My applied research on the significance of magico-religious motivations in European dialects began with the *Atlas Linguarum Europae* (ALE) (Alinei 1983a), and continued -albeit not exclusively- with the same project (Alinei 1986, Barros Ferreira-Alinei 1990, Alinei in st.). On the theoretical level, however, my research on the general notion of 'motivation' had began earlier (Alinei 1979, 1980), and has continued ever since (Alinei 1996a,b, fc a). As far as magico-religious motivations are concerned, I developed my research on a more theoretical level in a book (1984a) and in a number of articles published in Italian (Alinei 1981, 1983b, 1984b,c,d,e, 1986, 1987a,b,c, 1988a,b, 1989, 1990, 1992, 1993a,b, 1994, 1995, fc b,c). This is why I thought it might be useful to summarise the main aspects of my research, both theoretical and applied, in an article for the English reader. Before illustrating the specific topic of magico-religious motivations, I will dwell on the more general problem of the theoretical status of the 'motivation' itself.

1. Genesis and nature of motivation

My main claim is that the study of motivation should form an independent subdiscipline of linguistics. In this light I have also proposed a less ambiguous name than 'motivation' for the notion, namely *iconym* (from *icone* and *-nym*) for 'motivation' and *iconomastics* for its study, but in this paper I will keep to the traditional term.

De Saussure had already seen that in order to define the role of motivation in language the basic problem to solve is its compatibility with the arbitrary character of the linguistic sign. Saussure himself discussed the problem in a much debated passage of the *Cours*, and came to the idea of a 'relative arbitrariness' of language (Saussure 1989 297-303). Also the discussion that followed did not come to any substantial breakthrough. To my knowledge, no attempt at solving the problem on a different basis has been made, prior to the one I have presented in my own work (Alinei 1996b, fc a).

The best way to address the problem, in my opinion, is to start from our daily experience of language, for this proves, irrefutably, that motivations are not necessary. The words we use most frequently in our life are opaque. Many words that are motivated to linguists, in the sense that they might know their etymology, are opaque to the average speaker. Even transparent words lose their transparency after their original meaning has slightly changed, as is for example by Italian *penna* or French *plume*, which can no longer be associated to a feather (the original meaning of both words) by either Italian or French speakers. More generally, since motivations are nothing but shortcuts to meaning (see further), and motivation and meaning can be wide apart, the speaker need not be conscious
even of unchanged and transparent motivations, as is shown, for example, by the word *computer*, which Anglophones use without ever thinking of 'computing'.

But if motivation is not necessary for the use of language, why then does it exist?

De Saussure answered this question by claiming that motivation is a device to diminish the inherent chaos of arbitrariness: hence his notion of a 'relative arbitrariness'. My own answer is based on some basic semiotic notions, which were known to de Saussure himself and other semioticians, but the implications of which have been overlooked.

One of the conditions for the existence of a sign, of no matter which type, is its socialisation. In simpler words, for a sign to exist, everybody who uses it must know it. The key of the sign code must be universally known. This principle is not in contradiction with its arbitrariness, but rather flows from it. Precisely because a sign is arbitrary, it requires adequate publicity to exist.

Starting from this universally accepted premise, however, semioticians have overlooked the fact that there are at least three ways to publicise or advertise a sign, quite different from one another: (I) On a public (state or institutional) level, for example for monetary and metric systems, a sign is publicised by legal enforcement: metric standards are deposited in official institutions, and units of currency are issued solely by the state (Alinei 1979, 1980). (II) On a private level, publicising of a sign (such as a trademark) is made through costly campaigns of commercial advertising. (III) In language, and in a few other minor sign systems, the publicity of the sign is obtained by means of a very simple and ingenious device, which consists of recycling preexisting signs, adopted -and adapted- to designate new meanings/referents. This procedure resorts neither to the state nor to the market, but rather to a sort of communal treasure -namely lexicon-, which in spite of the fact that it is available to everybody, is also unextinguishable.

Interestingly, this strategy, which can be defined as "reutilisation of already existing means, modified in order to perform new functions", has a fundamental role in the human evolution, the importance of which was underlined by Darwin. He showed in fact that precisely for language humans made use of breathing and eating organs, adapted to the new linguistic function. Reutilisation of existing lexemes in order to create new ones can then be seen as part of a single biological strategy, and as a fundamental component of glottogenesis.

We can then fully appreciate why linguistic signs can be in essence arbitrary, and at the same time motivated. In fact, motivation does not belong to the nature of the linguistic sign, but it is a mere device by which a new word can be immediately apprehended by everybody.

2. Procedures for choosing motivations

How do we choose motivations? Simplifying matters, basically in two ways: (A) by choosing one or few components out of the full conceptual definition of the new referent, or (B) by freely associating with it. In either way, the chosen motivation will have to act as a sort of 'shortcut' (the notion is Vygotsky's) of the referent, that is to say a 'minimal representative' of it.
Let us have one example of both procedures. At the time of the invention of eye-glasses, in the late Middle Ages, the conceptual definition of the new invention can be assumed to have been something like "device to improve the eye-sight, made of glass or chryystal lenses mounted on a frame which is hooked onto the person's ears". From this virtual definition, different motivations (shortcuts) were chosen in different languages: 'glass' in English glasses, the chryystal 'beryil' in German Brille and Dutch bril, 'glass for the eyes' in the full English form eye-glasses, Hungarian szemüveg and Finnish silmaläsiit, '(something for the) eye' in Italian occhiali, Russian oëki and Turkish gözlük, 'lens' and 'hook' in Spanish lentes and gaflas, 'glass-eye' in Swedish glasögon etc.

In French lunettes, however, the motivation "small moons" results from a free association with the new, round lenses.

As already said, motivating words are -by definition- preexisting. But there is another point of importance in the reutilisation of existing words as motivations: their social prestige. This aspect emerges, rather than in the conscious process of choosing existing words to designate newly made referents, in the so called spontaneous changes of meaning, by which already existing words or expressions are extended to capture new aspects of reality. While the main procedure for motivating new referents consciously seems to be choosing one or few components out of the conceptual definition of the referent (see the example of 'glasses'), the main criterion for extending spontaneously the meaning of existing words to new aspects of reality seems to be the social prestige, or the popularity of the referents of such words. For example, some of the most frequent motivations chosen for recent lexical innovations in Italian come from motivational fields such as 'car driving', 'sport', 'medicine' 'law' and the like: namely, activities enjoying great popularity or social prestige. To give a few examples taken from 'car driving' experiences: partire in quarta ('start in fourth gear') has become a very common expression meaning starting up an action with great thrust; essere su di giri (said literally of a motor that runs fast) is now said of a person who is pepped up or in excellent form. Similarly, in most European languages, words related to 'sailing' and 'horse riding' -both of basic importance in European history- have been quite productive as motivations: witness Italian mordere il freno ('to strain at the leash'), perdere le staffe ('to fly off the handle'; lit. 'to come out of the stirrup'), spronare ('to spur'), prendere la mano ('to lose control' (said of the horse)), imbrigliare ('to bridle, to curb'), recalcitrare ('to kick out against, to resist') and the like, all from horse-riding. In Latin, the high frequency of motivations chosen from the field of 'farming' and 'cattle-raising' has been often noticed, and attributed to the rural character of archaic Latin society. More precisely, it ought to be attributed to the high prestige of farming and stock-raising in an egalitarian society such as we can assume archaic Latin society to have been. Of course, different epochs and cultures have different popular or prestige-carrying activities. The great frequency of 'magico-religious' motivations in European languages and dialects (to which I will soon turn) must be a consequence of the extremely important role played by the magico-religious world in all societies at all times.
Also the choice of Latin or Greek words to designate scientific notions satisfies the same basic need: in the first place, both Latin and Greek words already exist, and as such can be recycled as motivations for new referents. In the second place, besides offering a greater precision and semantic stability than native words, they also meet the requirement of prestigiousness, in so far they come from two languages that are presumed to have prestige in the world's community of scholars.

