Indo-European conceptions of wild animals, and names for them

2.1. Animals of the Middle World

2.1.1. Wolf

2.1.1.1. The earliest Indo-European words for 'wolf'

The semantic unit 'wolf' is represented by several lexemes in Indo-European. One of the earliest ones, showing variations correlated with different chronological levels of Indo-European, is *wĺkho-: Skt. vŕkah, Avest. vəhrka-, Gk. lúkos, OCS vlĭkŭ, Lith. viĺkas, Alb. ulk. A feminine stem meaning 'she-wolf' arises independently in some dialects: Skt. vrkíh, Russ. volč-i-ca, OIcel. ylgr; Lith. vìlkė; Gk. lúkaina (Meillet 1937 [1938:395]). There is also a phonetic variant in *-ph-, *wĺph-, in individual dialects: Hitt. ulippana-, Goth. wulfs, Lat. lupus; also Arm. gayl, with regular absence of final *-ph-.[1]

Parallel to this root, another Indo-European base meaning 'wolf' can be reconstructed, *weit'-(n)-: Hitt. wetna-, OIcel. vitnir, Slovene vedanec, vedomec, vedavec, Ukr. viščun 'werewolf', OCz. vêdi 'she-werewolves' (Jakobson 1966a:346-50).

The fact that there are several words for 'wolf' of Common Indo-European date shows that the wolf was widespread throughout the Indo-European territory. It also indicates its cultic and ritual significance, which is clearly attested in the oldest Indo-European traditions.

2.1.1.2. The ritual role of wolves in ancient Indo-European traditions

In Old Hittite tradition the wolf plays a special role, functioning as the embodiment of sacral qualities. In particular, wolves and wolf packs serve as an

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1. *wĺkho- and *wĺph- ultimately break down into a root *wel- with the original meaning 'lacerate, tear apart; wound; kill' and suffixes *-kho- and *-ph-, which yield the two Indo-European dialectal variants. For the original meaning of *wel- cf. Lat. uellō 'tear, tear apart', uolnus 'wound', Gk. oulé 'wound', OIr. fuil 'blood', MIr. fuili 'bloody wounds', Goth. wilwan 'plunder', wulwa 'robbery, brigandage', OIcel. valr 'corpses on battlefield', Toch. A wäl- 'die', Luw. u(wa)lanti- 'dead', Hier. Luw. wal(a)- 'die' (Hawkins 1980). Consequently, the original Indo-European meaning of 'wolf' was 'animal which tears apart (its prey)', 'killer beast'. For other derivatives of *wel- with the same meaning 'beast of prey', see below.

image of unity and omniscience. Thus King Hattusilis I (who reigned in the seventeenth century B.C.), addressing his council, urges his warrior subjects to unite 'like a wolf pack': *ú-e-it-na-aš ma-a-an pa-an-gur*. Dressing in wolf skins (cf. Hitt. LÚMEŠ UR.BAR.RA 'wolf people', i.e. people dressed in wolf skins, KBo XVI 68 I 13; 78 IV 9 et al.) conveys magical power, evidently conferring omniscience on the wearer, and may have been symbolic of a special juridical status. The formula for people turning into wolves, attested in *zik-wa* UR.BAR.RA-*aš kištat* 'you have turned into a wolf' of the Hittite Laws (§37), resembles Skt. *vŕko hí ṣáh* 'he is a wolf', referring to a special juridical status in the wedding ritual of kidnapping the bride (Watkins 1970a).[2]

Parallels to these Hittite formulas and rituals can be found in a number of other early Indo-European traditions, which testifies to their Proto-Indo-European character and reconstructibility. In ancient Greek tradition, a person 'becomes a wolf' (*lúkōi genésthai*, Plato: *Republic*) in connection with a special ritual form of killing. This corresponds exactly to a Germanic formula: in an Old Icelandic peacemaking oath a murderer 'shall be called a wolf' (*skal svá víða vargr heita*): Ivanov 1975.

There is a striking parallel to the Old Hittite ritual of putting on wolf skins, and to dances of 'wolf people' (LÚMEŠ UR.BAR.RA), i.e. those dressed in wolf skins, in an ancient Germanic tradition where warriors are depicted as wearing wolf skins and referred to as wolves (OE *heoruwulfas, wælwulfas* 'wolf warriors'). The custom is also found in Gothic: in Byzantium, Christmas was marked by ritual dances of Gothic warriors in wolf skins down to the end of the Byzantine period (see Kraus 1895). It is also noteworthy that the word 'wolf' was frequently used in Germanic personal names such as Goth. *Ulfilas* (see Kock 1924), OIcel. *Ulf-bjǫrn, Bjǫrn-olfr*, OHG *Wulf-bero*, OE *Bēo-wulf*; also relevant is the Frankish term *werwulf* 'werewolf', lit. 'person wolf'.

Ancient Slavic and Baltic traditions exhibit an especially clear correspondence with the Hittite and Germanic ones in a ritual transformation of a human into a wolf, which confers supernatural strength and the special status of vatic or all-knowing person (Jakobson 1966a, Ridley 1976). The omniscient Wolf King of the Slavs had wolf hair growing on his head, thus Slovene *volčja dláka* 'wolf hair, wolf locks' (cf. OIcel. *vargshár*, id.); the same expression subsequently provides the name for werewolves: Russ. *vurdalak*, Bulg. *vəlkolak*, etc. A distinctive characteristic of 'wolfskin people' and werewolves was their omniscience. This must reflect an ancient tradition, going back to Proto-Indo-European, of omniscient humans in wolf form (cf. Ukr. *viščun*, OCz. *vědi*, etc.), reflected in the evident link of *weit'-(n)- 'wolf' and *weit'- 'know' (Gk. *oîda*, Skt. *véda*, Russ. *vedat'*).

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2. Cf. the wolf (*vŕkah*) as the image of a thief or robber (*aghāśaṅsa-*) in the Rigveda, I, 42, 2-4.

2.1.1.3. The ritual status of the wolf, and dialect terms for 'wolf'

The special cultic and ritual status of wolves in Indo-European traditions, and their complex of sacred properties, give rise to the descriptive word for 'wolf', cognate to *weit'- 'know', which coexists with original *wl̥kʰo- ~ *wl̥pʰ-. These two roots are distributed throughout the Indo-European dialects, variously in the ritually marked sense and as the basic word for 'wolf'. The heavy functional load of the semantic element 'wolf' and the tendency to taboo certain original animal names may explain the appearance of new, sometimes euphemistic, formations meaning 'wolf' in various dialects (Zelenin 1929-1930).[3] For instance, in Latvian we find ancient euphemisms such as *dieva suns*, lit. 'god's dog', *meža suns* 'forest dog'.

The wolf as a predatory animal is designated with a new term cognate to the root *dʰeu- 'smother', 'crush', 'kill', attested in OCS *daviti* 'smother', 'crush', Goth. *afdauiþs* 'tormented' (causative participle), *þata diwanō* 'mortal' (*tò thnētón*), *undiwanei* 'immortal' (*athanatía*) (see above for the term for 'mortal; human' from this root).[4] Also formed from this root are ancient Balkan Indo-European words: the name of the Maionian god *Kandaulas*, which according to Hipponax means 'dog-strangler' (*kunágkhēs*), interpreted as one of the incarnations of an Indo-European wolf god to whom dogs were sacrificed (O. Masson 1962:106). Such words are attested with the meaning 'wolf' (etymologically 'killer, smotherer') in forms like Phrygian *dáos* (Hesychius) and Illyrian *Daunus* (cf. also *thaûnon · thēríon* in Hesychius).

2.1.1.4. Ethnonyms and toponyms connected with 'wolf'

Wolves were important in Indo-European tradition throughout its entire history, from Proto-Indo-European to historical times, as is testified by widespread

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3. This could also be the explanation for the Germanic designation of the wolf as 'criminal': OIcel. *vargr*, OHG *warg*, OE *wearg* (Jacoby 1974), cf. Goth. *ga-warg-jan* 'condemn, sentence', cognate to Hitt. *ḫurk-el* 'repulsive crime' (Puhvel 1971), cf. also LÚMEŠ *ḫurkilaš* 'people of crime' as the name of mythological beings who capture a wolf in their hands (in KUB XII 63 I 21ff.). The pan-Germanic term *vargtré* 'wolf tree' mentioned above (II.1.4.4) can be compared to Hitt. *ḫurki-* 'wheel' (§198 of the Hittite Laws, Sumerogram GIŠDUBBIN, DDUBBIN 'divine wheel' in the Autobiography of Hattusilis, I.36, in a context concerning the punishment of a criminal). Cf. the ritual meanings of the same root in Slavic: ORuss. *vorožiti* 'foretell', *vorožeja* 'witch', *vorog* 'enemy', *voroža* 'witchcraft', Russ. dial. *vorožejka*, a weathervane consisting of a pole stuck in the ground and a horizontal stick at the top with a bundle of tow at the end (Filin 1965-:5.109) (cf. the meaning of OIcel. *vargtré*, referring to a ritual pillar).

