

Linguistic wandering along continental axes

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Does the theory of continental axes proposed by Jared Diamond explain the fate of the languages spoken in antiquity in the western end of the East-West continental axis? Probably two linguistic axes crossed at some time in western Europe: the East-West axis extending from Pacific to Atlantic and the South-North axis extending from North Africa to Northern Europe. Whereas on the one hand, the oldest documented languages of Europe were verb-final, preferring to place the verb at the end of the sentence like the majority of the languages of Central and Eastern Asia, on the other, it can be presumed that a new trend originating in North Africa and firstly documented by Neo-Egyptian (2nd mill. BC), introduced verb-initial sentences in Europe. So, the current Indo-European languages spoken in Europe share with the current verb-initial languages of North Africa and Near East, that is Berber and Arabic, a full set of linguistic tools: prepositions, relative sentences, conjunctions, definite articles and the distinction between masculine and feminine, on one side, and between singular, dual and plural on the other. As a result of a presumed expansion of typological innovations from North-Africa new analytical syntactic constructions may have found their way to Europe beside the original synthetic constructions.

Keywords: Jared Diamond, continental axes, verb-final languages, verb-initial languages, synthesis vs analysis, Neo-Egyptian, Indo-European.

1. The state-of-the-art¹

The triumphantly successful book *Guns, Germs and Steel: The fates of Human Societies*, by the American anthropologist and geographer Jared Diamond,² explains a phenomenon linked to geography that

¹ The present article was originally published in Esperanto in 2022 as “Prilingvaj pensvagadoj laŭlonge de la kontinenta akso.” *Literatura Foiro, kultura revuo en esperanto, organo de esperanta PEN-centro* 53 (318): 227-232, and then in 2024 in Italian as “Divagazioni linguistiche lungo un asse continentale.” *Quaderni di Semantica* 10: 332-340. I thank the *Quaderni di Semantica* for granting me the permission to publish an English translation here. My heartfelt thanks go also to Wilfred Watson, York University, for his revision of my English.

² Diamond, Jared. 1997. *Guns, Germs, and Steel. The Fates of Human Societies*. New York, NY: W.W. Norton & Co.

probably no reader would have thought of before. It is about how the seasonal amount of sunlight conditions the emergence of different life forms, depending on their location on longitudinal or latitudinal ‘continental axes.’ Moved by the innovative character and heuristic power of the theory proposed by Diamond, I am now preparing to apply it, if possible, in order to obtain a better understanding of the relationships between the languages spoken around the Mediterranean.

What is meant by ‘continental axes’? They are imaginary lines, one running from North to South and vice versa and the other running from East to West and vice versa, which have the purpose of indicating the main dimension presented by the various continents.

Let us start with Africa, for example. It is easy to see that, lengthways, this continent is oriented on a North-South (N-S) axis, as are the Americas. Instead, the Eurasian macro-continent is oriented lengthways on an East-West (E-W) axis.

