

# THE PROBLEM OF DATING IN LINGUISTICS (2004)

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## 1. Premise

Although historical linguistics makes constant use of dates, either in historical and comparative studies of languages or in historical lexicography, the theoretical and methodological aspects of linguistic dating have rarely been subjected to inquiry.

In my presidential address to the *Societas Linguistica Europea* in Varna in 1991 (Alinei 1991; 1992) I discussed four methods of linguistic dating, which I now present in a slightly modified form. These four methods are based on: 1) the earliest written evidence; 2) the relative chronology of phonetic change; 3) the etymology; 4) the chronology immanent in the lexicalization, which I shall call 'lexical self-dating'.

I have not included in the dating methods the so-called 'glottochronology' of the American linguist Morris Swadesh, although it is considered as a 'modern' approach. If it is worth mentioning at all, it is certainly not because it is valuable, but only because it shows how the fundamental errors of the traditional linguistics can persist, and even become worse in the modern epoch. Swadesh's method is in fact a statistical approach which purports to measure and date linguistic change on the basis of the number of lexical differences between two languages belonging to the same linguistic group, assuming that such change is governed by a 'universal clock' of such change, and measuring its time on the basis of the average value of traditional datings.

This method is actually based on two errors: one is the usual assumption that a biological clock controls linguistic change, and the other is the belief that traditional dates are necessarily correct. As regards the former error, it is presumed that all languages change in the same way - an approach which leads to some absurd conclusions precisely in dealing with some of the most thoroughly studied and best-known linguistic groups, such as the neo-Latin group. As regards the latter, the least solid foundation has been chosen for the postulated thesis, for if there is a sphere of historical linguistics in which arbitrary speculation reigns supreme, it is precisely that which attributes absolute dates to phonetic changes. I shall presently return to this last point.

## 2. What does 'dating' mean in linguistics?

To date an object or an event means, in very general terms, to position it on a scale of temporal measurement. If the object or event is of a brief duration, dating it means determining the absolute date of its beginning, or of its termination, or, in default of precise evidence, setting it approximately on the scale of temporal reference. For example, we can date the *floruit* of the life of a person, i.e. the period of his greatest activity. If the event is of a very long duration and is not terminated yet, we can date only its beginning; alternatively, if the beginning is not known, it may be possible to date its termination.

In linguistics, it is obvious that we cannot 'date a language' as such. Even the question 'when is a language born?' makes little sense. The traditional practice of taking into consideration the earliest written evidence of a language involves serious risks, both in the theoretic and practical spheres, if it is not relativized and if it is not understood that its actual value is merely that of the first attestation of an alphabetized language.

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<sup>1</sup> The bibliographic references have been updated.

It does make sense, however, to ask 'when is a given language dead?' if we are speaking of an extinct language. But the question is particularly pertinent, it should be added, if we are discussing a spoken language, in which case its end coincides with the death of its last speakers. If such an event takes place in our time, which shows scientific interest in this kind of phenomena, we can date it fairly precisely, or even foresee it, though less precisely. In the case of Vegliotto, a neo-Latin speech of the Dalmatian type characteristic of the island of Veglia (today Krk, in Croatia), it was possible to register the death of its last speaker in 1898 (Tagliavini 1964, 316). In the case of written languages, the problem is more complex. What would be, for example, the last testimony of written Latin, since people continued to write in Latin until the Middle Ages and in certain areas until the modern epoch? The conclusion that Latin ceases to be a spoken language at the end of the Roman Empire is based, even in traditional linguistics, on social and political considerations, rather than on written evidence: the end of Latin is made to coincide with the collapse of the Roman society and the beginnings of invasions, that is, in fact, with the disintegration and dispersal of its dominant group.

Absolutely sensible, though extremely complex, is, however, the question 'when is the faculty of speech born?', and it is not without reason that this is the problem that today many linguists seek to solve. I have devoted one of the concluding chapters to this problem.

On the other hand, it is precisely because, as we have seen, a language may be renewed culturally in its vocabulary, and altered structurally in its other components, that we can, theoretically speaking, date each innovation, considered as an event of short duration. And this is the field to which historical linguistics has devoted greater attention, seeking to date either individual words of a vocabulary and their changes of meaning, or its phonetic, morphological and syntactic changes.

Let us have, nevertheless, a closer look at the various perspectives.

As regards phonetic changes, their absolute dating is impossible because direct observation and accurate recordings (not to speak of the mechanical ones) began only in the present century. Besides, as we shall see, the dating of phonetic changes yields as a rule merely relative chronologies, rather than absolute dates. The dating of changes in morphology is a secondary operation in respect of lexical dating, on which it necessarily depends. The dating of syntax might be more helpful, since syntax is the deepest level of the grammar of a language, but, unfortunately, generative linguistics has hardly begun to show an interest in the comparative analysis of the dialectal continuum, so that its results are too scant. In fact, there remains only lexical dating at the moment.

In this field, however, linguistics and lexicography have accumulated very remarkable experience and results. There are in fact 'historical dictionaries' for almost all European languages, and they furnish data, which are often precise, on the first written attestation of each word. Since the vocabulary is, as we have seen, the interface between culture and the linguistic system, the history of a vocabulary - be it only of a written one - is of great value for the study of the historical and cultural development of a linguistic community. It might be useful, therefore, to begin with a review of the problems posed and the perspectives opened up by this type of dating before we proceed to a theoretic discussion.

## **2.1. Lexical dating**

Let us examine, to begin with, two examples, different not only in date, but also in complexity.

### **2.1.1. The international word *gas***

In a number of cases, particularly those from the modern epoch, it is possible to establish not only the date, but also the author of a lexical innovation. The international term *gas*, for example, was introduced by the Belgian scholar J.B. van Helmont (1577-1644), who discovered the existence of the gaseous state of matter, in addition to the solid and liquid states. Wanting to give a name to his discovery, he decided to use the Greek word *kháos* 'formless matter, chaos'

Why *gas* with an initial *g*-? The majority of European etymological dictionaries do not explain this point. Van Helmont, like all the scholars from the Netherlands area of that epoch, was a man of thorough humanistic culture, and from his choice of *gas* as a graphic rendering of *kháos* we can infer that he pronounced Greek  $\chi$  as a voiceless or voiced velar or prepalatal fricative. This is actually how the Dutch grapheme <g> is pronounced even in dialectal and sociolinguistic variants. Here we have, then, a reconstruction and a fairly precise dating of an individual innovation: the lexicalization of the new concept of 'gas', which did not exist previously. Needless to say, reconstructions such as this are possible for a number of technical and scientific terms of the historical epoch [Cf. Migliorini 1975].