4. *wl̥kʰo- and *wl̥pʰ- had essentially this same original meaning; cf. Homeric *lússa* 'warrior's rage' (lit. 'rage of wolf') from *lúkos* 'wolf': *lússa dé hoi kêr aièn ékhe kraterḗ* 'his (Achilles') heart was forever ruled by a powerful wolf's rage', Iliad 21.542-43 (see Lincoln 1975). However, this original meaning of 'wolf' could subsequently have been lost, which made possible the rise of new terms for 'wolf' based on the same characteristic.

ethnonyms and toponyms containing the root 'wolf'. Whole peoples and countries were named for the wolf, due to the place given to wolves in the cultural traditions, probably of totemic origin, of various Indo-European tribes. The following examples are listed in order from west to east.

Ancient Italy: the tribe names *Lukani* (transmitted via Greek), *Hirpini* from **hirpus* 'wolf' (cf. the oracular prophesy reported by Servius, according to which *Hirpi Sorani* '*lupos imitarentur*', 'imitate wolves'), the Illyrian tribe *Daúnioi*.

The ancient Balkans: Strabo's name for the Dacians, *dáoi* 'wolves' (Eliade 1959); north Balkan *Daúnion teîkhos* 'wolf wall' (in Stephanus Byzantinus).

Greece and the Greek part of Asia Minor: *Lykaonia*, related to the name of the mythic king Lykaon; the city name *Lukósoura*; possibly *Lukka-*, a name in Hittite texts for a region of Asia Minor; the tribe name *Orka (Orkoi)* in Phrygia (Eisler 1951:137).

Iranian: the Sarmatian tribe *Oûrgoi* 'wolves' (Strabo); Old Iranian formations like **Vrkāna-* (in Elamite transmission *mi-ir-ka-nu-ya-ip* 'inhabitants of Hyrcania' beside the *Hyrkanoi* of classical authors); *Hyrkaniā*, located on the southeastern shore of the Caspian Sea and in the Transcaucasus (Cereteli 1963).

2.1.1.5. Typological and areal parallels to the status of wolves among the ancient Indo-Europeans

Striking parallels to the Indo-European wolf cult are to be found in South Caucasian (Kartvelian) culture. A wolf cult occupies a special place in the earliest traditions. The depiction of people in wolf masks is a basic motif of ritual art. Traces of the wolf cult are especially clear in Svan traditions, where as in ancient Indo-European wolves are a symbol of a certain type of social organization (Bardavelidze 1957:37ff.). Moreover, Svan tradition equates the mobility of wolf packs with that of human groups: the organization of wolves is a reflection in nature of human social organization (Charachidzé 1968:482).

In Old Georgian tradition the significance of the wolf cult is reflected in the names of the rulers of Iberia, which contained Iranian words meaning 'wolf', for example the epithet of the Old Georgian king Vakhtang Gorgasala 'Vakhtang Wolfhead'; the very name Vakhtang may be Iranian, from **warx-tang* = *vəhrka-tanū-* 'wolf-bodied' (cf. the Ossetic hero's name in the Nart epic, *Wærxæg*, from 'wolf' according to Abaev 1949:I.187, 1965:95). The name of ancient Iberia itself, **Vr̥kān-* = *Hyrkaniā*, goes back to the same Iranian word for 'wolf' (Cereteli 1963). As a result of the cultic status of wolves, the original Kartvelian word for 'wolf' undergoes taboo and is replaced by borrowings from other languages. Georgian *mgel-i*, Mingrelian *ger-i* are probably taken from Armenian (cf. Arm. *gayl* 'wolf'); Svan *txer* 'wolf' is obviously connected to Gk.

~*thḗr* 'wild animal'. Similarly, in Ossetic, where the wolf was an ancient totemic animal and the mythic ancestor of the tribe, the original Indo-European word was tabooed and is preserved only in mythic names. It is replaced by a word of apparent Turkic origin, *bīræǧ/ beræǧ* (Abaev 1958:I.262-63, 1949:I.48-49).

The wolf cult plays a special role in the South Caucasus, 'and many traits of the tradition connected with ritual status of wolves coincide in their essential elements right down to striking details with the ancient Indo-European traditions. The coincidence of this entire complex unites the Indo-European and South Caucasian traditions with a wider circle of mythic conceptions characteristic of a much broader area which extended far to the east (see Alföldi 1974:32, 150ff. for the wolf cult in this area).

According to the most recent archeological data, the earliest evidence of wolves is observed at the turn of the eighth and seventh millennia B.C. in a broad area of Southwest Asia, including continental Greece: Thessaly, eastern Asia Minor, the Iranian plateau, and Palestine, as well as some regions of western Europe and England (Berger and Protsch 1973:223).

2.1.2. Bear

2.1.2.1. The Indo-European word for 'bear'

Another Proto-Indo-European word denoting a large predator is $*H\underset{.}{r}t^h\widehat{K}^h$-, with regular correspondences across the early Indo-European dialects: Hitt. *hartagga-*,[5] Skt. *ŕkṣah*, Avest. *arəšō*, Gk. *árktos*, Arm. *arǰ*, Lat. *ursus*, MIr. *art*.[6] That the bear was well established in the ecological environment of the ancient Indo-Europeans can be inferred from the presence of this word in Proto-Indo-European and its reflexes in the basic dialect groups.

2.1.2.2. The cultic role of the bear in Hittite and other ancient Indo-European traditions

Although the bear has a role in ancient Indo-European tradition, its ritual significance is less than that of the wolf, with which it is often associated in

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5. Contrary to Otten's suggestion (see Neu 1974:32, 103) that *hartagga-* should be translated 'wolf' rather than 'bear', 'bear' is the more probable translation and in accord with the word's etymology (see Watkins 1975h). In addition, the contextual interpretations of the word indicate 'bear', not 'wolf'; for instance, Hittite texts (KUB XXIX 1 I 30 and others) mention the ability of the *hartagga-* to climb trees. Furthermore, at least two words for 'wolf' are attested in Hittite: *ulippana-* and *wetna-* (see 2.1.1.1 above).

6. This Celtic word is borrowed from Celtiberian into Basque as well, in the form *hartz* 'bear' (Šišmarev 1941:18).

certain rituals and hence in ritual terms. In Hittite rituals, wolf people dance together with bear people (LÚ*ḫartagga-*, see Jakob-Rost 1966), which is analogous to the ritual dance of Gothic warriors in bear and wolf hides (Kraus 1895). In ancient Germanic compound personal names 'bear' often combines with 'wolf': OIcel. *Ulf-bjǫrn, Bjǫrn-olfr*, OHG *Wulf-bero, Ber-ulf*, West Goth. *Bēr-ulfus*.

Illustration 1.
Vessel in the form of a bear. Ancient Balkan culture,
6th millennium B.C.

Hittite facts are particularly significant for the Indo-European tradition. As early as the ancient text KBoVII 14 a bear figures in a ritual sense: *nu-ut-ta ḫar-tág-gán ma-a-an [...] iš-ki-mi nu-tu-uḫ-ḫi-ya-at-ti-it a-ak-ti* 'and I will [crush?] you like a bear and you will suffocate' (Gamkrelidze 1961:275-76). The ritual significance of bears is also visible in Hittite fertility rituals, in which the bear is a symbolic inseminator of trees: *ḫartaggaš-ma-šmaš šara arkiškitta* 'and the bear mounted you'[7] (KUB XXIX 1 I 30; see Watkins 1975h). In this ritual, as in the Anittas inscription, the bear is ranked together with other 'animals of the gods', in particular the leopard and the lion.