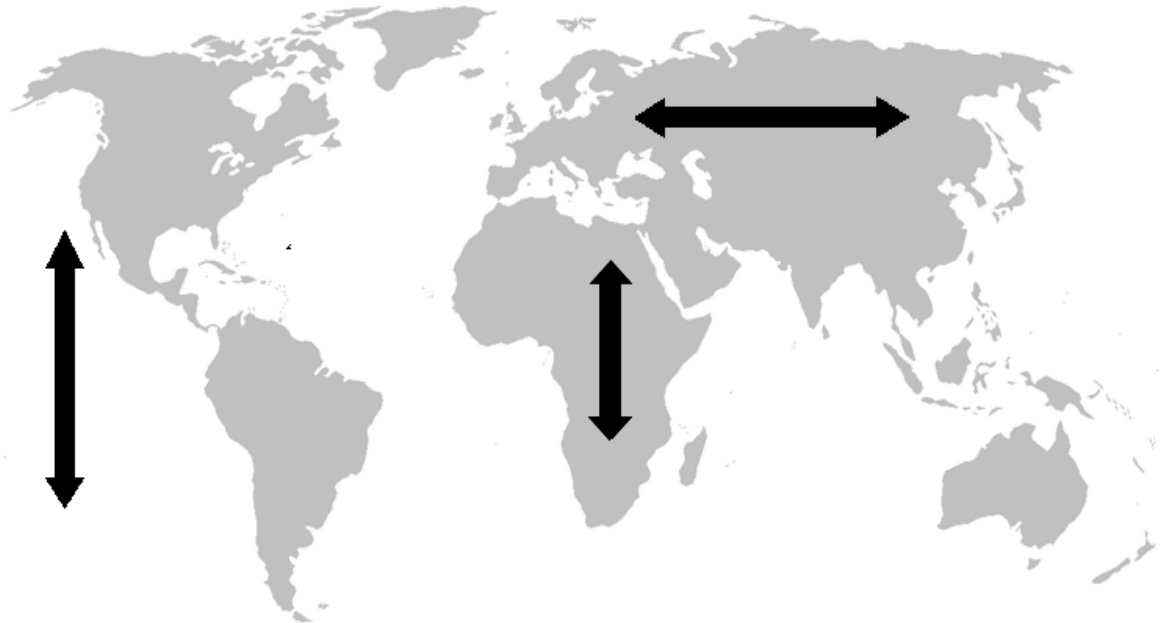


Figure 1. The continental axes.

In his book, Jared Diamond draws attention to the fact that, over millennia, the orientation of the continental axes has determined the fate of all the living species, including human societies, which have emerged on them. For example, humans living on the E-W continental axis not only enjoy the same amount of light in the same seasonal cycle, regardless of local climatic conditions, but for millennia they have encountered the same type of flora and of fauna and therefore have been able to share the same selection of plants (herbs, legumes, cereals, fruit trees, etc.), the same tameable animals (farmyard birds, large or small domestic or flock animals), and even the same range of pathogenic

microbes. This means that, despite the obstacles posed by deserts, seas and mountain ranges, these people were able to promote wide-ranging exchanges of goods and technical and cultural knowledge.

However, none of these advantages conditioned by geographical factors had been enjoyed by the human societies that emerged along the N-S continental axes: not only do the flora and fauna differ greatly, depending on the degree of latitude of their habitat, but even the pathogenic microbes of humans and animals have a distribution conditioned by latitude, which can lower immunity to infection in their carriers in the event of prolonged movement along the N-S axis. On the other hand, along these axes, people generally had more difficulty in moving and exchanging goods and information. It is interesting to note that, due to the barrier posed by the Sahara, North Africa is more involved in the E-W continental axis than in the N-S one.

If such are the conditions imposed by geography on flora and fauna, and consequently also on human societies, it is natural to ask whether the theory of continental axes can also explain the fate of certain languages. Let us take, for example, the languages of the Mediterranean basin, a large territory located at the western end of the E-W axis. In terms of phonology, lexis and syntax and even writing, the languages spoken around the Mediterranean are very different from each other, but, if you compare them with a language like Turkish, which only since a thousand years ago dominates the north-eastern coasts of the Mediterranean, these languages suddenly appear, as a whole, as the different facets of a single protean common language.

We will try to justify this assertion later. For now, let us turn our gaze to the eastern end of the continental E-W axis, because here, with the important exception of Chinese, the presence of the so-called ‘verb-final’ or rather of ‘head-final’ languages is more obvious. Here the lexeme bearing the main information (the ‘head’) is normally placed after the lexeme that completes its meaning (the so-called ‘modifier:’ for a verb, its ‘modifiers’ are the subject and any complement). Therefore, the languages in which the predicate, e.g. the verb, occupies the end of the sentence in the non-prosodically marked order of its constituents (non-interrogative, non-assertive, etc.) can be defined ‘verb-final’ or ‘head-final.’

2. Verb-final languages vs verb-initial languages

Let us assume that *S* stands for the subject of the sentence; that *E* stands for the epithet of the noun (*N*), for example the adjective or a more complex epithet equivalent to a relative clause or a genitival phrase; that *O* stands for the object, *C* instead stands for a different type of complement of the verb, and, finally, that *V* stands for the predicate in a verbal form. Then, generally speaking, ‘verb-final’ languages present the following unmarked order of constituents:

1. *EN*
2. *SCOV*

In this non-prosodically marked order of succession, therefore, new information is provided in the final position (i.e. simply *SV* or *SOV*; *SCV* or *SCOV*).