3. Productivity and referential scope of motivations
Given the predictability of the motivational process as I have described it, the greater frequency of certain motivational fields over others can also be seen as the productivity of a motivational field. We can state, for example, that magico-religious motivations have been among the most productive ones in Europe, and possibly in the world. We can also state that in modern times magico-religious motivations are no longer productive. In this sense, the productivity of a motivation is comparable to the poroductivity of affixes in morphology. Productivity of motivations could of course play an important role in a renewed etymological research.

The productivity of a motivational type can be measured not only in terms of frequency (number of lexemes in which it occurs for the same referent) but also in terms of its referential scope, that is in terms of the number of referents for which it occurs. This is quite a different index from the first. A motivation that is not frequent for one single referent, can have a great referential scope, and viceversa a motivation that is very frequent for one referent can have a very low referential scope. Consider, for example, the magico-religious motivations 'St John' and '(mythical) old woman': they both occur, sporadically, as names of the rainbow, and of the 'ladybird' (see further). So their frequency for these two referents is low. Yet, it has been possible to devote two monographs to the use of 'St John' in French dialects (Cramer 1931, 1932) and in Slavic (Knobloch 1979), and one to that of the 'old woman' in Romance and Slavic (Alinei 1988b). Both motivations, in fact, can designate almost everything in real life: animals, plants, atmospheric phenomena, illnesses, manufactures, social customs, relatives, etc. In order to explain this, one should recall on one hand that St John day's is the Christian equivalent of the summer solstice, one of the most important events in rural (and prehistoric) life, and on the other that an 'old woman' (lat. vetula, germ. Alte, slav. baba) is present in myths, fairy tales, Carnival and many other folk festivities and oral traditions the world over, so that some scholars (e.g. Propp) consider her as the main totemic ancestor, the Mother of All.

Measuring the referential scope and the frequency of magico-religious motivations has been the major experiment of my 1984 book (see further).

4. Dating of motivations
I can only briefly touch upon a fundamental question for the study of motivation (and for any other study involving the relationship between language and culture): namely the question of the absolute chronology of lexemes (see Alinei 1991, 1992 and 1996c). The main point of interest here is that while for onomasiological
studies no adequate methods are available to obtain a safe dating of etyma (the study object), in the comparative study of motivations (comparative iconomastics in my new terminology), dating of motivations is possible, because motivations are an interface between culture and language, and this makes it possible to map well-known chronological grids of cultural developments onto motivations. I will give a few examples here below, and I will not dwell on other basic difference between onomasiology and iconomastics, as the existing ALE maps, of both kinds, should suffice to show the difference.

5. Synchronic and diachronic relationships between coexisting motivations
In both onomasiological and motivational studies we start from different words (names) for the same referent, and these words are by definition in a synchronic relationship to one another. This is true irrespective of when the words were coined, recently or a long time ago. When we study motivations, however, thanks to their inherent cultural character, we can discover either a synchronic or diachronic relationship among them. Motivations such as 'small moons' (lunettes) and 'beryl' (Brille) for 'glasses' reflect the moment of the invention of eye-glasses, in the late Middle Ages, and thus are in a synchronic relationship to each other. On the other hand, 'Lord's day (dimanche) and 'the Sun's day' (Sonntag) for 'Sunday reflect two different moments of lexical innovation, the former Christian, the latter pre-Christian, and are thus in a diachronic relationship to each other, even though they -as words- coexist synchronically. In the case of 'eye-glasses', all motivations have been arbitrarily chosen at about the same moment, out of a collection of components making up the conceptual definition of 'glasses'. In the case of 'Sunday' we have the same kind of arbitrary choice among conceptual components, but this process has been repeated twice, at two different epochs, and the second process of lexicalisation has not entirely submerged the earlier level. Obviously, dimanche represents a 'christianization' of a day which was already sacred before Christendom. Traces of the earlier process have survived to this day, and are still living, next to the new words.

It is in fact one of language's wonders that we can use words 'functionally', as mere communication tools or 'currency', even though they can be also, at the same time, real museum pieces of priceless historical value.

A motivational relationship that results from such a diachronic development can thus be considered as a lexical stratigraphy, reflecting a sequencial development in real time, and can form the object of study of a discipline we can call archaeolinguistics.

I will now sketch the results of my archaeolinguistic research on magico-religious motivations within and without the ALE. I will also mention similar results reached by other ALE authors

6. From motivation in general to magico-religious motivations: The first ALE research
For the first ALE volume I had chosen the question 'rainbow' (Alinei 1983). I was attracted by the hundreds of transparent magico-religious motivations that this atmospheric phenomenon was known to have in most world languages, and which
had already attracted early scholars such as Pott (1853). I was also curious to see what a European map would yield, and whether it would be possible to test my working hypothesis, based on previous work, that such materials ought to reflect, to some extent, the evolution of religious thinking in Europe.

The first result I achieved with my preliminary classification was that there seemed to be, basically, three different types of magico-religious representation of the phenomenon: (1) a historical one, Christian or Muslim, depending on the area; (2) a pre-Christian or pre-Muslim one, sharing an anthropomorphic representation; and (3) a pre-Christian or pre-Muslim one, sharing a zoomorphic representation. The first two of these categories corresponded indeed to my expectations, and therefore their chronological sequence formed what I came to call an archaeolinguistic stratigraphy. The third was more problematic. I will first dwell on the first two.

The first level, Christian or Muslim, was represented by motivations such as the following: in Albanian 'the Virgin's belt', in Baltic, 'God's bow' and 'God's belt' in Latvian, and 'the agreement's belt' in Lithuanian, in Celtic, 'covenant's bow' in Welsh, in Greek 'the nun's bow', 'the saint's halo', in Iranian, 'the prayers bridge' and 'Sirat bridge' (Islamic myth) in Tat; in Romance, 'St Martin's bow' and 'St John's bow' in Catalan, 'St Bernard's horn' in Franco-provençal; 'St Martin's/ St Bernard's/ God's bow', 'God's circle', 'good God's belt', 'good God's garter', 'the good Virgin's ribbon', 'St John's cross', 'St Bernard's wheel', 'Bernard's/ St Michael's bow', 'St Bernard's/ Barnaby's/ Denis'/ Martin's crown', 'St John's/ Sain Martin's bow', 'St Bernard's/ St Leonard's/ St Barnaby's crown', 'St Barnaby's/ Martin or Medard's belt', 'St Martin's cercle', 'St Bernard's bridge', 'St Barnaby's wheel', 'St Martin's/ Bernard's ruler' and 'good God's alliance' in French (oil or occitan), 'Noah's bow', 'God's bow', 'the Virgin's bow', 'St Mary's/ St Helen's/ St Mark's bow', Portuguese 'the Virgins bow' in Italian, 'St Martin's bow' in Reto-romance, 'the Lord's bow', 'God's band', 'St John's bow' in Spanish, in Slavic, 'Mary's belt' in Serbo-Croatian; in Semitic (Maltese) 'Allah's (archer's) bow', in Turkic, 'the prayers bridge' (Islamic), in Tchuvash.

The first question that arose was why Christian or Muslim names for a natural phenomenon would have such an enormous areal spread: practically everywhere in Europe. It looked as if the rainbow had been considered to some extent sacred by European folks, prior to their Christianisation or Islamisation, and that the change in religion had caused a wave of lexical innovations, aiming to express the same relationship in the new religious terms.

This preliminary hypothesis was confirmed by the very existence of the second category of representation, the pre-Christian or pre-Muslim anthropomorphic one. For this material must represent a relic of the earlier level of the stratigraphy, and thus of the earlier sacrality of the rainbow. Here are some of the basic data.