2.1.2.3. The taboo on the word for 'bear' and its euphemistic replacements

As is no surprise, due to its cultic significance the original word for 'bear' undergoes taboo in various Indo-European cultures. In Slavic, the original

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7. The verb *ark-* corresponds to Russ. *ërzat'*, Beloruss. *ërzac'* 'fidget, rub, abrade' (in its original sexual meaning) and doublet Russ. *ërgat'* (Filin 1965-), and the cognate noun *arki-* 'testicle' (pl. *ar-ki-i-e-eš*, KBo XVII 61 Rs. 15) is etymologically related to Gk. *órkheis* 'testicles', Av. *ərəzi* (dual), Arm. *orjik'*, MIr. *uirgge* (see Watkins 1975h).

word is replaced by a descriptive one based on the bear's liking for sweets: Russ. *medved'*, RChSl. *medvĕd'*, Czech *medvĕd* from PIE **medʰw-et'-** > Common Slavic **medvĕd-ĭ** 'honey-eater'; cf. Skt. *madhuvád-* 'sweet-eater'.

In Germanic, where the bear like the wolf was a major sacred animal (Beck 1965:21ff., 146ff.), the taboo replaced the original term with a descriptive one based on the color of the brown bear, going back to Indo-European **bʰer-** 'brown': OHG *bero* 'bear' (Ger. *Bär*), OE *bera* (Engl. *bear*), OIcel. *bjǫrn* (Gottlieb 1931:39-41). In addition, Germanic attests a descriptive term reminiscent of the Slavic one: OE *Bēowulf* 'bear', lit. 'bee wolf'.

In Baltic another euphemism arises, which may be a phonetically altered form of the original word: OPruss. *tlok-* in *Tlokunpelk* 'Bear Swamp', from *clokis*; Lith. *lokȳs*, Latv. *lâcis* 'bear'.

Replacement of the original word for 'bear' takes place primarily in the Balto-Slavic-Germanic area, which testifies to the greater cultic significance of the bear in this area compared with other Indo-European groups. In this respect the Balto-Slavic-Germanic culture area exhibits closer links with northern and eastern Eurasian cultures (see Alekseenko 1960, Krejnovič 1969).

2.1.2.4. The typology of the Indo-European bear cult

In Indo-European tradition the bear cult takes second place in ritual significance to the wolf cult. The wolf cult comprises both the biological and the social sphere: the wolf is a symbol of the unity of the whole tribe, a special social status, a symbol of omniscience granted to the leader of the tribe, and so on. In contrast, the bear symbolizes primarily the biological sphere: the fertility of nature (cf. the mythic image of the bear's son and the rite of marriage with a bear in the Germanic tradition, Beck 1965, de Vries 1956:I.362ff.; in Slavic tradition, Ivanov and Toporov 1965:161; and in Greek traditions), and the destruction of life ('death of the bear').[8] Only in isolated late Indo-European cultures does the ritual and cultic significance of the bear extend to other spheres.

In a number of historical Indo-European traditions there is a substantial decrease in the cultic role of the bear, evidently due to ecological conditions of the later territories of these dialects. In particular, in the Sanskrit tradition the bear had lost its prominence by an early date; in the Rigveda the ancient term for bear, *ŕkṣa-*, is found only once while *vŕka-* 'wolf' occurs 23 times and the term for 'lion' 15 times (Grassmann 1873:278, 1325, 1515). In contrast, for the

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8. That the bear is a symbol of biological fertility unlike the rest of the animals associated with royal power is clear from the Hittite ritual KUB XXIX 1 cited above, where the bear is mentioned only in connection with the fertility of trees, while the lion and leopard are also mentioned in the sections having to do with renewal of the king's holy power.

Hittite tradition (as, incidentally, in Mesopotamia), a high number of bears is characteristic (see II.I.4.3 above on the Anittas inscription which mentions 120 bears in a menagerie), which may be interpreted as indicating that bears were particularly widespread in the ancient Near East.

In the South Caucasian (Kartvelian) culture area the bear cult is considerably less significant than the wolf cult. This must be responsible for the fact that the original word for 'bear' is preserved in Kartvelian (Geo. *datv-i*, Mingr. *tunt-i*, Laz *mtut-i*, Svan *däšdw*), while a variety of terms is found for 'wolf'.

2.1.3. Leopard or panther

2.1.3.1. The leopard in Old Hittite tradition

In the Hittite series of 'animals of the gods' the leopard (Hitt. *paršana-*, Sumerogram UG.TUR, which may equally well mean 'panther' or another large feline) takes the first, most important, place (see II.1.4.3 above; also the sequence *lion, leopard, bear* in the archaic ritual KUB XXIX 1). Furthermore, the leopard (*Felis pardus* L.), in contrast to the other animals, is credited with the ability to dance, as seen in the ritual KBo X 24 III 24: *nu pár-ša-ni-li tar-ú-i-eš-kán-[zi]* 'and they dance leopard-style', evidently describing a ritual dance performed in leopard skins. In a fertility ritual, the bear functions as the embodiment of masculine fertility while the leopard and lion may represent the female side: UR.MAH-*aš kattan šeškit* UG.TUR-*aš-(š)maš kattan šeš-kit ḫartaggaš-ma-šmaš šara arkiškitta* 'the lion(ess) slept under (you), the leopard slept under you, the bear climbed up onto you' (KUB XXIX 1 I 29-30).

Illustration 2.
Fresco depicting a leopard. Çatal Hüyük, 7th–6th millennia B.C.

2.1.3.2. The Hittite and Indo-Iranian terms for 'leopard'

The Hittite word *paršana-*, with suffixal *-ana-* (cf. *ulipp-ana-* 'wolf') and root *parš-*, corresponds to Persian *pārs ~ fārs* 'panther', the source of western Mongolian *p'ars* (fourteenth century), *bars* 'snow leopard', 'tiger''(Vladimircov 1917, 1929:341) and Old Turkic *bārs* 'tiger' (also a symbol in the twenty-year animal cycle, *bars jïl* 'year of the tiger');9 some Turkic languages preserve the meaning 'panther', the probable source of Russ. *bars* 'leopard' (see Dmitriev 1962:555).

The Iranian forms in *-s-* (Pers. *pārs ~ fārs*, Sarikoli *pis* 'snow leopard, leopard', Paxalina 1971:130) are counterpoised to forms in *-d-*: Sogd. *pwrδ'nk*, Pashto *pṛāng*, Pers. *palang* 'snow leopard' (with **rd > l*); the Persian form explains Oss. *fælank/færank* 'leopard' (Abaev 1958:I.450) and (via Tajik) Pamir forms such as Wakhi *pəlang* 'snow leopard', Ishkashim *pəlang* (Paxalina 1975:242, Grjunberg and Steblin-Kamenskij 1976:421). The form in **-d-* corresponds to Skt. *pṛdāku-* 'panther, tiger' (attested in Sanskrit lexicographers, Mayrhofer 1963:II.301ff., 335; cf. Fussman 1972:II.207-8). Greek also shows the same form: *párdalis, pórdalis, párdos* 'panther, leopard', *pardalēē* 'leopard skin'.

2.1.3.3. The role of the panther or leopard in Greek tradition

The panther or leopard in the Greek tradition, especially in Homer, displays striking ritual closeness to that of the Hittite tradition. In the Iliad (10.29-31), king Menelaus covers his back with a leopard skin before putting on his helmet and taking his spear:

Παρδαλέη μὲν πρῶτα μετάφρενον εὐρὺ κάλυψεν
ποικίλη, αὐτὰρ ἐπὶ στεφάνην κεφαλῆφιν ἀείρας
θήκατο χαλκείην, δόρυ δ' εἵλετο χειρὶ παχείῃ

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9. In Indo-European traditions the semanteme 'tiger' evidently appears later, in the individual dialects (for its absence in Proto-Indo-European see Thieme 1964:596). To render this sense a word is derived from **(s)theik'-* 'stab; sharp, sharpened' in Greek: *tígris* 'tiger' (from 'sharp', Av. *tiγra-* 'sharp', *tiγri-* 'arrow', OPers. *tigra-* 'sharp', see Watkins 1971:1543), borrowed into Latin and the modern European languages. The cultic role of the tiger (*Felis tigris* L.) is obviously minimal in the historical Indo-European traditions. Such a role is characteristic for ancient Southwest Asia (in Mohenjo-Daro, where the tiger appears in a sacred sequence of animals as an equivalent to the leopard or panther of the traditions to the west; in India proper the place of the tiger, associated with the north in the sacred animal symbolism, is later taken by the lion), Central Asia (cf. the Old Turkic animal cycle), and China, where the tiger functions in a system of five animals as the sole representative of those 'having fur' (L. Saussure 1920, Yuan Ke 1965:55-56, 72, Semeka 1971:105, 116). The tiger is not mentioned at all in the Rigveda, and only later, in the Atharvaveda, begins to replace the leopard as a symbol of royal power (Elizarenkova 1976:6, 232, 374). However, the leopard continues to function as a symbol of royal power also (Atharvaveda IV, 8).