A clear consequence of this sequence is that, normally, any correlation marker or correlation morpheme (*cm*) that highlights the relationship between two lexemes of the sentence is inserted between the previous lexeme and the following lexeme. The correlation marker between *E* and *N* can appear as an adjectival ending (*E-cm N*); the correlation marker between *S* and *V* can take the form of the nominative case of the nominal inflection (*S-cm V*); the correlation marker between *O* and *V* can, in turn, appear in the accusative case (*O-cm V*); while the correlation marker between *C* and *V* appears either as another case of declension or as a postposition (*C-cm V*):

1. *E-cm N*
2. *S-cm O-cm V / S-cm C-cm O-cm V*

Obviously these two structures are purely theoretical, since each ‘verb-final’ language adapts them to the syntactical rules that emerged due to contacts with other languages of various types. However, a language that adopts these two structures in the most exemplary way is Turkish.

The Indo-European languages that once were spoken in the western end of the E-W axis, probably also had a more or less similar way of presenting new information. For example, Hittite, the oldest documented language spoken in Anatolia, or to Sanskrit, a European language that migrated to northern India, were both inflected languages, placing the verb mainly in final position, and had postpositions.

Unlike the ‘verb-final’ languages of Central Asia and the Far East, a verb-final language like Sanskrit already distinguished the feminine grammatical gender from the masculine and also possessed a neuter. The latter was also present in Hittite, an archaic language that still lacked the differentiation between masculine and feminine. The presence of the feminine gender in commutation with the masculine gender (at least in third person pronouns) is a remarkable trait that the Indo-European languages share with the Hamito-Semitic languages, including the Chadic languages, spoken south of the Sahara.

In Armenian, Persian and Central Kurdish (Sorani), which are Indo-European ‘verb-final’ languages, the grammatical gender has been lost, while it never seems to have existed in a strictly ‘verb-final’ language such as Basque, spoken on the shores of the Atlantic, nor is it present in the Uralic languages of Europe, such as Finnish, Sami, Estonian and Hungarian.

On the northern flank of the western end of the Eurasian axis, it seems that, in ancient times, the ‘verb-final’ model was very widespread, i.e. a synthetic model which, as has been said, is prevalent in the languages of Central Asia and Far East. Instead, on the southern flank of the same western end, including Mediterranean Europe and North Africa, a different way of arranging discourse and revealing new information emerged. Here the verb, which is the nucleus of the information and the pivot of the sentence, has moved back to the left, often up to its beginning (*V S O C*) or has been inserted between the subject and the object (*S V O C*): so, in this geographical ambit languages have emerged that tend to be ‘verb-initial’ or ‘head-initial.’ The oldest historical testimony of this trend is offered by the Egyptian, in particular by the Neo-Egyptian, which established itself in the New Kingdom (1580 - 1085 BC).

Due to the new position assumed by the verb, a new type of correlation marker (*cm*) appeared, previously unknown: the preposition. It appears in front of a pronoun, a noun (*cm N*) or an infinitive by facing left towards the verb ($V \leftarrow cm N$). As a consequence of the intrusion and subsequent stabilization of this type of morpheme, the older correlation markers, facing right ($N-cm \Rightarrow V$), i.e. the endings of nominal inflection and the postpositions, entered into crisis to the point of becoming extinct in some languages.

Generally speaking, ‘verb-initial’ are the Berber languages and the Semitic languages, all having prepositions (*cm N*), even languages, such as Akkadian and Ethiopic, whose contact with ‘verb-final’ languages led to placing the verb at the end of the sentence.

3. The role of Neo-Egyptian in the expansion of analytic syntactical construction

This universe of languages, including Neo-Egyptian, exhibits a type of sentence that is not synthetic but analytical, with the verb moved to the left rather than to the right: a structure shared by all the Indo-European languages in Europe, from south to north, from east to west. In any case, only Celtic languages, such as Gaelic and Welsh, are strictly ‘verb-initial.’ It would therefore seem that, given the antiquity of Egyptian, a new sentence model, of an analytic type, radiated from the southern coast of the Mediterranean towards the territories of its northern coast: a movement along a South-North continental axis, probably facilitated by the network of Mediterranean islands.

In the current languages of the northern side of the Mediterranean basin we note the presence, not only of ancient enclitic morphemes for inflection, gender and number, but also of innovative features such as:

1. the aforementioned class of prepositions;
2. the relative clause dominated by a noun or an antecedent pronoun;
3. subordinating conjunctions such as the declarative conjunction *that*;

4. in many languages, also, the definite article placed before the noun. If one were to look for these four typological traits in strictly ‘verb-final’ languages such as Turkish, they certainly would not be found.