In the Uralic area, the rainbow is associated with pre-Christian gods such as Ukko (the Old Man), Tiermes and the Thunder god, sometimes enriched by a

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1. Here and in most of the following examples I have not quoted the actual forms, which can be found in the cited literature.
significant attribute such as the 'archer's bow'. In the Turkic area it is associated with the god Tängri, or with an attribute such as the 'sword' and the (archer's) bow. In the IE area, in Ossetic (Iranian) it is connected with the epic figure Soslan, in the Baltic area with the magico-religious female being Laume, in the Greek with the (archer's) bow, or with lady Moon, Nerandzula, Maruli. In the Romance area it appears connected with the mythical 'old woman', with Iris, with the lutin (a French 'elf', whose name derives from Neptunus). An almost pan-European motivation is then the 'belt', or 'band', or 'ribbon', often of a kind exclusively worn by women, and thus indicating the rainbow as the ornament of a female goddess. It appears in Albanian, Baltic, Celtic, Finnic, Greek, Gypsy languages, Lapp, Nakho-Dagestanian, Permic, Romance, Slavic, Turkic, Udmurt, Veps. Interestingly, at Indoeuropean level lith. júosta, dial. bulg. pojas, opas, Serbo-Croatian dial. pas, pasats (from aslav. pojas; 'cintura'), ngr. zóni, zonári, all come from the same IE root *ius- 'to gird', proving the existence of a common Balto-Slav-Greek, East-European myth, associated with the representation of the rainbow as the belt of a female mythical being.

I come now to the third group of motivations. As I said, this consists of names involving a representation of the rainbow as an animal: 'fox' in Albanian, Lithuanian, German, Italian, and Belorussian dialects; 'cow, ox' or 'horn' in Basque, Komi Zyrian, French, and Slovenian dialects; 'divine animal' in Komi Permiak, Komi Zyrizian, Catalan, Slovenian dialects; 'whale (or 'dolphin') in Italian, 'weasel' in Caucasian (xva); 'skunk' in Kalmuk, 'bowels' in Caucasian (tsax), 'trunk' (of an animal drinking the water) in Lithuanian, 'drinker' (see later) almost everywhere in Europe; 'pump' (a probable transformation of the drinking animal) in Hungarian, etc.

Did this third group of motivation fit the other two? Was there a place in the archaeolinguistic stratigraphy for this category of motivations? Whatever the answer, I was not inclined to follow those etymologists who, faced with such names within the limited scope of their dialect area, tend to see them as recent innovations. Given the evidence of a sacred character of the phenomenon throughout the continent, and indeed the world over, it seemed plausible to assume that also this type of representation was somehow connected with it. Nor could I agree with those Italian colleagues of mine, who would connect the 'whale' of the Italian name of the rainbow (arcobaleno) and of 'lightning' (baleno) (both from balena 'whale'), as well as other animals for similar phenomena, with the late medieval Bestiaria. For it would be difficult to see how a highly literary genre such as that of the Bestiaria could have had an impact on the masses of European illiterate peasants of the Middle Ages, not to speak of those areas where Bestiaria could hardly have arrived.

Moreover, the arguments for a 'sacral' interpretation of this representation of the rainbow seemed rather strong.

In the first place, folklore traditions in Europe and in the world provided clear evidence for the existence of a myth, by which the rainbow is perceived as a gigantic animal -most often a snake- which swallows the water from the earth and eventually spits it up again in the form of rain. This myth has been interpreted by specialists -for example by Propp and his followers- as reflecting the basic
initiation rite of being swallowed by the totemic animal, and vomited again as 'adult man'. In Aboriginal Australia, for example, the rainbow-snake is one of the most well-known mythical beings, which shows precisely these characteristics. As to Europe, the idea that the rainbow drinks all the water survives not only in the oral tradition, but also in the 'drinking' type of motivation—one of the most frequent in Europe—as well as in the form of idiomatic expressions: in the Slavic area, for example, instead of saying that a person 'drinks like a sponge, or a fish', one says he 'drinks like the rainbow': Czech *pít jako duha*. More important for the chronology, the 'drinking rainbow' is already attested in Plautus' *Curculio* (third century b.C.) (see further).

In the second place, there was the more general evidence provided by history of religions. This is twofold. On the one hand specialists, on the basis of the ethnographic record and ancient religions, have come to the conclusion that animals, often considered as ancestors and protectors of populations, played a central role in the magico-religious behaviour of traditional societies. It has even been suggested that such a cult of animals—called 'totemism'—would be the earliest form of religion, and as such universally known. While the more restrictive hypothesis seemed to me sufficient to support my thesis, the latter was more interesting, from an evolutionary point of view, especially as I did not consider Lévi-Strauss' well-known criticism of 'totemism' succesful enough to dismiss it. As is known, his main claim is that 'totemism' is *nothing but* a classificatory system, and thus not a religion. I argue that totemism is certainly also a classificatory system, and it is Lévi-Strauss' merit to have pointed that out, but what Lévi-Strauss has overlooked is that all religions, even historical ones, in so far as Weltanschaung, are a classificatory system. In fact, since the distinction between religion and classification is the result of modern scientific development, in my view Lévi-Strauss' criticism can be turned into an elegant demonstration of totemism as a prehistoric religion. In any case, there is enough evidence in the ethnographic and prehistoric record for an animal-centred vision of the universe to justify the use of the notion.

On the other hand, historico-religious research has succesfully argued that any anthropomorphic representations of supernatural powers must necessarily follow the emerging of élites endowed with limitless powers in real society. And since this phenomenon is typical of stratified societies of the Metal Ages, anthropomorphic representations of gods cannot be earlier than the Metal Ages. For our problem, then, it was possible to assume that the zoomorphic representations of natural phenomena as a relic of neolithic or even earlier magico-religious thinking, whereas anthropomorphic ones would reflect later, Metal-Age developments.

Finally, there was another way to test the hypothesis, and with methods proper to linguistics, namely proving that not only natural phenomena such as the rainbow showed magico-religious names, but also animals. For if animals also did, then there would be no reason to doubt that the animals used to represent sacred phenomena were not an arbitrary and accidental choice, but came from the same highly productive magico-religious motivational field underlying the other
two categories. Hence my research on zoonyms on a European scale, within and without the ALE project.

First of all, primary linguistic evidence for the existence of 'sacred' animals was provided by the enormous record on linguistic taboo. Research by e.g. Zelenin (1929-30), Riegler (1936-7), Bonfante (1939), Havers (1946), Emeneau (1948), Smal-Stocki (1950), Treimer (1954-5), Mansur Guérios (1956), Hegedüs (1958), Ruud (1960), Leach (1964), to whom I subsequently added my own research (Alinei 1986, 1993a), had already shown that everywhere in the world the names of wild animals are subject to taboo. Besides innumerable ethnographic examples, even Indo-European reconstruction has observed that the true name of an animal such as the 'bear' -attested in lat. ursus, gr árktos, sanscr. à9ksēa-, av. arśa-, arm. arj, alb. ari, oir. art, gall. arth (PIE *r9kto-s or *r9kso-s, cp. Pokorny 875)- has been replaced in many language areas by noah names, motivated by descriptive words: 'the brown' in Germanic languages (e.g. aisl. bjorn, dan. bjørn, sved. bjorn, als. bero, engl. bear, aat. bär, ned. beer etc.), 'honey eater' in Slavic languages (e.g. aslav. medvjed, cec. medved, pol. niedź wiedź, russ. medvid', (> lit. meška)), 'hairy' in Baltic languages (e.g. lit. lokys, lett. lacis, apruss. clokis), and 'good calf' in Celtic languages (e.g. airl. mathgamain, irl. mathghamhain, a compound of maith 'good' and ghamain 'calf').