'First of all he mantled his broad back in a leopard's
  spotted hide, then lifting the circle of a brazen helmet
  placed it upon his head, and took up a spear in his big hand'

And Alexander has a leopard skin on his shoulders (Iliad 3.16-18):

Τρωσὶν μὲν προμάχιζεν ᾿Αλέξανδρος θεοειδής,
παρδαλέην ὤμοισιν ἔχων καὶ καμπύλα τόξα
καὶ ξίφος
  'Alexander the godlike leapt from the ranks of the Trojans,
    as challenger wearing across his shoulders the hide of a leopard,
    curved bow and sword'

The leopard or panther is mentioned twice in Homer in enumerations of wild animals: in the Iliad in the series *jackals, panthers, wolves* (13.103: *thō̄ōn pardalíōn te lúkōn*), and in the Odyssey in a more revealing context where the god Proteus, an old man (*gérōn*), turns into a series of animals which are depicted as mythological beings: first into a lion, then into a dragon, a leopard, a great wild boar, and finally a stream and a tree reaching upwards (Odyssey 4.456-58):

ἀλλ᾿ ἦτοι πρώτιστα λέων γένετ᾿ ἠϋγένειος,
αὐτὰρ ἔπειτα δράκων καὶ πόρδαλις ἠδὲ μέγας σῦς·
γίγνετο δ᾿ ὑγρὸν ὕδωρ καὶ δένδρεον ὑψιπέτηλον
  'First he took on a whiskered lion's shape,
    a serpent then; a leopard; a great boar;
    then sousing water; then a tall green tree'

In this passage the cooccurrence of 'lion', 'panther' (or 'leopard'), and 'wild boar' together with 'tree' is highly significant in view of the Indo-European mythological tradition concerning animals of the gods.

2.1.3.4. The panther in Old Armenian legend

There is an extremely interesting semantic parallel to the Greek text in a mythic episode from an Armenian legend recounted by Moses of Chorene (History of Armenia I.26). The Median king Azhdahak (cf. Pers. *Aždahā*, Avest. *aži-dahāka-*, the legendary king of the Devis, with *aži-* 'dragon, serpent', cf. Skt. *Áhi- Budhnyá-* 'Serpent of the Depths') has a dream in which he sees, on a mountaintop in the 'country of the Armenians' (*yerkrin haykazanc'*), a miraculous woman dressed in 'red-purple' (*kin omn ciranazgest*) in labor

(*erkanc' ambřneal c'awov*). Suddenly she gives birth to three miraculous godlike beings (*cnaw kinn yarkarc eris katareals i diwc'azanc'*). The first of these beings, borne on a lion (*aceal i veray ariwcu*), sets off to the west; the second, on a panther (*i veray əncu*), sets off to the north; the third, on a huge dragon (*zvišapn arari sanjeal*), sets off in the direction of the Median kingdom (evidently to the southeast) and attacks it.[10]

Despite the Iranian etymology of the name *Azhdahak* and the thematic link with Media, the legend clearly reveals ancient mythological motifs expressed in archaic language. Compare in this respect the archaic Armenian hymn about the birth of the mythical being Vahagn (also in Moses of Chorene, I.31), where all the archaic Indo-European phraseology and mythic motifs coincide with those of the Azhdahak passage (see Watkins 1975h:518ff; for a detailed analysis of the hymn from the viewpoint of its Indo-European motifs see Dumézil 1969):

> *erknēr erkin erknēr erkir*
> *erknēr ew covn cirani*
> 'Heaven and earth were in labor,
> And the purple sea was in labor'

In the passage from the Odyssey discussed earlier and in the Armenian Azhdahak legend the three mythic animals *lion, dragon, leopard* are the same. This testifies to the extremely great age of these mythological motifs, which must go back to an archaic period of Indo-European cultural development.

2.1.3.5. The leopard or panther in medieval European traditions

These comparisons give particular significance to analogous symbols of sacred animals which figure in prophetic animal dreams in medieval Germanic mythological traditions.[11] In these dreams we find a set of animals, real and mythic, which coincide with those in the Hittite, Greek, and Armenian traditions: lion, unicorn, leopard, sometimes bear and wolf (the latter in Fredegard, early 7th century, in connection with a ritual concerning relations

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10. The association of animals with the four compass directions is an ancient motif which is reflected in Indo-European traditions. In the oldest Indic tradition the tiger, which functionally replaces the leopard in this culture, is associated with the north. In this connection it is interesting that in early Buddhist tradition four great kings associated with the four directions stand around Buddha's mother Maya during his birth and take the newborn child 'onto a spotted tiger's skin' (Mahāvastu III.315.2, Mahāvagga I.2.1, and others); cf. the Armenian myth mentioned above, where a miraculous being is borne on a panther and goes off to the north.

11. For the antiquity of animal dreams as a genre compare the Hurrian epic of the hunter Kesshi, passed down in its Hittite rendition: in a dream Kesshi goes hunting lions, and dragons (*elliyankuš*, KUB XXXIII 121 I 12) and other mythic animal-like beings (*damnaššaruš*, ibid. 13) appear to him.

between men and women).12   The appearance of the unicorn in the Germanic
inventory, instead of the dragon of Homeric and Old Armenian traditions, is due
to the relatively recent influence of literary versions of the medieval European
bestiary, in which the unicorn ultimately goes back in literary tradition to the
Indic animal epic (see White 1954).13

On the whole the genre of animal dreams, found in medieval Germanic myth
and evidently extending from this source into medieval European epics, reflects
the traces of pagan beliefs (Beck 1965:144-46, q.v. for the same genre in Old
Icelandic literature), and hence its similarities to the other Indo-European
traditions point to the great antiquity of these beliefs and the associated realia.14

2.1.3.6. The leopard or panther and the terms for it in Indo-European

The leopard or panther can be posited as a real animal in the ecological en-
vironment of the Proto-Indo-Europeans, though its semanteme was subsequently
lost in a number of later traditions. However, despite the fact that the existence

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12. Motifs from the genre of animal dreams could have entered the medieval epic
tradition, including Romance, from Germanic; this is found where authors of epics preserved
connections to Germanic tradition, e.g. in the Song of Roland (see Rajna 1884:449ff., Tavernier
1910:93ff., Beck 1965:139-44):

> *El destre braz li morst un vers si mals.*
> *Devers Ardene vit venir uns leuparz,*
> *Sun cors demenie mult fierement asalt*
> 'A boar bit his right arm so hard.
> From the direction of the Ardennes he saw a leopard approaching;
> It attacks him fiercely'

(727-29; lions, wild boars, and other animals appear in similar dreams elsewhere in the Song of
Roland). The same collection of animals — leopard, 'light and nimble, covered with a spotted
skin', lion, and wolf — appears in visions to the author of the Divine Comedy (cf. Botticelli's
famous drawing):

> *Ed ecco, quasi al cominciar dell' erta,*
> *Una lonza leggiera e presta molto,*
> *Che di pel maculato era coperta...* (I.31-33)
> *Si ch' a bene sperar m' era cagione*
> *Di quella fera alla gaietta pelle* (I.41-42)
> 'And there, almost at the beginning of the steep mountain slope,
> Covered with a spotted skin, turning around,
> Comes a panther, light and nimble...
> It seemed to me that I would have good luck
> And the marvelous fur of the animal...'

13. A vision including a leopard (Welsh *llewpart*), wild boar, and lion is also found in
medieval Celtic tradition; for Welsh see Griffiths 1937:198.

