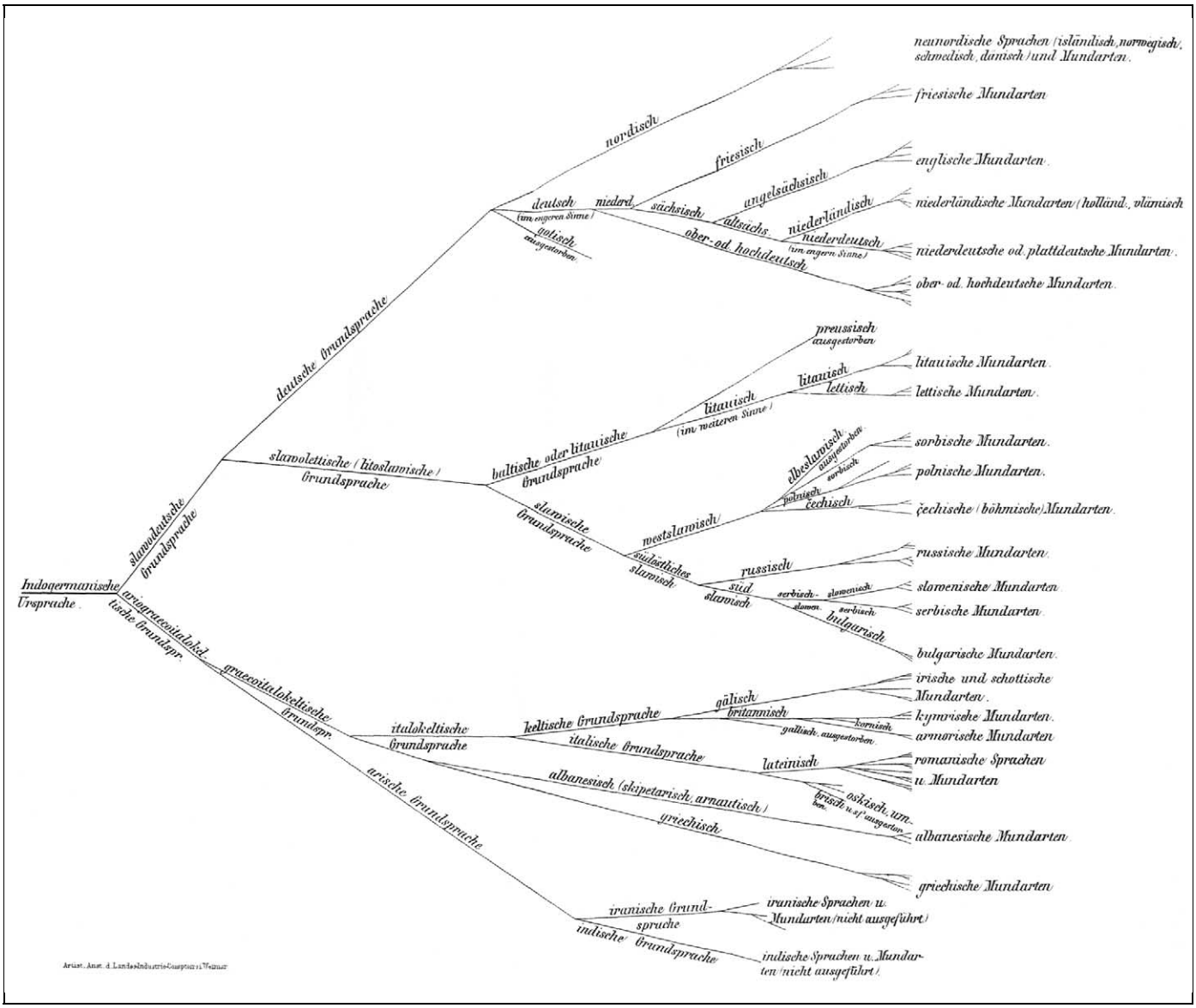

Figure 3. August Schleicher's 'schema' of the Indo-Germanic language family [13]. Reproduced with permission of Cambridge University Library.

> theory of evolution so widely popular, that idea had completely dominated the Science of Language…To speak of Darwin as the discoverer of evolution, has always seemed to me an insult to every student of philosophy [17].