Potential evidence for the sacred character of animals in early societies could thus be sought in the vast field of folk zoonymy. And in order to have a first-hand idea of the possible productivity of magico-religious motivations for animal names I drew and commented two maps for the ALE: one for the 'weasel' (Alinei 1986), and the other for the 'lady-bird', which I made in co-authorship with Manuela Barros Ferreira (Barros Ferreira-Alinei 1993). On other research of mine, and on the work of other authors I will dwell later.

The two above-mentioned maps yielded precisely the results I had hoped to obtain. For not only did they show two of the same magico-religious motivations I had found for the rainbow, namely Christian/Muslim and pre- Christian/pre-Muslim anthropomorphic names, but also a third category, namely kinship names, which seemed to match perfectly the interpretation I had given of the zoomorphic category for the rainbow.

Beginning with the 'lady-bird', the most frequent, and almost pan-European motivation Manuela Barros Ferreira and I found, was a compound word in which the name of a Christian or Islamic religious being or notion is associated with another animal, which is its attribute: e.g. 'God's bird', 'God's cow', 'Christ's little hen'. The religious figure or notion can be 'God, or 'good God' or 'Lord', or 'our dear lord' 'our father' and the like, in the whole gamut of traditional addresses to God, as well as 'Christ', Our Lady, the Virgin Mary, St Mary, God's Mother, God's sister, a variety of saints (the most frequent being St Peter, St Paul, St Martin, St Nicolas, St Anthony, St Michael, St Barnaby, St Catherine, St Lucy, St Ann), 'little saint', 'angel', 'soul', 'devil', 'priest', 'monk', 'nun', 'pope's wife', 'pilgrim', 'heaven' 'paradise' 'church'; in the Muslim area 'Allah', 'Fatima', 'mosque'. A representative list of the most frequent combinations would occupy several pages.

The pre-Christian, anthropomorphic level for the lady-bird can be illustrated with several motivations. In the Finnic area, the god who assists the
lady bird (as 'cow' or 'sheep') would be, of course, *Ukko*, the most powerful Finnic god. In Finnish the lady-bird can also be *Lemminkainen*, a folk-character of the Kalevala. In Frisian, it takes the appearance of the North-West Germanic elf *Puken* (cf. Engl. *Puck*); in Southern Italy it is the elf *Monachello*, while in Northern Italy it is a 'Nymph'. In Rumania it is associated with a famous mythological female being, *Paparuga*, usually in the centre of farming fertility rituals; in Italian, Ukrainian and Rumanian it also appears as 'witch' or '(female) soothsayer'. In Greek it is associated with nothing less than the *Moira*.

Also the 'weasel' -which only sporadically, and outside the ALE net, shows Christian names- has quite a few magico-religious pre-Christian or pre-Muslim names, such as 'fairy' in English dialects, 'Diana' in Sardinia, 'witch' in France, 'domestic genius' in Russia, 'guardian spirit of the earth' in Karelia. Motivations such as Spanish, Occitan and Italian 'bread and cheese' and Occitan 'bread and milk' have been well explained by Romance scholars as relics of pre-Christian rituals (see further). Many other motivations of this type appear outside the ALE (e.g. German 'wild woman', a member of the magic *wilde Leute*).

The most interesting result of my research on European dialect zoonymy, however, was the discovery -or actually the re-discovery, after Richard Riegler's pioneer studies in folk zoonymy- of a third category of names, which -as I have already said- could be seen as a confirmation of my interpretation of zoomorphic names for atmospheric phenomena: 'kinship names'. These are indeed typical folk-names of wild animals and insects, and Riegler had already interpreted them as relics of a 'totemistic' view of the universe, in which animals would be our ancestors and closest relatives.

Interestingly, the hypothesis that kinship names attributed to animals could be connected with totemism, and in turn with taboo beliefs, seemed to be supported by recent research on the ethnographic record of the most isolated, jungle and mountain, areas of Vietnam. In this area it has been observed that animal names forbidden by taboo are replaced by a noah nickname which often coincides with a kinship name, followed by a pawn or by a word that would describe the animal. In the course of time, this new name of the animal would be abbreviated, so that many animal names end up beginning with the first syllable of the kinship-name. The true name is eventually forgotten, and when the new name becomes the accepted one, the taboo replacement process starts again. As I have tried to show (Alinei 1993a), the Vietnamese evidence not only provides a good model for the reconstruction of the process by which kinship names are connected with taboo, but also shows that kinship names must have been quite common 'descriptive' names for animals, in order to be chosen as the most frequent noah name. This, in turn, would imply that 'totemic' names were one of the most common ways to designate animals.

7. The problem of dating the zoomorphic and kinship layer of the magico-religious archaeolinguistic stratigraphy

Obviously, the most problematic part of this interpretation, and the one that might encounter some opposition among linguists, concerns the third group of motivations, namely the zoomorphic names for atmospheric phenomena, and the
kinship names for animals. Hence the fundamental question of chronology: was my choice of such a remote time for placing the lexical innovation really justified, or could I have chosen a more recent, less daring collocation? Obviously, both the establishment of the chronological grid which governs the linguistic data, and the general interpretation of the data depend on this question. In turn, these two fundamental aspects of the problem have fundamental implications for the theory of European language development. I will briefly illustrate the dating question for both types of motivation, and without leaving the examples taken from the ALE maps.

7.1. Dating the representation of the rainbow as 'drinking animal''
As I have already said, the representation of the rainbow as drinking the water from the earth and returning it as rain (Alinei 1983b, 1984, 1996c), attested in most European areas, appears also in Plautus' Curculio, in which one of the characters, seeing an old woman drinking wine all arched up, says "bibit arcus", i.e. "there is the rainbow drinking' (Alinei 1992a).

This attestation provides an automatic pre-Christian terminus ante quem for the myth of the drinking rainbow. The question is then: when exactly? For "pre-Christian" is a much too vague dating in absolute terms. For Latin and Romance linguists, for example, pre-Christian is almost always equal to Roman, and nothing would go beyond this date. With regards to our example, then, Romance linguists would automatically conclude that Plautus' attestation represents the initial stage of the myth. The larger ALE area, however, causes a revision and a reversal of this conclusion. Compared to the attestations of the same myth in so many areas of Europe, both IE and non IE, the Latin attestation can be seen not as the top of the genetic tree of the myth, but rather as one of its branchings, which happens to have been expressed in writing before the others. In fact, the motif of the drinking rainbow, as it appears in Plautus and in other 'drinking' names of the rainbow, cannot be considered as the complete form of the myth, but only as a shortened form of a cosmogony. Its complete form, attested, as we have seen, in extant ethnographic traditions, is not simply the 'drinking rainbow', but the 'rainbow as an animal' (usually a snake or dragon), who is the real 'drinker' and the real producer of all the world water. In the light of this documentation, Plautus' attestation can be considered as a late reflex of the myth, already revised and rationalized by the Roman élite, while the primitive myth appears better preserved in modern oral traditions. Though seemingly paradoxical, this is now the most modern view in anthropological studies, from Propp on.

This is why, having accepted this conclusion, it is difficult to place the myth and its linguistic reflexes in the Roman or immediately preceding period. Rather, it will have to be placed in a more remote period, perhaps connected, as Propp suggested on the basis of the analysis of the 'flying dragon', with the origins of agriculture.