14. This literary-mythological genre of dreams may well reflect a set of symbols going
back to some prehistoric past. This is a sort of recollection of past history, removed to the
collective unconscious and emerging in dreams (see the notion of 'genre memory', Bakhtin
1963:142; for the complex of werewolf associations see Jakobson 1966a).

of a semantic element 'leopard' or 'panther' is highly plausible, there is no conclusive evidence of protoforms reflecting it. There are two roots, neither derivable from the other by regular Indo-European rules: one in **-s-** (Hitt. *parš-*, Pers. *pārs ~ fārs*) and one in **-d-** (Gk. *pard-*, *pord-*, Sogd. *pwrδ'-*, Skt. *pṛd-*). Borrowing of either of these forms from one Indo-European dialect into another is also ruled out. The word is regarded as a loan from a substratal language of Asia Minor (Kronasser 1962:I.183, Furnée 1972:64, 252, 277).

2.1.3.7. The connection of the Indo-European word for 'leopard' with words from ancient Asia Minor

In Hattic we find the word *haprašsun* as an equivalent to the Hittite genitive ŠA UG.TUR 'of leopard'. A prefix *ha-* and suffix *-un* can be segmented off,[15] leaving a root *-prašš-*, which coincides with the root of Hittite *paršana-*.

Illustration 3.
Depiction of a dancing man in a leopard skin.
Çatal Hüyük, 7th–6th millennia B.C.

Hittite leopard worship, attested in a mythological Hittite text about the construction of temples for the Thundergod (412/b+2121/c+2030/c), continues

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15. Cf. Hatt. *ha-p/wiwuna-n* 'among people = Hitt. *dandukešni* 'among mortals'; *ha-wa-šhap(-i)* 'among the gods' = Hitt. DINGIR MEŠ-*naš-a ištarna* 'among the gods', Kammenhuber 1969:490; *ha-i-waib* 'in our house', Schuster 1974:96-97. For the suffix *-un* cf. *takehaun* 'lion' (Hitt. ŠA UR.MAḪ) beside *takeha* 'lion', *takkehal* 'hero' (Kammenhuber 1969:447, 467).

a tradition going back for millennia in this region. Excavations of the last decades have shown a leopard cult to have been a basic feature of the ancient culture of Asia Minor, going back at least to the seventh and sixth millennia B.C.[16] This is the date given to the ruins of temples excavated in Çatal Hüyük, where frescoes have been found depicting leopards and dancing warriors in leopard skins, as well as sculptures of sacred leopards on which anthropomorphic deities could stand (Mellaart 1965:94, 1967, Strika 1975).[17] Leopards as female symbols, or association of leopard images with female deities, are conspicuously frequent (throughout Asia Minor, not only in Çatal Hüyük but also at Hacılar: Masson 1966:163). This ancient cult may have entered the Proto-Indo-European culture area from Asia Minor, to be reflected in various archaic Indo-European cultural traditions.

The Indo-European word for 'leopard' may itself go back to a source from Asia Minor, which yielded different reflexes in the various Indo-European dialects. The alternation of *s and *d reflected in the Indo-European forms may point to a dental fricative in the original source language.

2.1.3.8. Replacements of the word for 'leopard' in early Indo-European dialects

A number of Indo-European dialects replace the original Indo-European word with other forms, or lose it entirely (e.g. Italic, Celtic, Baltic) as a result of new ecological and cultural conditions.[18] For example, in the Kafir languages the leopard is referred to as 'killer': Waigali *jū̃ṭ* 'leopard', cognate to Skt. *hantár-* 'murderer, killer' (Morgenstierne 1954:162, 262; Fussman 1972:II.208), Kati *jut* 'leopard' (Grjunberg 1980:133-35). In Armenian, the semanteme 'leopard' is preserved but is expressed by *inj*, originally 'lion' (cf. the cognate Skt. *siṁha-*; see Meillet 1936:142); this may point to a taboo on the ritually significant word for 'leopard' in the prehistoric Armenian tradition.

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16. The leopard cult of antiquity indicates that the leopard ranged in Asia Minor, as is confirmed by bones found in Çatal Hüyük (Masson 1966:165). The range of the leopard in ancient Southwest Asia was limited to mountainous regions, from Asia Minor and the Transcaucasus to southern Turkmenia (the Karatepe region, see Lisicyna 1978:198-200). A word meaning 'leopard' can also be reconstructed for Proto-Semitic: *nimr-* (Fronzaroli 1968:V.281).

17. An analogous leopard cult is found later in Egypt; leopard pelts were the clothing of priests and cloaks for especially solemn ceremonies (see Erman and Grapow 1955:I.415).

18. In the Slavic languages, as in the others just mentioned, there is no clear evidence for a word meaning 'leopard' or 'panther' at any early time (the Turkic loan *bars* is attested for Russian no earlier than the sixteenth century: Barxudarov 1975-:I.74). Nonetheless, the extremely archaic phrase *ljutyi zvěr'* 'fierce beast', which goes back to Common Slavic, could also refer to a leopard in Old Russian: cf. *Ljutyi zvěr' skočil mne na bedry* 'The fierce beast jumped onto my thighs' in the *Admonition* of Vladimir Monomax. Later the phrase is used in reference to mythological animals: lion, bear, wolf, and lynx (Ivanov and Toporov 1974:58-61, 124, 171, 203-4).

2.1.3.9. The typology of the leopard cult in Southwest Asia

The leopard cult originating in ancient Asia Minor goes back to a remote past and covers a broad territory in the eastern Mediterranean area and western Asia. An echo of this cult in the Caucasian world is the image of the hero in a leopard's skin in the epic poem of medieval Georgia, Shota Rustaveli's *Vepxistq'aosani*. The image bears a striking resemblance to the appearance of the Homeric warrior heroes Menelaus and Alexander wearing leopard skins on their shoulders, and the earlier images from Asia Minor of people wearing leopard skins and dancing like leopards.[19]

2.1.4. Lion

2.1.4.1. The question of the term for 'lion' in historical Indo-European dialects

Words for 'lion' show a variety of stems in early Indo-European dialects. Greek has two forms: *léōn*, gen. *léontos* (borrowed into Latin as *leō*, gen. *leōnis*) and poetic *lîs* (in Homer, Iliad 11.239, 480). Mycenean Greek attests *re-wo-pi* (Morpurgo 1963:294) and the adjective *re-wo-te-jo* (Risch 1976:313), which shows that Gk. *léon* goes back at least to the Mycenean period and has the form **lewont-* (Lejeune 1958:165). The other Greek form *lîs* is evidently not cognate to **lewont-* and comes from another stem. Indic and Armenian point to still another root: Skt. *simha-* 'lion', Arm. *inj* 'leopard', from **singho-*.

In Germanic, 'lion' is expressed by such forms as OHG *lewo*, MHG *lewe*, *louwe* (Ger. *Löwe*, poetic *Leu*, with a distribution analogous to that of Gk. *léon* : poet. *lîs*), usually considered a loan from Latin (Paul 1953:33, 41, 1956:I.382). But the derivation of the Old High German form from Latin *leō* is unconvincing because the Latin form, like its classical Greek source, lacks the intervocalic -*w*- lost in Greek dialects in the sixth to fifth centuries B.C. The Old High German -*w*- cannot be a secondary development, since there are no convincing examples of such a process; and there are examples showing preservation of intervocalic **-w-* in Common Germanic words: OHG *ēwa* 'eternity; eternal order', MHG *ēwe* 'law; eternity' (cf. Goth. *aiws* 'eternal'). This could be taken as evidence for the native status of Germanic (OHG) *lewo*. The parallel form, Ger. *Leu*, is noteworthy in this connection; usually traced to MHG *lōuwe*, late OHG *louwo*

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19. Therefore the correct interpretation of OGeo. *vepxi* would seem to be 'leopard' (cf. Marr 1910), not 'tiger' (the word acquires this meaning in Modern Georgian; cf. the semantic evolution from 'leopard' to 'tiger' in East Asian languages): see Caišvili 1974[1965]:270-76, Kobidze 1969:II.78ff. It is obviously a leopard that is depicted in an ancient bronze belt from a grave in Samtavro (belt 3, Table III) which shows spotted 'fantastic animals' (Xidašeli 1982:29).