This example alone is sufficient to show that two elements come into play in each lexicalization: (a) a new meaning ('gas'), and (b) an old word (*kháos*), which has been adopted as the 'motivation' [*iconym* in my new terminology] of the new one (on *iconym* and *motivation* see now Alinei 1979; 1982; 1994; 1995; 1996, 1997a, 1997b, 1998, 2000, 2001, 2002). What we are dating, then, is the appearance of the new meaning, not of the old word (*kháos*).

### 2.1.2. The Italian (and international) word *ciao*

The problem of the dating of a word like Italian *ciao*, internationally known today, is much more complex. To begin with, if we confine our search for the earliest attestation of it to standard Italian, we shall not get further back than the end of the Second World War. The word is in fact very recent in its use as a pan-Italian salutation: it became current only after the war and it is absent from almost all the major prewar dictionaries (Alinei 1991). But the salutation had already been common in southern Italy, and it is Venetian in origin. *Ciao* is actually derived from Veneto and the Venetian word *s'cia(v)o* (pronounced /šč'a(v)o/), which means 'slave'. The salutation is based precisely on this meaning, just as Latin *servus*, 'servant' has become a current salutation in some Central European areas.

If then we try to find the earliest written testimony of the dialectal Venetian word (*s*)*ciao*, we can go back first to 1829, the year of the publication of the first Venetian-Italian dictionary by Boerio, and then to the 17th century comedies of Goldoni, who, however, uses the Italicized variant *schiavo*. Further back, in the 16th century, we find *schiavo vostro* ('your slave') as a salutation at the end of written letters. We cannot, however, date the precise moment when *schiavo* became a salutation. We can only establish two terms for this change, one *ante quem* (before which), absolutely reliable, which is the earliest attestation in the 16th century, the other *post quem* (after which), much less reliable, which is the first *written* evidence (and thus cannot exclude an earlier spoken usage) of the term *sclavus* 'slave', in the 10th century. Hence we must be content to say that the term for 'slave' became a salutation between sometime before the 10th century and the 16th century.

On the other hand, etymology tells us that *sclavus* 'slave' derives from the ethnic name of the Slavs (in the Slavic languages *Slav*). The Slavs were, in fact, regarded as real 'slaves' in the Late Middle Ages since the Church, then headed by Gregory the Great, decreed that only those not baptized might be slaves, and the Slavs were among the few remaining 'pagans'. We can, therefore, determine the approximate date when *Slav* became *schiavo*, since there is abundant historical evidence showing: 1) that there was trade in slaves of Slavic origin in the period from the 6th to the 10th centuries AD; and 2) that Venetian merchants were very active in that trade. The dating 6th-10th centuries coincides, then, with what we said about the first written evidence of *sclavus* 'schiavo' in the 10th century, as we must bear in mind that the earliest written attestations necessarily reflect an already established usage.

But we are in greater darkness if we go still further back and try to determine the period in which the ethnic name *Slav* came into being. Its earliest Greek attestation dates from the 6th century, that is, from a period long before the alphabetization of the Slavonic languages by Cyrillus and Methodius. Consequently, we may say that this lexicalization took place before the 6th century. But it certainly dates back to prehistory, i.e. to a period in which the Slavs gave themselves a name

or received another from their neighbours.

Even though the history of words is not always so complex as that of *ciao*, the structural pattern is the same as that which we saw in the simple case of *gas*: a stratigraphy, consisting of a current meaning ('gas', 'intimate greeting'), and of one or more earlier stages, corresponding to as many meanings ('chaos', 'slave' and 'Slav'), successively recycled as iconym or motivation for new meanings. The difference between the history of *gas* and *ciao* is simply that the former stratigraphy has only two levels ('gas', 'chaos'), while the latter has three ('greeting', 'slave', 'Slavic').

In this sense, a word is very similar to an archaeological site: it does not have a single date, but as many dates as there are stratigraphic levels. Dating a word is therefore usually a step-by-step operation, comparable to the dating of an archaeological site, which may have a layer datable to the Middle Ages, one to the Roman epoch, one to the Iron Age, one to the Bronze Age, one to the Neolithic, and, in the most fortunate cases, one to the Mesolithic or even to the various periods of the Palaeolithic. In the case of words, however, dating may be complicated by the fact that the etymology is often not known or certain. Therefore, as we shall see, an important restriction must be imposed on etymological dating.

In the case of the sequence *Slav* > *sclavus* > *scia(v)o* > *ciao*, however, there is no problem, because the etymology is absolutely reliable, so that the sequence gives us an opportunity to study and appreciate a truly unique and almost miraculous phenomenon of a material object (phonic substance is part of matter) which has changed in the course of history remaining nevertheless the same. This is as if an implement of everyday use in our hands belonged at the same time to the Middle Ages, to the age of Rome and perhaps even to preceding epochs, remaining nevertheless in actual use! Apart from language, only social institutions and ideology (which are, however, more elusive) present this aspect which is almost miraculous and little explored by scholars so far. As we shall see, it is by availing ourselves of this aspect that we can seek to penetrate into our most distant past.

There is a last point that I should like to make before leaving this example. As we have seen, we can date with greater or lesser precision an event such as the birth of the notion of 'gas', or the expeditions for the capture of Slav slaves, because of the available historical evidence. But we cannot date an event such as the beginning of a salutation, since events of this type usually leave no trace in historical documents. I shall call, for the greater convenience of exposition, the former referents '**historically traceable**' and the latter ones, such as a salutation, '**historically untraceable**'. We shall see in the course of this chapter in what way this distinction may be helpful.

## ***2.2. From dating to lexical periodization***

Accordingly, vocabulary offers possibilities for fairly reliable dating, in spite of the complexities and problems that are frequently involved. And, as we have seen, vocabulary is representative of the entire history of a community, since it contains vestiges of innumerable stages of cultural-historical renewal of a community of speakers, even when this renewal assumes new phonic forms because of mutation by hybridization. Accordingly, we can see the history of a language through its vocabulary as an aggregate of innumerable stratigraphies, each corresponding to a lexeme, the ordered sequences of which may be compared with one another for the identification of common periods (e.g. modern, Renaissance, mediaeval, Christian, Roman, various prehistoric periods). In this way, we may aim at establishing, on the basis of the history of a vocabulary, a **periodization** of the linguistic community which uses this vocabulary. I have already said at the beginning of the book that this would be one of the main objectives of the present study. We shall see that the traditional historical linguistics, too, did some research in that direction, though in an intuitive and not very systematic way, and that new results can be attained on the same basis by the use of more rigorous methods.