7.2. Dating the weasel as 'family member'
A second, more complex, and perhaps more cogent example of absolute dating is that of the kinship names for the weasel, extremely frequent in the whole of southern Europe (Alinei 1986b). In the discussion of a few of them some of the best Romance scholars have been involved (ibidem). Research has concentrated on the Spanish and Occitan name of the weasel *comadreja* and *comairela* - 'godmother' (which occurs also in some central and southern Italian dialects as *comarella*). First Menendez Pidal, in an impeccable areal analysis, observed that since the area of *comadreja* and *comairela* is divided in two by another Spanish name of the weasel - *paniguesa* - 'bread and cheese', the 'godmother' area had to be earlier than that of 'bread and cheese'. The relative chronology is then clear. The absolute chronology, however, is not: if the type 'bread and cheese' is later than 'godmother', to when can either the first or the second be dated? Menendez Pidal himself did not pronounce on the question. Schuchardt and Spitzer (followed by Menendez Pidal) had interpreted 'bread and cheese' as a metaphor based on the white and brown colours of the animal. The decisive step was taken by Rohlfs, who discovered that 'bread and cheese' is the name of a variety of animals, the colours of which are quite different from those of the weasel. Moreover, Rohlfs discovered that 'bread and cheese' is one of the many gifts that children offer to the weasel and to other animals in their rhymes, in order to conquer their favours. Lastly, Bambeck discovered that precisely within the area where the name 'bread and cheese' occurs, i.e. in Galice, the bishop Martin of Braga, in the 6th century of our era, had harshly condemned the peasants of his time for continuing to make offerings to animals and insects, among which also bread. Here is then a rigorous *terminus ante quem* for our 'bread and cheese' name: the 6th century. This is indeed later than Plautus' drinking rainbow', but its significance is the same. In short, 'bread and cheese', with the whole ritual of offerings to animals, can be easily defined as pre-Christian. But if this is the case, to which period can then be dated the type 'godmother' which, as we have seen, is still earlier? Romance traditional research cannot ask such questions. In fact, 'godmother' would probably be considered as 'scherzhaft' and thus modern, in total contrast with the conclusion already reached by Menendez Pidal! Let us see what the ALE map can contribute to this question. In the whole of southern Europe the weasel has kinship names: from *norinha* - 'little daughter-in-law' in Portugal, to the already mentioned 'godmother' in Galice, southern France and central-southern Italy, to Albanian *muse* and variants 'little bride', 'youngest daughter-in-law', Greek *nifitza* - 'little bride', central-Italian dialects *zitola*, from *zita* - 'spouse, bride, girl to be married', in Bulgarian, Macedonian, Serbo-Croatian, Ukrainian, and from this area in Rumenian, *nevestica* and variants 'bride', in Bulgarian also *bulka* - 'bride', in Turkish and in Gagauz dialect derivations of *gelin* - 'bride', 'daughter-in-law' in Hungarian *menyet* and variants 'daughter-in-law'. Moreover, similar types are attested, outside the ALE net, not only in Danemark and Germany, but also in North Africa, and both in the Arab and in the Berberian area. In fact, we are dealing with a motivational isogloss that goes from the Atlantic to the Black Sea, and covers both shores of the Mediterranean, plus parts of Central Europe and of Asia Minor. Needless to say, such an area, involving so many different language families (IE, Arab, Berber, Uralic, Altaic) excludes a recent development, and the
ancient dating provided for 'godmother' in Galice must be extended to all other kinship names. There is more: we find anthropomorphic and cosmogonic myths involving the weasel both in classic mythology and in the Uralic and other European folk mythologies. Finally, there is the Hungarian evidence. The modern Hungarian name of the weasel is menyét and means, as we have seen, 'daughter-in-law'. But the ancient name was hőlgy, helgy, which now means only 'bride, lady'. This name, however, belongs to a group of Hungarian anthroponyms, mostly of Turkish origin, which Hungarian scholars unanimously consider very early, even totemic (e.g. Kálmán and Gombocz): names such as Kus 'falcon', Karcsa 'poiana', Kartla 'eagle', Torontál 'hawk', Turul, Turo, Turony 'falcon', Zongor o Csongor 'poiana', Arszlan 'lion', Barsz 'panther', Kaplan 'tiger', Kurd 'wolf', Tege o Teke 'ariete', Gyalán o Gyilán 'snake', Aktaj 'white puledro', Karakus 'black falcon', Akkus 'white falcon', Kücsbarsz 'strong panther', Alattyán 'heroic falcon', Thomuzoba 'father-boar', Farkas 'wolf, Karoldu 'black weasel', Saroldu 'white weasel', Nyesta o Nyeste 'faina', Holgyasszony 'female ermine' and many others. Why a totemic interpretation for such names? For two reasons: on the one hand because they bring us back to the earliest Hungarian chronicle, which concerns the origins of the family of Árpád, the legendary hero and founder of Hungary, who led Hungarians to the Danube and Tisza basin. The legend narrates how the turul, mythical eagle of ancient Hungarians, copulated with Emese, the grandmother of Árpád (from Turkish eme 'mother, female animal'), while she slept. The fruit of this union was Álmos, Árpád's father. On the other hand, since many of these Hungarian anthroponyms are of Turkish origin, they date necessarily to the period of the earliest contacts between Hungarians and Altaic peoples, before the 'Landnahme'.

A sort of cross-dating, involving the Galician 'god-mother weasel' and the Hungarian kinship names, permits then an extension of the 'totemic' interpretation to the whole southern European area of the kinship names for the weasel.

8. Confirming and expanding the magico-religious archaeolinguistic stratigraphy

A closer study of the dating problem thus seems to confirm the chronology of the zoomorphic and 'totemic' layer of the archaeolinguistic stratigraphy. Further research has also extended the threefold stratigraphy to other categories of realia.

This is, in fact, one of the main topics of my 1984 book where, as I have already said, I presented a newly developed method of measuring the referential scope of the magico-religious motivations, as well as a general evaluation of its significance.

In the first place, I noticed that relevant research could proceed in two different directions, one traditional, one innovative: (A) Traditional, onomasiological research could continue collecting and classifying magico-religious motivations by comparing the names of the members of one and the same class of referents: for example of any other animal, or any other atmospheric phenomenon. (B) With the new method, research could start from the magico-religious motivations themselves, and thus reversing the procedure, in order to collect and classify their meanings. In this way we would obtain two different
results: (1) we would measure the referential scope of magico-religious motivational categories, and (2) we would open new fields of onomasiological research corresponding to the newly discovered categories of magico-religious referents.

Though a combination of both the traditional and the innovative method would appear as the ideal, often, however, the choice of one method over the other would depend on the state of the art in a certain area. Obviously, the traditional onomasiological research would have priority in little studied areas. For example, a recent, monumental dissertation by the Zairese scholar Tchimanga Kutangidiku, directed by Michel Contini at the University of Grenoble, has necessarily followed the onomasiological method in studying the names of insects and small animals in Zaire dialects, thus discovering magico-religious motivations of the kind I have illustrated, and proving the relevance of the method and the theory also outside Europe. In areas where folk names of animals and other classes of referents have already been studied systematically, the second, innovative method would be the more productive. Since the Romance area belongs to the better studied area, one of the main aims of my book of 1984 was to inaugurate this innovative method. As I said, this would start from motivations, that is from lexemes that can be recognised as motivations immediately, and would proceed towards meanings. For Italian dialects I started with the AIS Index, dialect dictionaries (mostly Italian and Romance), and relevant etymological dictionaries, from which I collected systematically all dialect words based on Christian motivations, such as the Romance names for 'God', 'Jesus', 'Mary', all the popular male and female saints, priests, monks and nuns, other Christian institutions etc., accompanied by their various secondary meanings. Then all dialect words for anthropomorphic pre-Christian motivations, both of the literary, classic type, such as 'Venus', 'Neptune', 'Diana' etc., and of the oral-tradition type, such as 'witch', 'fairy', 'elf', 'ogre', 'bogeyman' and the like. Then all dialect words for the most common wild animals and insects, and finally all words for relatives. The result was a classified list of realia that at least potentially had magico-religious motivations.