(Paul 1953:41, 1956:I.382), it is completely parallel in its development to Ger-
treu 'true' (masc.), which reflects Proto-Germanic **triuwaz* (Paul 1956:II.626,
Watkins 1971:1512), cf. Goth. *triggws*, OIcel. *tryggr* 'solid, sound; true', OE
-trēowe, Engl. *true*, from PIE **t'reu-os*, cf. OIr. *dron* 'solid, sound' (for the
semantics see Benveniste 1966a:299, 1969:I.108). This is grounds for positing
Proto-Germanic **liuwaz* < PIE **leu-os*.[20]

Hittite has a word for 'lion', *walwa-* (Luw. *walwa-*), as well as *walwi-*, a
reading of the Sumerogram UR.MAḪ-*aš* and UR.MAḪ-*iš* (see Neu 1974:103
and references therein),[21] which confirms the Proto-Indo-European character
of the root **leu-* 'lion'. The Hittite word is a broken reduplication **wolw-o-*,
with the second root sonant repeated.

2.1.4.2. The cultic role of the lion in early Indo-European traditions

The presence of Anatolian, Greek, and Germanic cognates for 'lion' and the
consequent Proto-Indo-European nature of the word are in agreement with the
exceptional cultic role of lions in various Indo-European traditions. In the
Hittite tradition, in addition to the evidence presented above for joint veneration
of leopards and lions, there is a relevant motif of ritual capture of a wolf and a
lion by mythic beings: UR.BAR.RA *ki-iš-šar-ta e-ep-ten* UR.MAḪ *ga-nu-ut*
e-ep-ten (KUB XII 63 I 26) 'seize the wolf by his paws, and the lion by his jaws'
(translation taken from Watkins 1972a). In Hittite and Luwian art the lion is
one of the basic motifs: lion images are found at Malatya, Alaca Hüyük, and
elsewhere, and the Lion Gate at Boghazköy depicts the lion as a symbol of the
king's power among the Hittites.[22]

The same tradition is reflected in Mycenean Greece. Lionesses on both sides
of the throne at Pylos and lions over the gates at Mycenae symbolize the sacred
power of kings and are an exact repetition of the same motifs in contem-

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20. The Proto-Germanic form could conceivably have preserved the *e* vocalism that
reflects earlier Indo-European **e*. In Old High German there are instances where short *e* is
preserved before *u* (Paul 1953:42-43). If we reconstruct **liuwa-* with **i* vocalism for Proto-
Germanic we can regularly derive early Slavic **lĭwŭ* from it as a loan: OCS *lĭvŭ* '*léōn*' (see
Vasmer 1964-1973:II.471-72).

21. Neumann's reading (1961) of Hitt. *awiti-* as 'lion' (from **owi-et'-* 'devourer of
sheep') raises both formal and distributional objections: the initial *ḫ-* expected on the basis of
Luw. *ḫawi-*, Hier. Luw. *ḫawa/i-* 'sheep' is missing (Kammenhuber 1961b:199); and *awiti-* is
used, not in place of the Sumerogram UR.MAḪ, but next to it (Friedrich 1966:12).

22. Cf. the royal ritual where 'eagle's eyes' and 'lion's teeth' are made for the king:
šakuwa-šši ÁMUŠEN-*aš* ier KAxUDḪI.A-*ma-šši* UR.MAḪ-*aš* ier 'they made eagle's eyes for
him, and they made him lion's teeth' (KUB XXIX 1 II 53; later the same passage mentions lion's
teeth and leopard's teeth). Cf. also in Old Hittite texts UR.MAḪ LUGAL-*uš* 'lion king (hero)'
and similar expressions (Neu 1974:103).

—poraneous Hittite art (Webster 1958:32, 57-58 et pass.). A goddess interpreted as the mistress of wild animals, Artemis,23 is depicted in Mycenean art with a lion at each side. (This recalls the leopards at each side of the fertility goddess in the art of ancient Asia Minor; the two leopards on the handle of a dagger in the traditions of ancient Asia Minor [Mellaart 1965] correspond to the two symmetrical lion heads on the handle of a sword from a Mycenean grave [Blavatskaja 1966:53 and fig. 17].) Hittite and Mycenean art also share similar scenes of lion hunts (a blade from Mycenae, Blavatskaja 1966:59-60 and fig. 13). In describing objects decorated with images of lions, Mycenean tablets use the word discussed earlier, *rewopi* 'with lions' (Lejeune 1958:181). Given the absence, or at least great rarity, of lions in the historical territory of the Greeks, the significance of lions as a cult animal and artistic motif can be explained as the continuation of a tradition which arose in a different ecological environment.

The motif of a lion as a sacred animal is preserved into the Homeric epoch, with echoes in the classical tradition reflected in the image of Hercules, who fought a lion and wore a lion skin.24 The image of lions and lion gates continues into later Greek tradition in the form of palace gates in Greek tragedy (Hiller 1976).

In the Germanic tradition, shields depicting a wild boar and lion, or a lion and lioness, are known among the eastern Germans as early as the fourth century A.D.; cf. the evidence of lions as symbols on battle shields in Old Icelandic sagas and lions on the banners of Anglo-Saxon kings (Beck 1965:35-37ff.), and the data cited in II.1.4.4 above showing lions to have been among the sacred animals of the Germanic tribes.

Later ramifications of what is ultimately the same Indo-European cult of the lion as a sacred animal and 'king of beasts', with overlays from classical and Christian times, can be seen in the literature and folklore of the Celts25 and Slavs.26

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23. Compare Homer's use of *léōn* in reference to Artemis: *Zeús se léonta gunaiksì thêke* 'Zeus placed you before women as a destroying lioness'.

24. Herakles, shown fighting with a lion on Attic vases, is shown in a lion's mouth in one instance (Webster 1958:175-76 and fig. 24), which may echo the Hittite mythic text discussed above which mentions catching a lion by its jaws.

25. Starting with the twelfth century, in Welsh tradition the heroes who free the country from the foreign domination of the Anglo-Saxons were depicted as lions, dragons, bears, eagles, bulls, wolves, donkeys, and dogs (Griffiths 1937:167ff.).

26. In Slavic tales, folk songs, incantations, and rituals the lion is given the place of honor as king of the animals; and in East Slavic folklore *lev-zver'* 'lion beast' often figures as a parallel to the phrase *ljutyj zver'* 'fierce beast' (see Ivanov and Toporov 1974:60). In the first element of this phrase Miller (1877) sees a cognate to Gk. *léōn* (from **leu-*). In that case, Common Slavic *ljutŭ < *leutʰ-*, which has so far not been etymologized satisfactorily, can be regarded as a derivative in **-tʰ-* from the same root **leu-* 'lion'; cf. the similar formation in Alb. *letë < *leut-* 'mane'.

2.1.4.3. *The relation of the Common Indo-European word for 'lion' to Afro-asiatic and other Southwest Asian terms*

The Hittite, Greek, and Germanic cognates, and the possible cognate derivatives in Slavic and Albanian, point to an Indo-European lexeme ***leu-** 'lion'. It goes back to Proto-Indo-European times and was subsequently replaced or lost in various dialects due to changed ecological conditions.[27] These conclusions make it plausible to connect Tocharian A *lu* 'beast, animal' (gen.sg. *lw-es*, nom.pl. *lw-ā*, instr.pl. *lwā-yo*, loc. *lwā-k-am*) to the same Indo-European root; the semantic generalization would have taken place when Toch. A *śiśäk*, B *şecake* 'lion' was borrowed, probably from Indo-Iranian (cf. Skt. *simha-*).

PIE ***leu-** 'lion' is phonetically very close to words for 'lion' in Afroasiatic languages, e.g. Egypt. *rw* 'lion' (the attestation begins with the Pyramid texts: Erman and Grapow 1955:II.403), Copt. *laboi*, Akkad. *lābu*, Ugaritic *lb'*, Hebr. *lābī'* beside Arabic *labwa* (Koehler 1939).[28] Kartvelian ***lom-** (Geo. *lom-i*, Svan *löm*) is also relevant. The word was obviously an early Near Eastern migratory term for the lion,[29] which throughout ancient Southwest Asia symbolized animal power and the holy power of the king. The term must have entered the archaic Indo-European dialects before the Proto-Indo-European breakup, since it yields regular reflexes in them. In this respect the word for 'lion' is analogous to the word for 'leopard', another Near Eastern migratory term found in a number of languages of the area.