The following can be observed regarding the proclitic definite article. This type of morpheme, with the specific function of signalling to the interlocutor that the speaker assumes that he shares certain information regarding the word in question, was regularly used by the Egyptians from the New Kingdom period, that is, from the middle of the 2nd mill. B.C. The Berber languages soon followed suit, but when the definite article lost its original function, it was affixed to most nouns. The Semitic languages geographically closest to Egypt, namely Phoenician, Hebrew and North Arabic, also imitated the Egyptian proclitic definite article. This innovation even reached the distant New South Arabian languages of Yemen and Oman. Post-Homeric Greek too imitated the proclitic definite article. The Greek model was later copied by every Neo-Latin language, bypassing Latin. Later the proclitic definite article reached the Celtic and Germanic languages, except Scandinavian and Gothic, and finally it became established even in Hungarian, which is a Uralic language. The languages mentioned above belong to the ‘first ring’ of the diffusion of the definite article.

Languages adjacent to the ‘first ring’ differ from the original model by acquiring a definite article, which is enclitic rather than proclitic. These form the languages of the ‘second ring.’ In Asia they include the Aramaic languages and extinct South Arabian languages such as Sabaeen and Minaean. In Europe, the ‘second ring’ includes the Scandinavian Germanic languages, Balkan languages of various affiliations such as Romanian, Albanian, Bulgarian and Macedonian, as well as an isolated language such as Basque.

Finally, ‘third ring’ languages are those that have remained faithful to their traditional way of expressing the assumption of what is known. In Asia, Assyrian-Babylonian belonged to the ‘third ring,’ in Africa, classical Ethiopic, while the modern Semitic languages of Ethiopia have explored new paths to express that type of assumption. Finally, in Europe, the extinct Gothic, Baltic and Slavic languages belong to the ‘third ring,’ with the exception of ‘second ring’ Bulgarian and Macedonian (mentioned above) and the Uralic languages, such as Estonian and Finnish, apart from (‘first ring’) Hungarian, as we have seen.

4. Conclusion

In summary, in the western end of the East-West continental axis it is possible to follow the traces of a multi-phase evolutionary process that seems to have begun when, in the unmarked sentence, the

predicate moved from final to initial position or remained in second position. The consequence of this shift of the predicate to the left would have been the birth of a new correlation marker: the preposition. Even nouns began to precede their epithets, so that the relative clause emerged, introduced by pronouns bereft of deixis (*a-deictic*) such as weakened demonstrative or interrogative pronouns. Coordinating and subordinating conjunctions were also introduced, as had already happened in the Egyptian of the New Kingdom. This language certainly maintained a role of great cultural and practical prestige since the time of the pyramids, also due to the significant number of its speakers compared with neighbouring countries. Eventually the proclitic definite article spread outwards from Egypt.

In conclusion, the languages spoken on the two coasts of the Mediterranean are still structurally similar, although they are clearly different in every other respect: phonological, grammatical, lexical and semantic.

On the northern flank of the Mediterranean basin, the evolutionary push continued to move from south to north. This time its centres of propulsion were, on the one hand, Hellenistic Greek, the *koiné* that developed around Alexandria in Egypt, and on the other, Byzantine Greek. Thanks to the cultural influence they exerted during the spread of Christianity in Europe, a ‘Greek spirit’ was grafted onto the ‘Latin body’ of the Romance languages. In turn, due to their acquired cultural prestige, these influenced the Germanic languages from south to north, for example with the introduction of the analytic perfect formed by the past/passive participle and the auxiliary verbs ‘to be’ and ‘to have.’ Note that these verb forms were already present in Neo-Greek. However, this innovation did not take root in the Baltic and Slavic languages, thanks to their rich wealth of participles, active and passive, past and present.

The linguistic innovations just mentioned, which spread from North Africa and the Levant to a large part of Europe, were a remarkable feature in the western end of the Eurasian continental axis. Here a block of languages emerged, extending from south to north, which was decidedly opposed to the millenary drift that, from east to west, as far as the Atlantic (see Basque), had previously extended the ‘verb-final’ model of the sentence now predominant in the languages of Asia, starting from the Pacific coasts.

Ultimately, it can be seen that the theory created by Jared Diamond concerning continental axes and how they have affected the destinies of human societies can also be applied to the field of linguistics to define the dynamics of formation and diffusion of certain linguistic typologies in which *analysis* seems to prevail over *synthesis*. A South-North continental axis, starting from North Africa and the Levant, appears so to have emerged intersecting with the extreme western portion of the East-West Eurasian continental axis.

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