Müller might have occasionally been intemperate, but there can be no doubt that this statement was quite true (Figure 6).

Although cultural evolutionary thinking clearly predates Darwinism, many historians continue to see evolution in any other field only as a metaphor or analogy to biology. This is a mistake for two main reasons: first, much of this thinking is derived or descended from the pre-Darwinian thought; and second, descent with modification or evolution is a general process that is not just a property of organisms. As many geneticists and philosophers of science have pointed out, Darwin's theory of evolutions can be applied to all aspects of life because it is very general. It is often described as having three components: variation, selection and inheritance or descent. Therefore, other complex systems with the same traits can be said to evolve, such as the responses of an immune system to antigens, selective forms of pharmaceutical research using vast arrays of molecules, certain brain functions, and computer programming and modeling. According to this definition, language is not evolutionary because it has things in common with organic life, but rather both are evolutionary because they have the necessary characteristics.

Evolutionary descent is widely accepted as the true relationship between the language groups present in the world today [18]. However, languages are no longer treated as coherent things like species are – as things that evolve. Instead, the countless linguistic forms that pass down through generations or to neighbouring languages – be they words, grammatical patterns or only phonemes – are understood to have their own lineages [19]. Evolutionary thinking is also employed in

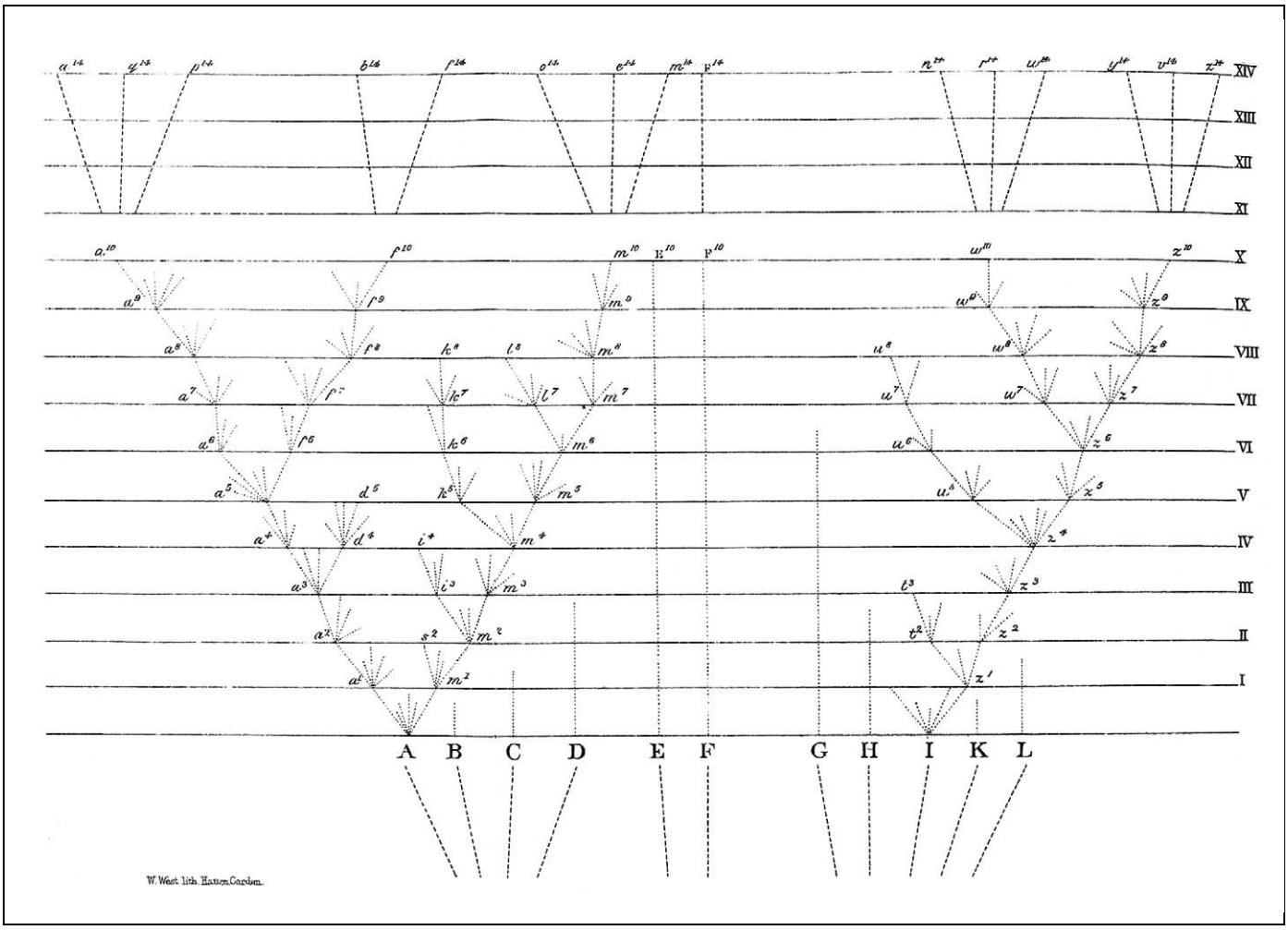

Figure 4. Charles Darwin's 'diagram' from *the Origin of Species* showing the process of descent with divergence from a common stock. Reproduced with permission from the complete work of Charles Darwin (http://darwin-online.org.uk).

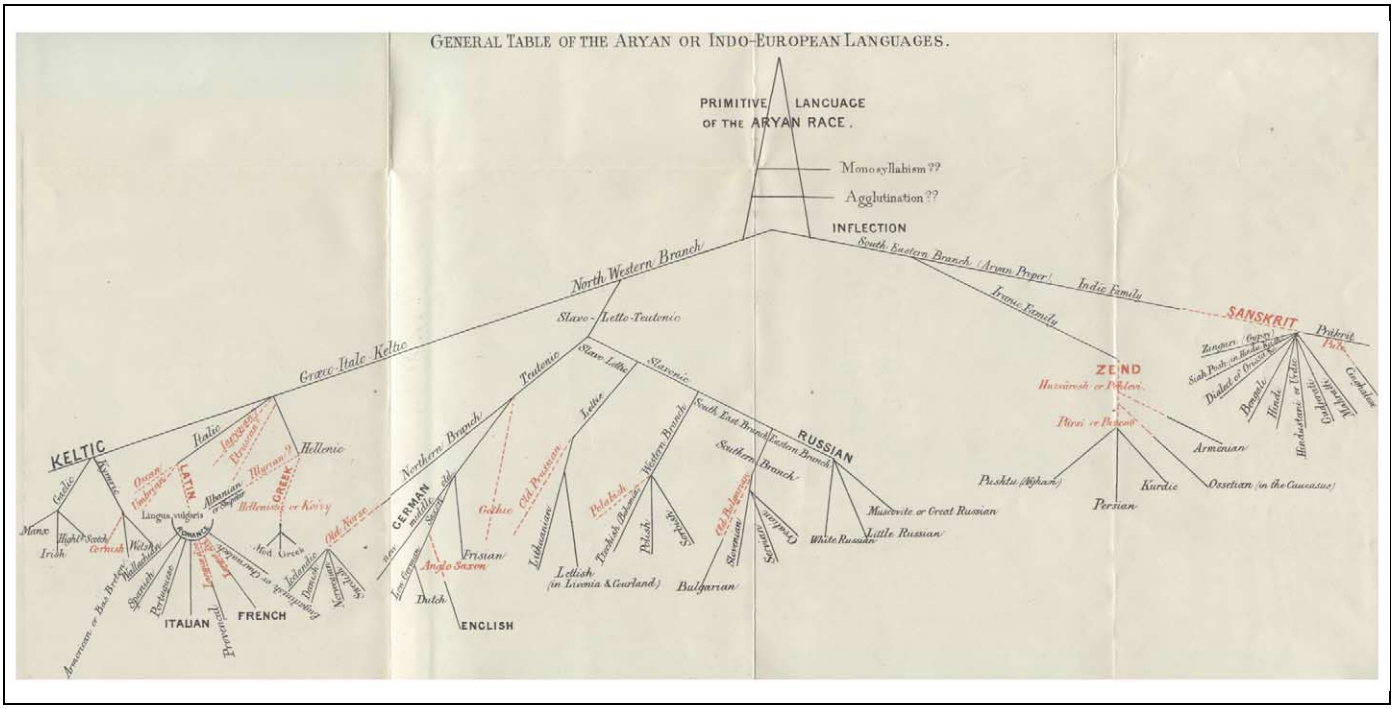

Figure 5. Frederic William Farrar's 'table' of the Indo-European languages. Names in dotted red indicate dead languages [16]. Reproduced with permission of Cambridge University Library.