2.1.4.4. *Traces of an Indo-European word for 'lion's roar'*

If there was a Proto-Indo-European word for 'lion', it is likely that there was also a word for its roaring, one of its most salient features; and in fact a number of dialects reflect just such a word: Lat. *rugiō* 'roar like a lion', MIr. *rucht* 'roaring, howling', Hom. Gk. *ereúgomai* 'roar; growl, snarl' (used figuratively, of a hero, Iliad 17.265; of the sea, Odyssey 5.403; and also, in the meaning 'roar, bellow', of a bull: *taûron erúgmēlon* 'roaring bull', Iliad 18.580); OCS

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27. Although Indo-Iranian uses a different lexeme to mean 'lion', the significance of the animal remains considerable, as is seen in the Rigveda: see the reference to a lion in the hymn to Parjanya (V, 83, 3), where the Thundergod's thunder is compared to the 'thunder roar of a lion', *simhásya stanátha-*; the dialogue hymn of Indra (X, 28, 1), where the lion figures as the highest animal, contrasted to the fox; and elsewhere.

28. The other form for 'lion', shown by Gk. *lîs*, can be compared to *laīš*, attested in Hebrew and representing a parallel form to the root *lb'* (Masson 1967:85-87), which is reconstructible for Proto-Semitic as **labi'* 'lioness' (see Fronzaroli 1968:V.281).

29. Despite the wide distribution of forms with the phonetic structure *liquid + labial* referring to lions, we find a word of completely different structure in Hattic: *takeha-un*, corresponding to the Hittite Sumerogram *ŚA* UR.MAH 'lion' (Kammenhuber 1969:447, 467). It is significant that the word for 'hero' is derived from this word: *takkehal*.

rŭžǫ 'neigh', ORuss. *r''žati* 'neigh, cry, roar' (e.g. in the chronicle *vzorža zemlja* 'the earth began to roar'), Goth. *in-raúhtjan* 'become furious': PIE **reuǩ'-**. Names of animals naturally develop from this original meaning: Arm. *aṙiwc* 'lion' (Ačarjan 1971:I.259), OIcel. *raukn* 'harness animal'; for the semantic development of OE *rēoc* 'wild' cf. Russ. *ljutyj zver'* 'fiercé beast' (a folkloric phrase, discussed in 2.1.5.2 below; see also note 18) from the root for 'lion'.

In addition to **reuǩ'-**, there was a parallel stem **reukʰ-** with the same meaning: OHG *rohōn* 'rugīre', 'growl', Lith. *rū́kti* 'growl', OCS *rykati* 'roar', Russ. *ryk* '(lion's) roar'. These two share a root **reu-** 'roar', attested in Skt. *ru-* 'roar (of bulls)', *ráva-* 'roaring, thunder', OCS *rovǫ* 'roar', etc.

2.1.4.5. The typology of the lion cult in the Near East

The ritual significance of lions in the Caucasus, particularly in ancient Kartvelian tradition, may be an echo of the Near Eastern lion cult. In western Georgia sculptures of lions have been found, dated to the first millennium B.C. and reminiscent of the Hittite and Mycenean depictions of lions. There are Svan lion banners (Bardavelidze 1957:37ff.) and a Khevsurian prayer to a god Lomisi, obviously 'lion god' (cf. Geo. *lom-i* 'lion'): Charachidzé 1968:211, 442-44 et pass. A literary reflection can be seen in the presentation of the hero 'in the form of a lion' and the symbolic conjunction of leopard and lion in Rustaveli (see Marr 1910).

2.1.5. Lynx

2.1.5.1. The word for 'lynx' in the Indo-European dialects

A word for 'lynx' is found in almost all of the main Indo-European dialect groups: Gk. *lúgks*, gen. *lugkós*, OHG *luhs*, OE *lox* 'lynx', Arm. *lusanunk'* (pl.), Lith. *lū́šis*, OLith. *lúš-ų* (consonant stem: Būga 1958-1961:II.59, 549) 'lynx', Latv. *lūsis*, OPruss. *luysis*; formal divergences are shown by Slavic **rysĭ* (Russ. *rys'*), with *r-* instead of **l-*, and Celtic (MIr. *lug*, gen. *loga*), with *-g-* instead of **-k-*. The phonetic alternations can be ascribed to the fact that this is an animal name; also relevant is the nasalization in Greek, *lun-k-*, paralleled by Lith. dial. *lį́nšis* (Būga 1958-1961:II.549).

This word is clearly etymologically related to the root PIE **leukʰ- ~ *lukʰ-** 'shine' (cf. Skt. *rúśant-* 'light-colored, white'). The animal was named for the light or bright color of its coat or eyes. Compare, from recent traditions, Latv. *lūša spalvas zirgs* 'lynx-colored horse'.

2.1.5.2. The status of the lynx in Indo-European mythic and ritual traditions

The lynx is of minimal mythological and ritual significance in most ancient Indo-European traditions. In northern traditions the lynx is a functional replacement for the large predators not found in those regions. In East Slavic burial rites for kings, the role of the leopard in other Indo-European traditions is taken over by the lynx (in a sacrifice of lynx or bear claws); in East Slavic folklore the epithet *ljutyj zver'* refers to lions, leopards, or lynxes (Ivanov and Toporov 1974:59). In Lithuanian, the word for 'lynx' can also be applied to tigers and leopards (Būga 1958-1961:II.549); semantic shifting is possible in MIr. *lug* 'lynx'; Latvian folk songs glorify lynx pelts (*lūšu kažuociņi*).

The fact that there is no trace of a cultic role for the lynx or wildcat in ancient Indo-European traditions, while the animal is widespread and its name can be reconstructed and is preserved in the original sense in many branches, can be explained only by properties of the structural hierarchy of wild animals in the system of early Indo-European mythic conceptions. In cultures where the large felines such as the leopard, lion, and tiger occupy important positions in the hierarchy, as they do in the oldest Indo-European traditions, the smaller animals like the lynx have no place in the system. They acquire ritual function only in the traditions which, for one reason or another, have lost the larger felines, whose place is then taken by the smaller ones, as happens in the less ancient Baltic and Slavic traditions.

2.1.6. Jackal, fox

2.1.6.1. The Indo-European term for 'jackal', 'fox' and its original meaning

The small carnivores in early Indo-European tradition also include the jackal and fox, whose names in the daughter languages partly match the word for 'wolf', *wl̥pʰ-: Avest. *urupi-* 'dog', *raopi-* 'fox, jackal', Lat. *uolpēs* 'fox', Lith. *lāpė* (from *wlopē) 'vixen'. These forms clearly show a phonetic-morphological variant of a stem that has been formed from *wl̥pʰ- by addition of -*i*- (Avestan) or -*e*- (feminine; Latin and Lithuanian). The use of a stem with the basic meaning 'wolf' to refer to jackals or foxes shows that, in the Indo-European taxonomy, these animals were classified together, presumably on the basis of their similar appearance and eating habits.[30]

The same set of animals has another name in Indo-European dialects, coinciding only in part with the first one: Skt. *lopāśá-* (< *laupāśa-) 'jackal, fox',

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30. Many languages exhibit a typological parallel to the formal correspondence of 'wolf' to 'jackal' and 'fox', or more precisely to the use of the word for 'wolf' to refer to foxes and jackals. For instance, in Abkhaz *a-bga* 'wolf' also denotes foxes and jackals.

Waigali *liw'ašä, láwáš́á* 'fox', *lawaša* 'jackal' (Morgenstierne 1954:274), OPers. *Raubasa* (personal name in Elamite transmission, Mayrhofer 1973:226), Pehl. *rōpāh*, Pers. *rōbāh*, Khotanese Saka *rruvāsa-*, Ishkashim *urvēs, urvēsok*, Sanglechi *vərvēs, wərvēs* (Abaev 1958-1979:II.433-34), Arm. *aƚuēs* (from **aloph̑es-*) 'fox', Gk. *alópēks* 'fox', Lith. *vilpišỹs* 'wildcat', Latv. *lapsa* 'fox', OCS *lisa* 'fox' (translating Gk. *alópēks*); see Pokorny 1959:1179. All these forms can be derived from **wlopheк̑h-ā̆*, which is a feminine formed by compounding: **wl-o-pheк̑hw-(ā̆)*. The first root is the zero grade of **wel-* 'tear apart prey; kill' (also 'dead; world of the dead'), the source of **wḷkho-*, **wlph-* 'wolf' and **wḷph-i/-ē* 'jackal, fox'. The second root is **pheк̑hu-* 'livestock'; hence the original meaning was 'cattle killer' (or 'one who feeds on dead cattle').[31] The protoform **wl-o-pheк̑h-(ā̆)* can produce all attested forms with minimal phonetic adjustments: loss or metathesis of the initial **w-*, a prothetic vowel in some forms (Greek, Armenian), and later reduction of the root vowels. These phonetic alterations could have taken place as the compound, which could originally refer to any predator on livestock, lost its descriptive meaning and was reinterpreted as an unanalyzable word for a particular animal, primarily the fox and jackal.[32]