On the theoretical level, notice that this method is neither onomasiological nor semasiological, but a method in its own kind, which can be called motivational (or iconomastic). Precisely as motivational geolinguistic maps, it produces a new kind of linguistic evidence, thus confirming the independent status of motivational study.

On the operational level, the result of this considerable classificatory effort was twofold: (A) magico-religious motivations seem to be given to all basic aspects of reality: animals (mostly insects and wild animals), plants, atmospheric and other natural phenomena, landscapes of a special kind, diseases and death, work products and instruments, family relatives. Besides, of course, magico-religious beings and institutions themselves. In other words, the referential scope of magico-religious motivations is practically universal. (B) Within this universal scope, by far the highest frequency is that of the Christian (Muslim) motivations, followed by the pre-Christian anthropomorphic ones as second, by the zoomorphic and the kinship names as last. The simplest explanation for this
frequency scale is the 'archaeological' one, by which the most recent layer is always the most frequent, and the earliest the rarest.

In the following three sections I will briefly illustrate the range of referents designated by magico-religious motivations.

8.1. The Christian and Muslim, historical layer

Beginning with animals, besides the weasel and the the lady-bug, I can list the glow-worm (Barros Ferreira, fc.), with names such as 'St John', 'St John's bonfire, St John's sparkle', 'St John's light', 'St John's little animal', Baptist 'fire', 'glowing angel', 'devil's fire', attested in Corsican, Czech, French, Danish, Estonian, German, Hungarian, Italian, Latvian, Lithuanian, Nakho-Dagestanian, Netherlandish, Norwegian, Polish, Rumenian, Russian, Serbo-Croatian, Slovakian, Slovenian, Spanish. The 'butterfly' (Contini fc.) appears christianized "dans l'Europe méditéranéenne", with names such as 'God's little dove', 'Lord's hen', 'little angel', 'little Easter', 'little saint', 'the pope's wife', 'the sin's bird', but also in Finland, for example, as 'Brigit's bird', and in Komizyrian as 'God's or Heaven's bird'. The 'grasshopper' (Avanesov, Ivanov, Donadze 1983) appears in Lithuania as 'little devil', in Rumania as 'horse/little horse of the priest', and in Russia as 'little divine horse'. Only for Italy, and again leaving out the lady-bird and the weasel, I have found Christian motivations for the dialect names of the praying mantis, the tree-frog, the blowfly, the butterfly, the dragon-fly, the dolphin, the seal, the swallow, the wolf, the rose-beetle, the snake, the snail, the caterpillar, several species of fish, the stag-beetle, the cockroach, the wag-tail, the black-cap and so on.

Plants and flowers show hundreds of magico-religious motivations of this kind: only for Italy I can mention holly, Crataegus oxycanthia, Taraxacum officinalis, with the motivation 'Lord', poppy, Convallaria majalis, Colchicum autumnale, Oxalis aceto-sella, Rubus fruticosus, Crataegus oxycanthia, Carlina acaulis, Oxalis acetosella, Cyclamen europaeus, Arum italicum, Hypericum perforatum, Artemisia Abrotanum, Stachis annua with 'Madonna', Leucanthemum vulgare with 'Corpus Domini', Salvia pratensis with 'St Albert', lily and Colchicum autumnale with 'St Antony', Verbascum thapsus, Hyoscyamus niger with 'St Apollonia', Cyclamen europaeus with 'St Bernard', daisy, lily, wild rose, Taraxacum officinalis, Crataegus oxycanthia with 'St Catherine', rhododendron, Verbascum thapsus, Hypericum perforatum, Verbascum Thapsus, Verbena officinalis, Lavandula Spica, Ribes rubrum with 'St John', Linaria vulgaris with 'St Joseph', Hyoscyamus niger, Lavandula Spica, Hypericum perforatum, Arum Dracunculus with 'St Mary', Crataegus oxycanthia, Colchicum autumnale, Salvia pratensis with 'St Martin', Verbena officinalis, Carlina acaulis, Hypericum perforatum with 'St Peter', Hypericum perforatum with 'St Roche', Sempervivum tectorum with 'St Zeno', Leucanthemum vulgare with 'paradise', Datura stramonium with the 'Judgement trumpet', thistle, Sambucus ebulus, Verbascum thapsus, Taraxacum officinalis, Datura stramonium, Dipsacus sylvestris with the 'devil', Artemisia vulgaris, Taraxacum officinalis with 'friar', poppy, thistle, Taraxacum officinalis, Oxalis acetosella, Cyclamen europaeus with 'priest',
poppy, Papaver Rhoes, Bellis perennis, Taraxacum officinalis, Convallaria majalis with 'munk' or 'nun', Verbena officinalis with 'sacred' and so on.

Among natural phenomena, besides the I can cite the international 'St Helm fire'; and the 'rain with shower' and the 'milky way', both with a variety of Christian motivations; 'moon', which in Hungary shows the name 'God's cake' (Brozovic 1983 14), 'thunder', which in FU area appears with the (Russian) name 'Holy Elias' (Goeman and Hogerheijde 1988 10). In Italy, motivates the rainbow, 'Madonna' motivates dialect names of the milky way, the St Helm fire, the sea tornado and the rain with shower have several Christian motivations in Italy.

Among diseases, most interesting are Christian motivations for 'epilepsy', 'St Vitus' dance', 'St Anthony's fire' (herpes). Their association also with pre-Christian and even with animal names (see further) proves that the original role of the saints in the representation was not that of protector against the illness, but that of performer and cause.

Among family relations, Christian names for the 'godfather/godmother/godchild' show the Christianisation of the 'religious' family tie by definition- the initatic one- usually (and wrongly) considered of Christian origin.

Even clearly non-Christian magico-religious beings have been re-named with a Christian name, as show the Italian monachello 'elf' (from 'monk'), the befana 'witch' (from Epiphany'), S.Nicolas for a fish-like magico-religious being.

All in all, hundreds of dialect names in Europe testify to a Christianization and Islamization of such classes of realia. Of course, Muslim names are much less frequent than the Christian, owing to the enormous difference in the areal scope of the two religions in Europe, but the process underlying the lexical innovation has followed exactly the same path, and satisfied the same need.

8.2. The anthropomorphic, Metal-Age layer

Among animals, leaving out weasel and lady-bird again, the butterfly appears in Netherlandish as 'the Sun's bird', in Austria as 'the forest's elf', in the Slavic area as a messenger of 'nightmare', 'fever' or 'scab'. Several names of the grasshopper (Avanesov, Ivanov, Donadze 1983), such as Italian 'pregnant mother' and 'lady', and French 'demoiselle' and the like, clearly point to an earlier, no longer recognizable sacred female being. In Italy, leaving out again the lady-bird and the weasel, I have found the motivation 'fairy' for the grass-hopper, the toad, the praying mantis, the snake, the 'witch' for the butterfly, the owl, the dragon-fly, the rain-worm, the cockroach, the caterpillar, the may-bug, the spider, the 'elf' for a water insect, the 'dragon' for the golden oriole, the 'pharaoh' for the dolphin, a 'Tartarus' for the turtle.

Among plants, I can list only for Italy the motivation 'fairy' for Taraxacum officinalis, Bryonia dioica, Leucanthemum vulgare; 'witch' for Rosa arvensis, Ilex Aquifolium Artemisia Dracunculus, Carlina acaulis, Stachis arvensis, Pteris aquilina, Stachis annua, Antirrhinum majus, Linaria vulgaris, Mercurialis annua, Hyoscyamus niger, Dipsacus sylvestris; 'magician' and 'bewitching' for Datura Stramonium; 'ogre' for Verbascum thapsum; 'thunder' for rhododendron, Verbena officinalis, Hypericum perforatum, Sempervivum tectorum (some of these plants
are believed to protect people and houses from lightnings if placed on the roof); 'Venus' for Dipsacus sylvestris; 'Jupiter' for Sempervivum tectorum.