## **3. Chronological value of written evidence**

I have already touched upon the problem of the dubious value of written evidence for linguistic

dating. I now return to this point for a more thorough discussion.

### **3.1. Written evidence as a 'terminus ante quem'**

Leaving aside the cases in which written evidence permits the precise and reliable dating of a new word (for instance, *gas* and generally all modern words of educated origin), we can say that as a rule written evidence does not and cannot represent a term *a quo* ('from which'), i.e. the real 'beginning'. At most, it represents, as already Schuchardt recognized, a term *ante quem* ('before which'), which has quite a different value. It certainly cannot be argued that the earliest written evidence of a language, dated to moment X, proves that it existed only, for example, half a century, or 1, or 3, or 5, or 10 centuries before X, in compliance with some statistical law or the supposed molecular clock of organic change. It may be even supposed that it existed whole millennia before its first attestation. A simple and irrefutable test of this assertion is provided by the earliest attestations of the various IE linguistic groups, or of the Uralic ones in Europe. Let us see how this works for each group.

As regards the IE linguistic groups, we move from the first written attestations of Mycenaean Greek in the 15th century BC, to the first written evidence of Latin in the 6th-5th centuries BC, to the earliest Scandinavian runes of 200 AD, to the written attestation of Gothic (Germanic group) in Bishop Wulfila's (311?-382) translation of the Bible, datable to 350 AD, to the Irish ogham of 300 AD (Celtic group), to old Slavonic in the 9th century, to the first bilingual vocabulary of Prussian for the Baltic group in 1300 (the first texts are from 1500), to the 1462 baptismal formula for Albanian (but the first genuine Albanian texts are Giovanni Buzuku's *Missale* of 1555 and Matranga's *Catechism* of 1592). In fact, we have *an interval of more than three millennia between the earliest and the latest attestations of the same linguistic phylum*. If we take the Uralic phylum, we can confine ourselves to the first attestations of the two chief groups, which date from the 13th century for Hungarian, and from the 16th century for Finnish, or, more precisely, the 1525 *Catechism* for Estonian, and Agricola's *Abckeria* (Abecedarium) of 1543 or 1544 for Finnish. Since the IE and Uralic languages derive from Proto-Indo-European and Proto-Uralic respectively, it is quite clear that the time span between the two diasporas, with the consequent differentiation, on the one hand, and the earliest written attestations of the separated languages, on the other hand, does not correspond at all to the actual process. No IE specialist has ever dared maintain that Lithuanian and Latvian - languages characterized, among other features, by many archaic traits - separated themselves from the common matrix in the late mediaeval epoch, three millennia after Mycenaean Greek, or two millennia after Latin, or again that Germanic and Celtic separated in the Roman epoch. Even less would he maintain that they were born 'a little before' their first written attestations!

And what should be said about the Uralic languages (usually passed over in theoretic discussions), which are now supposed to have a continuity from Palaeolithic? What should be said, for example, about Finnish, which, according to specialists, was one of the first to establish itself in its historical territory in Mesolithic times, and which nevertheless appears for the first time in a written record only in 1524, at least *ten millennia* after its separation from the common stem? It is hard to understand, then, why one should think, when confronted with the first rough texts of mediaeval dialects, that they had come into being only a few centuries earlier.

This chronological distance between the linguistic phenomenon and its earliest written expression is also observable in the present day. Written and generalized documentation concerning modern dialects, for example, begins almost everywhere in Europe only in the 19th century, many centuries after that concerning national languages. And yet most national languages derive from one of those local dialects of uncertain origin which has been promoted to language by the area dominant group. Whence this chronological difference between the two phenomena? The answer is not simple.

The first emergence, in writing, of the so-called 'vernaculars' ('languages of the slaves', from Lat. *verna* 'slave') reflects the first assertion of the urban middle-classes (at that time still 'inferior'

groups) during feudalism or towards its end. With the recognition of the vernacular of a new dominant group as a 'language' the previous tendency of all vernacular dialects to assert themselves locally began to wane or ceased completely. The second dialectal wave, in the 19th century, is associated with the French Revolution, with universal suffrage, and with the development of interest - even in the dominant culture, and not only scientific - in the problems of the cultural identity of subordinated groups (Alinei 1980, 1981, reprinted in 1984). It is perhaps not by chance that the last dialectology to be born in Europe was that of the English language, since the influence of the French Revolution was very slight, not to say openly impugned in England. In America, where social realities were taboo subjects until the 1950s, urban dialects were 'discovered' by science only within the past generation. And yet, urban dialects were not born in this century, but became established concurrently with the establishment of the towns themselves: in fact, they repeat, *mutatis mutandis*, the development of the 'urban' stage of the Metal ages, which characterizes the maturing of stratified societies.

This delay in according attention to linguistic systems considered socially inferior should be attributed primarily to the role of ideology. Varro, one of the first scholars of the Latin epoch, wrote an interesting treatise on the Latin language, *De Lingua Latina* (on Latin language), which is still very useful for his comments on the local and regional linguistic usage of his time. Yet he tells us absolutely nothing about the language of the slaves, who constituted the majority of the population and who must have had very noticeable sociolinguistic and ethnolinguistic characteristics. Its existence, however, is revealed, unexpectedly and indirectly, in another work of his, the *Res Rusticae*, which deals with agriculture. There he distinguishes three categories of agricultural implements: 'vocal', that is, slaves, 'semi-vocal', that is, oxen, and 'mute', that is, carts! ("instrumenti genus vocale et semivocale et mutum: vocale in quo sunt servi, semivocale in quo sunt boves, mutum, in quo sunt plaustra": 1, 17). This conception of 'inferior' languages, from which we have liberated ourselves after two millennia, could not have given birth to dialectology and sociolinguistics.