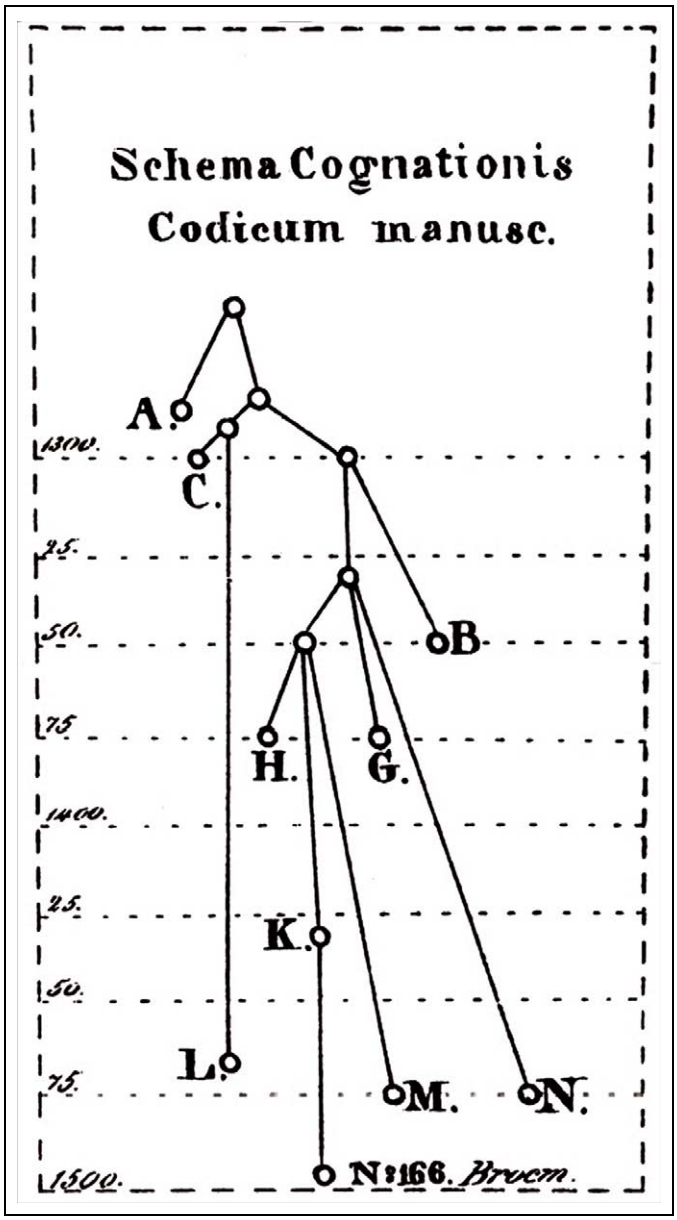

Figure 6. Manuscript stemma from 1827 representing the relationships between a group of medieval Swedish legal texts [18]. Nodes represent manuscripts. Reproduced with permission of Cambridge University Library.

archaeology [20], anthropology [21] and sociology [22] to explain the differential relatedness of artefacts, myths or other cultural forms.

Two examples can demonstrate that historical linguists and archaeologists, for example, are not thinking metaphorically when they speak of evolution. Each works with an enormous collection of diverse material covering thousands of years of history. If a linguist groups words from European languages together by similarity the very process of juxtaposing them in this way will, eventually, create a branching tree. The resulting tree is not a metaphorical representation, but the de facto relationship of the historical words. Similarly, if an archaeologist's collection of pot shards is large enough and covers enough time, and then each part of it is laid on the ground grouped by similarity, the pattern of a branching tree emerges (it need hardly be mentioned that the same works with fossils). The reason both fossils and pot shards form branching trees of relationship is not profound, it is simply because historically derived materials do this; they are historical processes. So the real radical conclusion is that the relationships between cultural things and biological species are represented with branching trees not because the people who study them have borrowed the idea from others, but because this is the best way of reconciling their materials. This is also the reason why they have initially independent, if later intertwined, histories [23].