Among natural phenomena I can cite 'thunder' (Goeman, Hogerheijde, 1988), for which we encounter representations already known to us: the Finno-Ugrian thundersgod Ukko, the Lapp Tiermes, and new ones such the Slavic Perun and the Lithuanian Perkunas, the Germanic Thor. In those for 'lightning', about the same: Germanic Thor, Lithuanian Perkunas, Karelian Ukko, and Kalmuk Taengri. Also names for 'cloud' (Itkonen 1983, 35) can be motivated by a mythical 'Old Woman, grandmother' in Mordvinian (Saramago Vitorino 1983, 87) and 'white-bearded man' in Karachay-Balkar (idem 81). In my opinion, even one of the most common motivations for 'hail' -grain of corn, bean and the like- common in several European areas, has the same origin, aiming at reversing the evil effect of hail by invoking the desired farming product. Further, I can list for Italy motivations such as 'witch' for the spark, will-o'-the-wisp, rain with shower, fog, whirlwind, the trembling of hot air, 'elf' for whirlwind, spots on the moon, will-o'-the-wisp, and sleet, 'Venus' (not in the ALE) for the rainbow.

Among diseases and like phenomena I have found in Italy 'fairy' 'elf' 'ogre' for the nightmare, 'witch' for 'herpes', 'werewolf' for epilepsy. In this last example, the original function of the magic performer appears most evident.

Among relatives I would like to recall the divine origin of 'uncle' that appears in the Greek word theios (already noted by Lévi-Strauss), from which it. zio, zia 'uncle, aunt' derive.

8.3. The zoomorphic and 'totemic', Stone-Age layer

Depending on the referent, the most archaic layer appears, respectively, in the form of an animal, or of a kinship-member representation.

8.3.1. Kinship names

For animal names, here above (§ 7.2) I have already mentioned the kinship names given to the weasel, covering the whole Southern European area. Without leaving the ALE, also the 'lady bird' and the 'butterfly' show quite a few such names. The lady bird as a relative appears in an even wider area: as a 'grandmother' (sometimes 'old woman) in Greek, Serbo-Croatian, Polish, Russian, Mordvinan, Komi Zyrian, Finnish, Udmurtian; as a 'mother' in Rumanian, Sardinian, Belorussian, Bashkirian, Tatar, Russian, Livian; as an 'aunt' in Italian, German; as an 'uncle' in Albanian, as a granfather in Komy Zyrian, Swedish, Maltese, Udmurtian, as 'godmother' in Komi Zyrian; as a 'bride and spouse' in Polish, Italian, Albanian, Macedonian, Turkish; as a sister-in-law in Bulgarian, etc. The butterfly (Contini fc.) appears as 'grandmother' in the Eastern Slavic area, as 'mother' in German and Sardinian, as 'grandfather' and 'father' in the Uralic area. From other ALE maps: Lithuanian and French 'grandfather' for the grass hopper.
In my own research, continued next to the ALE, I have been able to collect an impressive list of kinship names given to animals the world over. Besides the already mentioned totemic record of Vietnam I can cite: in Burma 'grandmother' for the monkey, and 'father' for pig, 'matrilinear kin' for the rat, in India 'maternal uncle' for the snake, in Amman 'grandfather' for the tiger, the elephant and other wild animals, in Africa 'grandfather' for the chameleon (Herero's totem), 'ancestor' for a kind of bird (Henne's totem), and for the elephant (Fang's totem). In Madagascar, the largest of the lemurs, which is taboo and is considered everybody's ancestor, is called 'father'. In Mansi (Vogul), one of the Ob-ugric Uralic languages, the bear has names such as 'father', 'uncle', 'husband', 'father of the spouse's brother', 'grandfather', 'old man'; often, the kinship name is accompanied by a 'divine' attribute: e.g. the bear and she-bear can be called 'divine animal', 'god's daughter', 'heavens'daughter', 'son of (different local magico-religious beings)', or just 'idol', 'idol-animal' and the like (Alinei 1996c 683-4). In the European Uralic area wild animals show the same characteristic: in Estonian the wolf is 'uncle of the forest', in Finnish 'grandfather', in Hungarian the bear is 'godfather' (Alinei 1996c 684). In the Turkic area the bear shows names such as 'ancestor', 'uncle', 'father', in Mongolian 'brother' and 'cousin'. In Germany 'godfather/godmother' are the wolf and the fox, 'grandfather/grandmother' the toad, which can also be 'father' and 'aunt'. The hare is 'brother', the fox 'uncle'. In Sweden the bear is 'grandfather', the seal 'brother'. In the Slavic area 'grandmother' is used for the stag beetle, the bear, the butterfly, 'uncle' and 'grandfather' for the wolf and the bear. In the Baltic area 'grandfather' is the grasshopper, and 'son-in-law' the wolf. In Albania 'old woman' is the home-fed and cherished snake. In France 'godfather' and 'godmother' can be the golden oriole, the wolf, the fox, the magpie, 'cousin' the fox and the grasshopper, 'relative' the cuckoo, 'grandmother/grandfather' the wolf, the spider and the grasshopper. In Rheto-Romance 'mother' is the butterfly', In Northern Italy the owl and other Strigidae, as well as the fruit-worm are 'uncle John'; 'uncle' and 'aunt', often but not always followed by a proper name, can be, depending on the dialect, the pig, the goat, the fox, the golden oriole, ther wren, the woodworm, the slowworm, the snake (until recently kept in the house as protector); 'ancestor/ancestress' the toad and several insects; 'godmother/godfather' the golden oriole. In Central Italy 'grandfather' is the name of several birds, 'mother' of the caterpillar, 'aunt/uncle' of the mantis, the toad, the snail, the wren. In Southern Italy 'mother' is the caterpillar and the snail, 'aunt' or 'uncle' the wolf, the hare, the owl, the caterpillar, the butterfly, the toad, the finch and the robin, 'brother/cousin' the sparrow. In Sicily 'godmother' is the fox, 'aunt' a (mythical) snake and the butterfly. In Sardinia 'mother' is the caterpillar, the grasshopper, the mantis and the rainworm, 'godfather/godmother' the fox,

For most of these animals, folk traditions in many European countries (for example god-fatherhood rituals, or religious-like processions carrying the dead animal) enlighten us further on the 'sacred' meaning hidden behind the name.

In the light of this evidence, and against the background of the Latin ritual of auspicium (from avis spicium 'observation of birds) I have proposed a new analysis of lat. avis 'bird', considered as a variant in -is of av(i)aja 'ancestress',

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following the same morphological alternance shown by pairs such as *puppis/puppa, rumis/uma, caepis/caepa, buris/bura* etc.

For natural phenomena an explicit 'totemic' relationship appears in the Nenets area, where the moon is called 'grandfather' (Brozovic ALE I 13), in the FU area, where 'thunder' is called 'father' and 'grandfather' (Goeman and Hogerheijde 10, 19, 52), and in southern Italy, where the rainbow is greeted with the word 'godfather' (Alinei 1981).

Several mythical beings of the oral tradition have kinship names: in France *ma mère l’oie* 'mother goose' (the French name comes from *avica*, dim. of *avis*, which following my etymology could also be read as a dim. of *avia* 'ancestress'), in Sicily *mammadraga* 'mother-snake' 'mother dragon', in Sardinia *babborco* 'father ogre', and *comare orca* 'godmother ogress'. Propp and other scholars have placed such mythical figures of fairy tales against a background of totemic relationships.