### ***3.2. Written document as the expression of a dominant elite and as evidence of the existence of dialects***

As I have already pointed out, written languages imply, by the very fact that they are expressions of dominant groups, the existence of dialects of subordinate groups, which, though not attested, are nevertheless as real as the invisible face of the moon. Precisely because a written norm represents one of the geovariants or sociovariants promoted to the dominant norm, it reveals, *ex silentio*, other norms, which remain necessarily excluded from written evidence, with the possible exception of some traces surviving in the chosen *koiné* (common language). From the structural point of view, then, the appearance of a written language is also direct testimony of the emergence into 'history' of the elite group which has seized power, and indirect testimony of the loss of power by other groups, in regard to whom the new 'literate' assert themselves as the owners of the surplus product, as ideological leaders and as rulers. Each written language represents, accordingly, a cluster of dialects, still without voice, but in fact rightly present within the framework of the new social relations consecrated by the written language.

We must, therefore, bear in mind that these dialects do exist, although we do not see them, and we must take them into account in our theoretical interpretation. Since, for example, some IE languages appear in the Mediterranean basin in their written form in the 2nd millennium, two conclusions can be inferred from that fact alone: (a) in the areas where there is definite evidence of written languages we may be sure that the sociolinguistic stratification already reached Gordon Childe's 'urban' level; (b) in other areas, where the Metal ages cultures appear, we may assume that social stratification was already at a considerably advanced stage.

There is, besides, another factor which should be taken into account. As I have already noted, written norm is usually not equivalent to a 'pure' geovariant, but it is a *koiné*, implying an admixture of elements from other geovariants (borrowings, morphological variants, and the like).

Mycenean Greek, for example, is regarded, as we have already seen, as a *koiné*. Even in the modern world we can notice this intermingling in the process of the formation of a new written language - in the case of Basque and Catalan, for example. The formation of a written *koiné* implies, in short, three different innovative aspects: (1) a *koiné*, precisely because it is a mixture of one dialect with elements of other dialects, represents a *novum* which did not exist previously; in other words, a written norm, being a 'mixture', is as a rule more recent and less genuine than the norms of the subordinated groups which have remained completely or partly in the dark; (2) the elements of other dialects accepted by the *koiné* become levelled with the dominant system and lose some of their traits; (3) other geovariants do not cease to exist at the moment a *koiné* is established, but they become, or revert to, 'dialects', with the only difference that from that time on they undergo the levelling influence of the new dominant language.

In the light of these considerations, the earliest written attestations of European languages, either classical or mediaeval, cannot not be seen as monolithic expressions of undifferentiated ethnic groups, from which all that comes 'after' must be mechanically derived. Inverting the traditional hierarchy, the first written norms must now be seen as the most fortunate representatives of a dialectal continuum which despite the successive levelling has survived to the present day, and which is the only source of our knowledge of the hidden face of the moon. Just as in the Middle Ages the earliest attestations of the dialects destined to become national norms are combined with attestations of numerous other dialects, which prove that the modern dialectal continuum actually existed already at that time, and probably also in the preceding centuries (for which geolinguistic evidence is much scarcer), so Scandinavian runes, Irish oghams, Gothic, Old Norse, old Slavic, and so on, must be interpreted as the mixed and most fortunate geovariants of a dialectal continuum equally rich and articulated as the modern one. They must not be seen as its matrices, nor, obviously, as unique offshoots of reconstructed proto-Germanic, proto-Celtic and proto-Slavic. In fact, whatever appears *after* the emergence of the written language did not come *after*, but was *pre-existent to the written language*. According to this new view, the current dialects are not derivatives of the ancient written languages, as traditionally thought, but developments, in the course of subsequent millennia, of those earlier geovariants which were parallel with and pre-existent to the written languages. And the new dialectology, according to this view, becomes an integrating part of the renewed historical linguistics, as the study, as it were, of the hidden face of the moon, that is of the speeches of those social groups which became subordinated to the new elites in the Metal ages, but which were obviously pre-existent to the Metal age itself.

In the case of a written language there is, then, only one birth to register in addition to the birth of the written language as such, and that is the birth of the dominant group. The ethnic group, or its part subjugated by the dominant elite, is millennia older than these events.

### ***3.3. Dialects as the 'prehistory' of written languages***

If the beginning of the alphabetization and, with it, the emergence of *Homo scribens* represent, for humankind in general, the watershed between 'prehistory' and 'history', this watershed has different dates in different areas. European prehistory finishes later than that of western Asia and southern Africa, precisely because Sumerian, Accadic, Eblaite, Egyptian are documented as written languages earlier than Greek and Latin. And even in Europe itself, the prehistory of the northern regions terminates long after the prehistory of the South.

According to the conventional view, however, the prehistory of entire Europe finishes at the moment when a part of Europe, namely southern Europe, achieves alphabetization, and the light of Greek and Latin history begins to illumine the other dark zones of the Continent. Let us abandon for a moment this view, which puts the earliest written norms in a privileged position. Let us take into account, instead, not only the first language transcriptions, but also the latest ones, i.e. those of the dialects which have been alphabetized only recently. By this approach, equally legitimate, if not more accurate, we get a completely different view of the advance of history on prehistory. Seen in this way, the Mycenaean Greeks, Latins, Italians, Celts, Germans, Slavs, Illyrians, speakers of Uralic

or Baltic, and so on, not only appear on the historical scene at different times, but also proclaim loudly their determination to keep in the darkness of prehistory all those subordinated groups which their written language both denies and implies. For hundreds of ethnosocial groups, represented by the current European dialects, this prehistory ended yesterday, and for some it is not ended yet, either because they have never been alphabetized or because they have been alphabetized merely for the purpose of study, not in order to provide a real place in the world for the communities of their speakers. Much has been written, in Europe and elsewhere, about these 'truncated' languages, but nearly always with reference to linguistic minorities only. Few European scholars seem to be interested in providing space and dignity for other dialects, which represent a great majority, as if they were not 'truncated' languages, too. It is only in Italy, as far as I know, that a scholar, Tullio De Mauro, has offered a coherent theoretic interpretation of the linguistic pluralism arising from the pattern of the existing dialects (De Mauro 1963).