Conclusion

The written words studied by historians are, after all, not that different from fossils, or rather coprolites. Instead of actual thoughts we have indelible and highly specific creations of extinct thoughts that once flashed through a human brain. Many other evolutionisms followed Müller, such as the Victorian social evolution of Benjamin Kidd [24] or the cultural evolutionary archaeology of General Pitt-Rivers [25]. I suspect that rather than offshoots from organic evolutionary thought, or vice versa, we might eventually come to see how all evolutionary-thinking descended through the centuries together.

References

1 Greene, J.C. (1981) *Science, Ideology, and World View: Essays in the History of Evolutionary Ideas*, University of California Press (Berkeley, CA, USA)
2 Bowler, P. (1986) *Evolution: History of an Idea*, University of California Press
3 Futuyma, D. (1986) *Evolutionary Biology*, Sinauer Associates, pp. 1–16
4 Alter, S. (1999) *Darwinism and the Linguistic Image*, Johns Hopkins University Press (Baltimore, MA, USA)
5 Jones, R. (1764) *The Origin of Language and Nations*, John Hughs (London, UK)
6 Jones, W. (1807) *The Works of Sir William Jones* (Vol. 1), sold by John Hatchard (London, UK), p. 15
7 Monboddo, J.B.L. (1774) *Of the Origin and Progress of Language* (Vol. 1), J. Balfour (Edinburgh, UK) p. 443
8 Ibid, p. 578
9 Bopp, F. (1816) *Ueber das Conjugationssystem der Sanskritsprache in Vergleichung mit jenem der griechischen, lateinischen, persischen und germanischen Sprache*, Andreäischen Buchhandlung (Frankfurt am Main, Germany)
10 Quoted in Desmond, A. and Moore, J. (1992) *Darwin*, Penguin (London, UK), p. 214
11 Schleicher, A. (1861) *Compendium der vergleichenden Grammatik der indogermanischen Sprache*, Böhlan (Weimar, Germany)
12 Schleicher, A. (1853) Die ersten Spaltungen des indogermanischen Urvolkes. *Allgemeine Monatsschrift für Wissenschaft und Literatur*, pp. 786–787
13 Schleicher, A. (1863) *Die Darwinsche Theorie und die Sprachwissenschaft*, Böhlan
14 Darwin, C. (1859) *On the Origin of Species*, John Murray (London, UK)
15 Darwin, C. (1882) *The Descent of Man and Selection in Relation to Sex* (2nd edn), John Murray, p. 90
16 Farrar, F.W. (1870) *Families of Speech*, John Murray, p. 90
17 Müller, F.M. (1887) *The Science of Thought*, Longmans, Green and Co. (London, UK), p. xi
18 Collin H.S. and Schlyter C.J. (1827) *Corpus Iuris Sueo-Gotorum Antiqui* (Vol. 1), Z. Haeggstrom (Stockholm, Sweden), Table III
19 Ruhlen, M. (1994) *On the Origin of Languages: Studies in Linguistic Taxonomy*, Stanford University Press (Palo Alto, CA, USA)
20 Nettle, D. (1994) *Linguistic Diversity*, Oxford University Press (Oxford, UK)

21 O'Brien, M.J. and Lyman, R.L. (2000) *Applying Evolutionary Archaeology: A Systematic Approach*, Kluwer (Norwell, MA, USA)
22 Durham, W. (1991) *Coevolution*, Stanford University Press
23 Lieberson, S. (2000) *A Matter of Taste: How Names, Fashions, and Culture Change*, Yale University Press (New Haven, CT, USA)
24 Kidd, B. (1894) *Social Evolution*, Macmillan and Co. (London, UK)
25 See the series of posthumously collected essays written between 1868–1875 in Pitt-Rivers, A.H. (1906) *The Evolution of Culture and Other Essays*, Clarendon Press (Oxford, UK)