### 8.3.2. Animal names

Most natural phenomena appear associated with a zoomorphic representation: besides the rainbow, both 'thunder' and 'thunderbolt' appear as 'serpent/dragon' (Goeman-Hogerheijde 1988 12, 20), and the lightning also as a 'dolphin', besides 'whale' (idem 34). In Italy I have found the 'fox' for the rain with sunshine, the 'cow' for clouds, the 'goat' for the trembling of hot air and for saint-helm fire, the 'she-wolf' for rough sea and fog, a 'mythical snake' for tornado, the 'dragon' for the landslide, for marshes, for sources and for torrents, the 'pig/sow' for rainbow and rain with sunshine, the 'hen' for the milky way, the 'cat' for rain with sunshine.

Quite a few pathologies have animal names: 'fox' and 'she-wolf' for a plant disease, 'goat' for nightmare, 'horse', 'sheep', 'snake', 'cock', 'cow', 'pig', for a kind of skin burning, 'pig' for wart (lat. *verruca* from *verris*), 'caterpillar' for herpes, 'sow' and 'frog' for scrofula (the very lat. name *scrofula* shows such a motivation), 'worm' for smallpox, measles, finger worm, 'tarantula' for epilepsy (tarantism), 'owl' for jaundice, 'toad' for a bovine disease, and 'frog' for ranula in humans (the lat. name *ranula* comes from *rana* 'frog').

Many magico-religious beings, besides a zoomorphic appearance, have an animal name: the *dragon*, from the Greek word for 'snake', the French *vouivre*, from the Latin word for 'viper', the English *werewolf*, with parallels and illustrious predecessors in many European areas, the German *Lindwurm*, from 'worm', the Slavic *smok* 'snake, dragon', the Serbo-Croatian *aždaja* 'dragon', the Sardinian monster *Muska Makedda*, from *muska* 'fly', the it. word *strega* 'witch', which comes from lat. *strix* 'owl', and many others.

Even the godmother can be called 'fox' in some Italian dialect.

The 'totemic' character of animals is also shown by many ancient names of European peoples and tribes, or special groups, such as the Italic *Hirpi, Hirpini* (from an Italic name of the 'wolf') and *Piceni, Picentes* (from the Latin name of the 'pie'), the Latin *Luperci* (and their rituals *Lupercalia*), priests devoted to the cult of the wolf, the Greek *Arkades* and *Myrmedones* (from the name of the 'bear' and the 'ant'), the Germanic *Eburones* (from *Eber* 'wild pig), the Iranian *Saka* (from the name of the 'stag'), and so on.
Plants are also very often associated to an animal. Though the association cannot always be attributed to magico-religious beliefs, it is worth listing, only for Italy: Verbascum thapsus, Oxalis Acetosella, Crataegus Oxycantha with the motivation 'fox'; Antirrhinum majus, Crataegus Oxycantha, Salvia pratensis, Dipsacus syvestrus, Arum italicum, Arum Dracunculus, with 'wolf'; Bellis perennis, Spirea ulmaria with 'goat'; Crataegus Oxycantha, Antirrhinum majus with 'bear'; Linaria vulgaris, Bryonia dioica, Arum Dracunculus, Arum italicum, Artemisia Dracunculus, with 'snake'; Bryonia dioica, Arum italicum, Papaver Rhoesas with 'toad'; Arum italicum, Taraxacum officinalis, Hyoscyamus niger, Cyclamen europeum with 'pig'; Oxalis Acetosella with 'cuckoo'; Ilex Aquifolium, Lycopodium clavatum with 'mouse'; Arum italicum, Hyoscyamus niger, Leucanthemum vulgare, Antirrhinum majus, Colchicum autumnale with 'ox/cow/calf'; Antirrhinum majus, Crataegus Oxycantha, Arum italicum, Verbascum Thapsus with 'donkey'; Hyoscyamus niger with 'horse'; Taraxacum officinalis, Arum italicum, Linaria vulgaris, Colchicum autumnale, Antirrhinum majus, Bellis perennis with 'dog'; Lycopodium clavatum, Bellis perennis, Rosa arvensis with 'hen'; Arum italicum with 'cat'; Antirrhinum majus, Verbascum Thapsus, Linaria vulgaris, Convallaria majalis, Taraxacum officinalis with 'lion'; Artemisia Dracunculus, Antirrhinum majus, Arum Dracunculus, Pterocarpus Draco, Dracaena Draco with 'dragon';

9. The over-all interpretative framework
The transition from animals to anthropomorphic gods -shown by the above illustrated linguistic data- is confirmed by the historical record, in which animals are eventually identified or associated with an anthropomorphic god: e.g. Athena's owl, Zeus' eagle, Apollo's dolphin, in pre-Christian times; StAnthony's pig, the Lamb of God, the Holy Spirit as a dove in Christian times.

The same sequence is shown in the conception of natural phenomena which, after being 'governed' or controlled by animals in the earliest cosmogonies, are eventually controlled by anthropomorphic gods, first pre-Christian and then Christian. Storms and floods, for example, after being identified with mythical animals (as is shown by so many world myths), are eventually 'sent' to mankind by local gods (Ukko, Thor, Perkunas, Jovis tonans, and the like), by tempestariae, i.e. witches specialised in tempestae, and lastly by God himself.

Many pathologies, after being caused by certain animals, are later attributed to the influence of witches and shamans, or still later to that of supernatural beings. A good example of the process is shown by the magico-religious names of several forms of trance, such as tarantism in Southern Italy. After being attributed to the bite of tarantula, and considered as a sort of shaman-like performance, typical of especially gifted persons, it will eventually be attributed to saints (St Vitus' dance and the like), who will be seen as protectors from the disease. In the area where tarantism has been better studied, namely in South-eastern Italy, the two conceptions coexisted until recently.

Many of the plants showing magico-religious names prove to be medicinal, and capable of powerful effects. The usual stratigraphy appears here too.
To sum up and conclude, the picture that comes out of magico-religious motivational research in European dialects reveals a vast and basically similar process of cultural development, with differentiated realisations of the same structural pattern.

It can be assumed that European folks have gone through a common development from an animal and nature-centered magico-religious experience, to an anthropomorphic representation of the same universe, to a Christian or Muslim re-interpretation of the same reality. Though the differences in the development can be as great as those between a dolphin and a bear, between Utko and Jupiter, and between Christendom and Islam, the processual and psychological similarities are no less striking.

This common process can be explained only if we posit at its basis the existence of a magico-religious vision of the whole universe, in which all aspects of reality are at the same time natural and supernatural, without the later distinction between 'sacred' and 'profane'. This kind of vision has sometimes been called 'animism', by linguists who have touched upon a few of the motivations I have discussed. But this term is entirely inappropriate since the distinction between 'soul' and 'matter' is precisely what this vision lacks.

On the basis of well-known, and widely accepted, theories of history of religions, it seems possible to assume that the anthropomorphic representations of reality are connected with socially stratified societies, typical of the Metal Age, while zoomorphic and kinship representations are connected with more primitive societies of the Stone Age.

More precisely, and also from a glottogetic point of view, kinship names used for family relations would obviously exist already, before magico-religious thinking began (some time in Middle and Upper Paleolithic, when the first forms of burial appear). Then we would need something like totemism, in the Upper Paleolithic, to allow the attribution of kinship names to animals (and less frequently to plants and other realia), and those of animals to other referents. The frequent attribution of magico-religious and kinship names to insects can be explained by their central role in traditional feeding, as has been confirmed by the data collected by Tchimanga in Zaire, where insects and larvae normally used as food have magico-religious names.

More recently, this topic has also formed a chapter of my book on the origins of European languages (Alinei 1996c), in which I present an 'invasion-less', diffusionistic model of IE development, with a much longer chronology than the traditional one, and in which archaic magico-religious motivations provide one of the many arguments that can be marshalled to support the theory I have called the 'Continuity Theory'.

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