What are the consequences of this observation? Only if we bear in mind the fact that numerous communities of European dialect-speakers, actually the European rural masses, have virtually remained in the silence of prehistory until a short time ago can we understand why their world, their material and spiritual culture could have become subjects of special sciences, all marked by the norm 'substandard' or 'subordinate' or, as it used to be said, 'popular' or 'folk'; not only dialectology, but also folklore, ethnography, ethnology, cultural anthropology, popular/folk literature, popular/folk medicine, religion, law, music, art, and so on. This substandard universe, parallel to the cultivated one, represents in fact, as it has been pointed out many times, a universe of 'remains' and 'wreckages', but in order to define precisely their provenance (remains and wreckages of what?) it is necessary to relate this universe with what is the critical moment of the phenomenon - the moment of its birth, towards the end of the Neolithic and at the beginning of the Metal ages, the beginning of social stratification, the beginning of *history* for élite groups, and the beginning of a new form of *prehistory* for the socially inferior groups. The universe whence these various collections of *remains* come - from dialectal ones to those associated with traditional *folk tales* and *myths* - is the universe of the groups who lost their liberty with the beginning of the Metal ages and the establishment of stratified societies. Naturally, it is also a continuation of the preceding universe of the Palaeolithic egalitarian societies. This conclusion is, in itself, a first step in the formulation of a theory of generalized continuity.

Finally, it should be stressed that the alphabetization of dialects cannot be in any way compared to the alphabetization of literary languages: the latter use writing in order to become an instrument of power in addition to that of culture. Dialects are alphabetized in a passive manner, usually in order that they may be better studied, only rarely in order to be used, and always marginally. A dialect, even when alphabetized, can never compete with the national norm, which is the sole instrument of power, of culture, of science, and of education. Therefore the prehistory merged with the dialects does not cease even when they are alphabetized.

If we accept – as I think we ought to - these observations, we shall be no longer able to maintain, *sic et simpliciter*, that old written languages are older than modern dialects. What we have in this case are two different usages of the word 'old', ambiguous in itself, which concern two phenomena of different nature and are therefore impossible to compare. As I have already said, it is always possible to avoid the ambiguity in the two usages by contrasting 'archaic' with 'old' on the one hand, and 'innovative' with 'modern', on the other hand. Substandard dialects are 'archaic', and as such represent an earlier layer than written languages, irrespective whether these are modern or ancient.

#### **4. Dating based on phonetic change**

After this preliminary discussion we can pass on to a survey of particular dating methods, and we shall begin with the phonetic approach. Historical linguistics has always focused on phonetic changes and it has even sought to make use of them as valid points of reference in dating. Unfortunately, the phenomenon of phonetic change is also the most difficult to date. In a majority



of cases it is only possible to establish the relative, and not the absolute chronology.

Let us return to our example *ciao*: in order to reach the root of this word, which is, as we have seen, the ethnonym *Slav*, we must postulate a sequence of no fewer than seven different stages: 1) the initial stage *sl-*, which is normal in Slavic languages; 2) the stage in which this consonant group was transformed into *skl-* in areas where the *sl-* combination was not acceptable (Germany and Italy); 3) the stage in which *skl-* was transformed into *sky-*, and this could have happened only in Italy, where *-l-* preceded by any occlusive consonant becomes *-y-* (*clarus chiaro*, *plenus pieno*, *explicare spiegare*, *vetulus vecchio*, *insula Ischia*, etc.); 4) the stage involving the transformation of group *sky-* into *sč-*, which could have taken place only in northern Italy, where each *-ky-* is transformed into *-č-* (*chiaro ciar(o)*, *chiesa cesa*, *occhiali uciai*, and the like); 5) the retention of the final vowel in the Venetian area, as opposed to the rest of northern Italy, so that instead of *sciaf* we have *s'ciavo*, from which alone *ciao* might have been formed; (6) and (7) the omission of *-v-* between vowels and the loss of initial *s-*, which is not necessary to dwell upon.

Let us take a closer look at the first four stages, which all concern the initial group *sl-* and which are now ordered into a strict sequence: *sl-* > *skl-* > *sky-* > *sč-*. This sequence is of interest to us now because of its chronological value, which consists, however, only in the relative chronology of the four phonetic stages. For the moment, the absolute dates of these mutations are unknown to us. They might have taken place at any time from an indeterminate moment which is the beginning of Slav as an ethnonym, to the appearance of *schiaivo* in the Middle Ages, and of *s'ciavo* in the 16th century. Even if we resort to cross-dating, basing ourselves on the vocabulary as well as on phonetics, we will not make much progress. We might argue, for example, that since the Christian Greek word *biblia* became It. *bibbia*, the post-consonant *-l-* was palatalized after the first centuries AD. But this adds precious little to our knowledge, since we already know that the word *sklavus*, datable into the period between the 6th and the 10th centuries, also underwent this palatalizing. We may observe, though, that the words which became current without palatalization after the 13th century - for example, It. *biblioteca* - show no palatalization even in their dialectal forms. We can infer from this that in the 13th century the mechanism of the palatalization of the post-consonant *-l-* was no longer active, and that it had therefore lasted from an indeterminate moment in the past to at least the 6th century. Any other conclusion would be arbitrary.

This conclusion, naturally, does not re-open the discussion of the presumed 'duration' of phonetic changes. It merely shows that phonetics can be dated only in terms of relative chronology, and that, in view of the limitations we have just seen, the possibility of translating this relative chronology into absolute chronology will depend in each case on the datings inherent in the vocabulary, and not in the phonetics itself. So, it is again only the vocabulary which has the power of dating.

## 5. Dating based on etymology

If etymology (on this subject see Alinei 1982; 1994; 1995; 1996, 1997b, 1998, 2001, 2002; Malkiel 1970; 1993; Pisani 1947; Schmitt 1977; Zamboni 1976) could be considered a method of dating, too, its place in order of importance would be second, after the lexical method, which we shall discuss immediately after it. Its apparent value for dating is evident: we have already seen this in the two instances of *gas* and *ciao*. It has, however, never been regarded as a dating method by the traditional linguistics, and, as we shall see shortly, it is doubtful whether it can be properly considered as such.

In order to assess this little known aspect of etymology it is first of all necessary to make a clear distinction between *reliable etymology* and *speculative etymology*, a distinction which the etymologists have never considered theoretically, presumably because they are traditionally challenged by the problem of obscure etymologies rather than by reconstruction of cultural (pre)history on the basis of reliable etymologies. In my analysis I make a distinction between *etymography*, as the study of reliable etymologies, and *etymothesis*, as the study of speculative etymologies, and I seek to show that they represent two methodologically different operations, with

implications for the linguistic (pre)history and the (pre)history of culture which must not be disregarded.

In *etymography* one starts from an uncontroversial change in order to reconstruct the context which brought about the mutation: for example, not only the change of *khaos* into *gas*, or of *Slav* into *schiaivo* and into *ciao*, or from It. *penna* 'feather' of a bird into *penna* 'pen' for writing; but also the more puzzling change of Lat. *sidus* 'star' into Lat. *considerare* 'consider' and *desiderare* 'wish, desire', of Lat. *templum* into *contemplare* 'contemplate', of *pecus* 'livestock' into *pecunia* 'money', of *strix* 'night bird' into *strega* 'witch', of Latin goddess *Diana* or it. *comare* 'godmother' into dialectal names for 'weasel', from It. *fata* 'fairy' into a dialectal name for 'toad', and so on. In all these cases the approach is similar to that of numismatologists, who study the figures on the reverse and obverse of an old coin in order to establish its epoch and to find out its ideological and historical meaning. The image - e.g. a dolphin, a hare, a deity, an agricultural implement, a plant - is already given, and therefore poses no problems of interpretation. What is the object of study is the ideological and historical-cultural context which determined the choice of this particular motif: the procedure, then, is that from the certain to the less certain. Etymography belongs to this kind of purely documentary research and it is therefore eminently historiographic. As opposed to this, the approach in etymothesis might be compared to the method (if it existed) of a numismatologist who would want to reconstruct the figure on a worn-out coin, which is no longer recognizable, and of which insufficient parts are still visible. The aim of the etymothetic approach is not in fact the reconstruction of a context on the basis of an actual form, but the reconstruction of the form which must have preceded the modern form, in the hope, not always fulfilled, that the iconym or motivation, too, might be reconstructed later.

Obviously, if one does not want to run the risk of building on sand, the only etymology that can be used in linguistic dating is etymography. Indeed, as we shall see in one of the following chapters, one might write a history, and a very interesting one, on the basis of etymographies like those mentioned above. It is only in etymography that historical linguistics has something solid to offer to the (pre)history of culture and to general history. The distinction is, therefore, of essential importance.

When etymology is certain, on the other hand, its usefulness for dating seems extraordinary. We have seen in the case of *ciao* how etymology enables us to raise the date for about a millennium and a half. For other words with a certain etymology, the dating value of this approach is even greater. Let us take, for example, the It. personal pronoun *io* 'I'. When did this word which we use at all times originate? Etymology permits us to reach, as the first step, the Latin epoch, at least three millennia ago, with the form *ego*. But as etymology associates Latin *ego* with the first person pronoun of the other Indo-European languages, and considers it therefore a variant of a reconstructed form of PIE, etymology makes us take another step backward, and brings us to the origin of PIE. Even if we adopt the lowest chronology of the traditional theory, we shall have a continuity of seven millennia! We are thus conscious again of that extraordinary, uniquely linguistic phenomenon of a human artefact which is at the same time prehistoric and contemporary, fossilized and functionally living.

Nevertheless, as I have already said, it is not certain that etymology can be really considered a dating method. In the first version of this study, I thought that it could. I shall explain why I have changed my mind.

On closer scrutiny, we realize that the dating value of etymology is not a value immanent to etymology itself, but that it derives from that inherent in the vocabulary, which I shall discuss presently. Etymology is a technique to reach the preceding lexical phases of a given word. No matter whether they are purely semantic, resulting from simple cultural-linguistic change, or also phonetic, and thus resulting from structural changes which altered the form of the word, it is these lexical phases which provide dates, not etymology as such. If we can date the word for 'gas' it is not because we know its etymology, but rather because the referent, and with it its term, is associated with the particular historical circumstances of the discovery of the gaseous state. Even if we did not

know the etymology of the word *gas*, we would be able to date the word to the period of the discovery of gas. The same applies to the history of *ciao*: what is datable in this history is associated with those lexical phases which are historically traceable and which can be dated as such. In other words, when etymology arrives at a dating, it confirms what we already know, or, at best, it adds something to what we know.

From the theoretic point of view, etymology may be regarded as an approach which aims at reconstructing, in the reverse way, the process of lexicalization. In the reverse way, because the reconstruction of the process of lexicalization usually starts from a new referent, which lexicalization seeks to designate and then tries to establish the pre-existing term, or one of its morphological variants, chosen as the iconym (motivation) for the new referent. In etymology, however, the movement is backward: the point of departure is the actual name, and the aim is to find out - through possible changes of form - its previous meaning which served as the iconym (motivation) for the designation of the actual referent.

It is this past-oriented approach that may suggest the idea of a dating method. But actually what etymology can date is exactly what the history of culture has already dated.

The value of etymology as a dating method is therefore derived from that of vocabulary. This is why we must now concentrate on the true and sole source of chronological knowledge: vocabulary.

## 6. Dating based on lexicalization or 'lexical self-dating'

Curiously enough, lexicalization has never been used by historical linguistics for the purpose of dating, although its study is extremely rewarding. Actually, unlike the other linguistic aspects, lexicalization, as interface between language and culture, directly reflects (pre)historical-cultural events, and is therefore directly datable to the extent the events themselves are datable. At this point, in fact, it is necessary to return to the already mentioned distinction between *historically traceable* and *historically untraceable* referents. Many referents are not historically traceable, but only in the sense that they belong to nature, and as such precede man, or life itself. But even the referents which are historically traceable because they belong to human culture are not always easily datable: for example, emotions, many abstract concepts, or certain developments which may be considered to belong to all time. As opposed to that, all the products of human labour and many social institutions, the names of which make up the greatest part of the vocabulary, generally have an origin precisely defined in time and are therefore datable.

Having established the difference between basically datable and non-datable referents, we can now proceed to the formulation of a fundamental principle: the lexicalization of datable referents tends to have the same date as the referents themselves. In more general terms, the date of a word tends to coincide with the date of the event or the concept it denotes. I shall call the method based on this principle *lexical self-dating* in order to indicate that the dating is inherent in the lexeme itself.

I shall now give a few examples of lexical self-dating, proceeding from modern to old forms.

### 6.1. *Lexical self-dating for modern words*

If we take terms related to the most important products of modern or contemporary industries, we shall need not much time to find proof that their first attestation belongs, even in different European countries, to the same epoch in which these industries developed: the end of the past century and the present century. Suffice it to mention, for Italian, *telegrafo* (1805); *treno* (1826), *carrozza* ('railway carriage': 1828); *telefono* (1878); *film* ('photographic sheet': 1889; 'motion picture': 1918), *cinema* (1918), *cinematografo* (1916); *automobile* (1892); *macchina* (the familiar term for a motor car: 1918), *aeroplano* (1898) and *aereo* (1918); *radio* (1918); *televisione* (in the sense of a television set: 1961); *astronave* ('spaceship' 1961), etc. This should not surprise us, because innovations are usually presented either under a new name, especially coined for them (*telefono*, *telegrafo*,

*automobile, astronave*, etc.), or with a previous term whose meaning has been extended or modified (*macchina, carrozza*).

Another series of examples, hardly earlier, could be that consisting of the names of popular dances: here, too, I shall limit myself to Italian, since these dates are virtually the same for all European languages: *rock and roll* (1957), *fox trot* (1915), *samba* (1890), *tango* (1836), *polka* (c. 1831), *mazurka* (c. 1800), *valzer* (1781). Even in these cases the first attestations correspond to the period in which the respective dance became popular.

Even names such as *patata* ('potato': 1525), *pomodoro* ('tomato': before 1597), *granturco* ('corn, maize': 1542), *tabacco* (1550-1558), *cioccolato* (1606; Spanish *chocolate* is from 1580) appear for the first time in the period of the great maritime discoveries, which were followed by the introduction of such products from the Americas.

## **6.2. Lexical self-dating for words of the Middle Ages and the earliest centuries of the Christian era**

The first attestations of It. *occhiali* (1305-1306) take us to the early Middle Ages, and similar dates are found for French *lunettes*, German *Brille*, English *spectacles* or *glasses*.

Even the first attestations of the university vocabulary (frequently Latin) appear when we expect them, in the period of the foundation of the first universities: *universitas, facultas* ('type of studies'), *vacatio* 'vacation' appear in the 13th century, *baccalarius baccalaureus* 'graduate', in the 14th century.

As we go further back in time, dating becomes less precise, but only because the written documents of mediaeval Latin can be rarely dated with precision. Nevertheless, in spite of the greater share of approximation, the productivity and the efficiency of the method remain the same.

The first attestations of feudal institutions are almost all from the late Middle Ages, as we should expect. Here is a representative list: *exarchatus* (Ravenna) (late 4th c.), *exercitus* 'army' (6th c.), *feodum* (8th c.), *cancellarius* 'chancellor' (8th c.), *mariscalcus* 'official in charge of horses' (Lex Salica e Alemannorum, 8th c.), 'marshal' (11th c.), *curtis* 'palace of the feudal lord' and 'royal court' (9th c.), 'tribunal' (cf. Engl. *court*) (11th c.), *minister* 'court dignitary' (7th c.), *palatinus* 'household member or dignitary of the Carolingian palace' (from which It. *paladino*) (8th c.), *vassallus* (8th c.), *vestitura* 'investiture' (8th c.), *villa* 'royal residence' (8th c.), *sala* 'hall' (9th c.), *dux* (Merovingian institution, from which It. *duca*), *ducalis, ducatus* (8th c.), *comes, -itis* in the sense of 'count' (10th c.), *marchisus* 'marquis' (10th c.), *corrogata*, from which Fr. *corvée* (11th c.), *caballarius* and related words in the sense of 'feudal knight' (end of the 11th c.).

The same holds good for the greater part of church institutions, which appear at the beginning of the Christian era: *basilica* (4th c.), *dominica (dies)* (from which It. *domenica*, Fr. *dimanche* etc.) (4th c.), *ecclesia* (from which It. *chiesa*, Fr. *église* etc.) (4th c.), *epiphania* (from which It. *Befana*) (4th c.), *episcopus* (from which It. *vescovo*, Engl. *bishop*), *evangelium* (from which It. *vangelo*) (4th c.), *heremita* ('hermit': 5th c.), *monachus* (from which It. *monaco*) (4th c.), *pascha* (from which It. *Pasqua* 'Easter') (4th c.), *praepositus* (from which It. *prevosto*) (3rd c.), *praesbyter* from which It. *prete* and Engl. *priest*) (2nd c.), *sabbatum* (from which It. *sabato*, Fr. *samedi* 'Saturday') (4th c.), *soror* (from which It. *suora* 'nun') (4th-5th c.), *missa* (from which It. *missa*, Engl. *mass*) (5th c.), *monasterium* (6th c.), *oratorium* (6th c.), *ordo* 'religious order' (6th c.) *parochia, -ale, -anus* (6th c.), *immunitas* (ecclesiastical) (6th c.), *ministerium* (of the church) (6th c.).

Dates become more numerous in the period after the 8th century, when the church became a secular power competing with the Holy Roman Empire, and when there appeared administrative and institutional terms such as *synodus* (8th c.), *cappella* (in the palace) (8th c.), *cappellanus* (9th c.), *domus* 'dome, cathedral' (8th c.), *eleemosyna* from which It. *elemosina*, Fr. *aumône*, Eng. *alm* (8th c.), *claustrum* 'cloister' (9th c.), *patronus* (saint) (10th c.), *sacristia sacristanus* (10th c.).

### **6.3. Can the names of prehistoric referents be self-dated?**

Can we adopt the same, extremely simple method for the names of prehistoric referents? The problem is more complex, both because of intrinsic reasons and because it has never been discussed by historical linguistics.

At first sight, according to the perspective that I have been presenting, a great part of historically traceable prehistoric referents might be dated to the periods of the archaeological periodization: the names of metal implements and of metals might be dated into the Metal ages, the names associated with agricultural techniques, pastoral economy, weaving and pottery-making into the Neolithic. The names of other, older, but also historically traceable activities - such as fishing, burial, use of skins, of fire, etc. - might be dated into the Mesolithic and/or the different periods of Palaeolithic.

Besides, we might even go outside the sphere of historically traceable notions in the strict sense, and consider three other categories of lexicalization: (1) that which concerns referents pre-existent to man himself, such as the more elementary aspects of nature: 'water', 'sun', 'wind', the names of animals, plants and the like), (2) that which concerns conceptualizations of elementary and primary actions, states, events, such as 'to sleep', 'to eat', 'to drink', 'to die'; (3) that which can represent man's first realization of his own cognitive, classifying and linguistic abilities, such as personal pronouns, prepositions, adverbs, and the like. Would it not be legitimate to date such lexicalisations to the earliest stage of human speech? Consider, to give a more concrete example, the names of the personal pronoun of the first person, which I have already mentioned: It. *io*, Fr. *je*, Sp. *yo*, etc., which go back to Lat. *ego*, which, in its turn, may be associated with Gr. *ego*, Engl. *I*, Germ. *ich*, Dutch *ik*, Swed. *jag*, etc. Slav., Russ. and Pol. *ja*, etc., Lith. *as*, Latv. *es*. etc., all from the same PIE form \**eg-*, \**eg(h)om*, \**ego* (Pokorny IEW 291). Should this pronoun not be regarded as the lexicalization of the awakening of self-awareness, and as such be dated to the very origins of speech for IE people? I shall return to this problem in connection with glottogenetic research.

But already now one can imagine an elementary objection to lexical self-dating as projected on prehistory.

### **6.4. How can we be sure that the names are original and not innovations?**

Lexical self-dating has, generally speaking, one major drawback, which limits its application: the original names of datable referents may change, as they frequently do, after the original lexicalization. This drawback is of particular importance in the case of prehistoric referents.

The substitution of the first name may occur, to put it in a schematized way: 1) after a long interval, when the lexicalized object, and its name with it, disappears from use and becomes re-lexicalized in the recent epoch. In this case we do not have actual substitution, but 'scientific' re-lexicalization; 2) immediately after the first lexicalization, the new name - created in the producers' workshop - is spontaneously replaced by its users with names which are easier and conform better to the common usage; 3) as time goes on, the name changes concurrently with important changes in the object itself.

Let us have a look at an example of the first type. If we take into consideration the typical stone implements of the Lower Palaeolithic - called *bifacciali* or *amigdale* in Italian, *bifaces* in French, *hand-axes* or *bifacial* in English - we shall see that a very recent name, coined in various countries by archaeologists who were the first to study them, is attached to an extremely old referent. We can never know the real name of these tools, although, theoretically speaking, it may be concealed in some word which has changed its meaning one or several times.

An example of the second and third types can be found, at least in its initial stage, in the history of the lexicalization of the motor-car. The European name *automobile* is based on the iconym (motivation) 'moving by itself, self-propelling', created as a hybrid of Gr. *autos-* 'self' and Lat. *mobile* 'moving'. It was introduced in France, first as an adjective in 1866, then as a noun in 1895, and it prevailed as the official international name of the new vehicle, replacing almost immediately other, more local official names, such as *motor-car* in English and *Kraftfahrzeug* in

German. In the various European languages the new or the earlier official names, too long or too difficult, were then very soon themselves replaced by the name of other objects, better known to the public because pre-existent, or by abbreviated forms of the official name: *macchina* in Italian, *voiture* in French, *car* in English, *Wagen* in German, *wagen* or *auto* in Dutch, *bil* in Swedish (the last two being abbreviations of *automobile*), and so on.

Subsequent technical progress of the motor-car has introduced numerous other lexicalizations for the more specific types of cars, hierarchically subordinated to the first. As it often happens, the names of subordinate types tend to become autonomous and replace the generic name, as is shown in *jeep*, *stationwagon*, *sedan*, *coupé*, *limousine*, *diesel*, *turbo*, etc. Other substitutes are local innovations, for example, It. *fuoristrada*, *utilitaria*, etc., or evaluative terms, usually negative, such as It. *bagnarola*, *trabiccolo*, Fr. *bagnolle*, etc. At a later stage, not yet reached by the motor-car, both the official name and the common generic name may disappear and be replaced by a subordinate name.

The names of the original lexicalization may change, then, and the same theoretic picture of cultural-linguistic change which I have illustrated renders probable, if not certain, this type of mutation. The possibility of a substitution impairs, therefore, the method of lexical self-dating because it makes us suspect that what we are seeking to date may not be the name but the object. How can we safeguard ourselves from the risk of regarding as old a word which is in fact recent, or not related to its original object, but to a reinterpretation of it? How can we be sure that there is not a great gap between the self-dating inherent in the referent and the attested name?

There are, fortunately, at least three methods of avoiding this risk.

- 1) The best-known, and the most often used method in historical linguistics is that which I, too, used in the discussion of examples: *written attestations*. When they are available, they can usually confirm or confute self-dating. If they do not confirm it, we are probably dealing with a replacement. Obviously, this approach is limited to *history*, that is, it implies the presence of a written language, and therefore it is of no use for prehistory.
- 2) For prehistoric stages, a guarantee of antiquity may be provided by the results of *comparison*, the method which comparative research has made constant use of, though, as usual, intuitively and without elucidating it. If the same concept has a similar name in a sufficient number of different languages, it may be assumed that the original meaning of the name has not changed.
- 3) A new approach, which I shall present here for the first time, and which is, in my mind, eminently rewarding and reliable, is that which makes use of the *iconymic (motivational) sequence*.

### **6.5. A new method of demonstrating the authenticity of a name: the iconymic (motivational) sequence**

The iconymic (motivational) sequence is, by definition, consolidated, being as it were crystallized in the name itself, just as a fossil is embedded in the surrounding matter. If its chronological span reaches prehistory we can be sure of its antiquity. In order to illustrate this approach, I shall begin with a comparatively recent example: It. *Natale*, i.e. 'Christmas' (on the European names of 'Christmas' see now Alinei 1997c). That this name is datable to a pre-Christian religious institution and that it is not a recent innovation is shown not only by some related neo-Latin words (Sp. *Nadal*, Fr. *Noël*, etc.), but also by the iconymic (motivational) sequence crystallized in the word itself, which begins with the Lat. *Natalis solis* 'birth of the Sun', associated with the preceding mystery cults. There could have been no replacement between the two stages of the stratigraphy consolidated in the sequence. A more ancient, and therefore more relevant example is that of the Latin family made up of the terms *colo* 'cultivate', *cultivo* 'idem', *cultus* 'cultivation', *cultura* 'culture', etc., in their sense associated with agriculture. As we shall see in greater detail in one of the following chapters, these terms can be traced back to PIE *\*kuel-*, the original sense of which was 'to walk around, to move about a given territory'; consequently, they are also associated with *incola* 'inhabitant', with *inquilinus* 'inhabitant, tenant' and with *colonus* 'farmer, peasant' but also 'inhabitant'. This creates an iconymic (motivational) sequence which shows that these Latin

agricultural innovations, without equivalents in the other IE languages, must be dated to the Neolithic. In turn, this implies that by Neolithic times Latin was already differentiated from the other IE languages. In one of the following chapters I will return to this fundamental point.

With these three methods, then, used sometimes combined and sometimes separately, we can ascertain whether the referent and its name are still bound by their original bond and whether or not there have been substitutions of name.

In the following chapters I shall seek to show how lexical self-dating can be applied to the lexical families reconstructed from PIE. Now we ought to see how the traditional theory has dealt with the dating of the IE lexical material.

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