2.1.6.2. *The role of the jackal and fox in ancient Indo-European tradition*

In early Indo-European tradition the jackal and fox are unattractive, low-ranked animals in contrast to the large carnivores such as the lion, panther, and leopard, which symbolize exaltation, greatness, and beauty (including that of a female deity). The jackal and fox are distinguished among animals only by their cunning and craftiness, and are usually feminine. In the Rigveda, the only reference to them is in a context where they are contrasted to high-ranked animals (X, 28, 4):

idám sú me jaritar ā́ cikiddhi pratīpáṁ ṣápaṁ nadyò vahanti
lopāśáḥ siṁhám pratyáñcam atsāḥ krostā́ varāhám nír atakta kákṣāt
'Understand this word of mine to the end, singer: the rivers drive driftwood against the current;
The fox (*lopāśá-*) has crept up on the lion (*siṁhám*) from behind,
the jackal (*krostā́*) has ambushed the wild boar (*varāhám*)'

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31. For the loss of **-w-* in this position (**wl-o-pheк̑hw-ā̆ > *wl-o-pheк̑h-ā̆*) cf. **wīr-o-phkк̑hw-o- > *wīr-o-phkh-o-* in Ved. *virapśá-* 'multitude of people and animals', Iran. *Wrpś*.

32. In a number of dialects, including Germanic, this word in the meaning 'fox' is also replaced (due to taboo?) by another root: Goth. *fauhō*, OIcel. *fóa* 'fox'; with the masculine ending -*s*, OHG *fuhs* 'fox' (Ger. *Fuchs*), OE, Engl. *fox*.

Fables opposing a crafty fox to a lion or leopard are among the most widespread in antiquity.[33] These motifs are characteristic of a folk animal epos widespread in the folklore of Eurasian peoples and given literary embodiment in Goethe's *Reineke Fuchs*.

2.1.7. Wild boar

2.1.7.1. The Indo-European term for 'wild boar' and its transformations in the historical dialects

The wild boar in early Indo-European tradition is comparable in its cultic significance to the large predators discussed earlier — the wolf, bear, leopard, and lion. The original Indo-European word for 'wild boar' is preserved in only a few dialects, primarily Italic: Lat. *aper* 'wild boar', *aprugnus* 'of or pertaining to wild boars' (lit. 'created by wild boar'), Umbr. *abrunu* (acc.sg.) 'wild boar'; also Germanic: OE *eofor* 'wild boar', OHG *ebur* (Ger. *Eber*). The Baltic and Slavic cognates have initial *w-: Latv. *vepris* 'wild pig; hog', ORuss. *vepr'* (often *divii vepr'*, with *divii* 'wild':[34] Sreznevskij 1958:I.245).
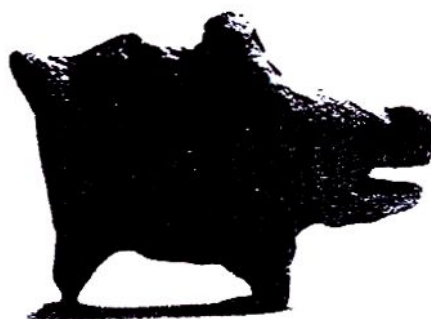

Illustration 4.
Clay figurine of a (wild) boar. Northern Black Sea area,
second half of 5th millennium B.C.

The stem of these words can be related to one meaning 'throw', 'ejaculate (semen)': Skt. *vápati* 'ejaculates', *vápra-* 'embankment (of earth)' (see Pokorny 1959:1149). The connection is plausible in view of ancient conceptions of this animal as first of all a breeder, well reflected in mythological tradition (especially Germanic) as discussed below.

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33. Cf. Aesop's fables of the fox and lion and the lion and leopard, where the spotted (*poikílos*) skin of the leopard is set off against the spotted (i.e. extremely crafty) soul of the fox.

34. Cf. in the Rigveda (I, 114, 5) *divó varāhám* 'heavenly boar' (concerning the god Rudra), where the first element is cognate to the first element of the Slavic expression.

Another base, semantically connected with the Sanskrit verb, is probably represented in Skt. *káp-r̥-th(-a-)* 'penis', related to Gk. *kápros* 'wild boar', Lat. *caper* 'goat', Umbr. *kaprum* 'caprum', OIcel. *hafr* 'goat', OE *hæfer* 'goat' (see Ernout and Meillet 1967:38). This set can be seen as cognate to the set meaning 'wild boar' (Lat. *aper*, ORuss. *vepr'*, etc.) if we reconstruct ah archaic Proto-Indo-European root with initial postvelar **qʰ-*: **qʰwepʰ-*, with loss of the **qʰ-* in some dialects (Skt. *vápati*, ORuss. *vepr'*, Latv. *vepris*, OHG *ebur*, Lat. *aper*) and merger with **kʰ-* in others (Skt. *káp-r̥-th-*, Lat. *caper*, Gk. *kápros*; for postvelar **qʰ* and its reflexes see I.2.4.6 above).[35]

In some dialects, particularly Italic and Germanic, these phonetic processes produced doublets which underwent subsequent semantic differentiation, with one form preserving the meaning 'wild boar' (Lat. *aper*, OE *eofor*, etc.) and the other coming to mean 'he-goat, breeding male goat' (Lat. *caper*, OE *hæfer*, etc.). Homeric Greek preserves the original meaning of the form with initial *k-*, *kápros* 'wild boar', also used in the combination *sûs kápros* 'wild boar' (Iliad 5.783 et pass.).

It is apparently the cultic significance of the wild boar that explains the tendency to replace the original word for it with one meaning '(domestic) pig': *sûs*, *hûs*. As early as Homer we find, beside *kápros* 'wild boar' (Odyssey 6.104), combinations like *sûs kápros* (Iliad 5.783, 17.21) 'wild-boar pig', *suôn kápros* (Odyssey 11.131) 'pig boar' or simply *mégas sûs* 'large pig' meaning 'wild boar' (Odyssey 4.457, 19.439).

2.1.7.2. The cultic significance of wild boars in ancient Indo-European traditions

In Hittite tradition the wild boar — whose Hittite name is unknown, hidden behind the Sumerograms ŠAḪ 'pig, wild boar' and ŠAḪ.GIŠ.GI 'wild boar' (lit. 'reed pig') — is mentioned in a series of sacred animals (*šiunaš ḫuitar* 'god's animals') for a menagerie, following the lion (UR.MAḪ) and preceding the bear (AZ) in the Old Hittite Anittas text (see II.1.4.3 above). The animal has the same significance in Mycenean Greek tradition, where we find the earliest evidence of warriors' helmets with wild boar tusks as a symbol of warlike

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35. As a result of the merger of **qʰ* and **kʰ* in the early Indo-European dialects, the sequence **kʰw-* arises in these forms; in the *centum* dialects this sequence is kept distinct from the labiovelar **kʰo* and simplified to **kʰ*: Gk. *kápros* 'boar', Lat. *caper* 'he-goat'; for the details of this phonetic process see I.2.3.2 above. The sequence of initial postvelar plus labial **qʰw-* posited for archaic Indo-European, which yields **kw-* in a number of dialects, can probably explain the anomalous correspondences of root vocalism in various dialects (Lat. *aper*, *caper*, Gk. *kápros* beside OE *eofor*, Russ. *vepr'*, Latv. *vepris*) as well as the voiced *g-* of Celtic (OIr. *gabor*, Welsh *gafr* 'goat'; see Pokorny 1959:529), which may be a peculiar reflex of **kʰw-*.

qualities. Exactly such a helmet, with 'the silver-toothed boar's white tusks', is described in Homer's *leukoì odóntes argiódontos huós* (Iliad 10.263-64).

Boar-tusk helmets and shields, and military emblems with depictions of wild boars as a warlike symbol, are widespread among the ancient Germans, for whom the cultic significance of the wild boar is equivalent to that of the wolf and bear. In *Beowulf* there are frequent descriptions of a war helmet depicting a wild boar: *eofor-līc* 'boarlike' (303), *swīn-līc* in the same meaning (1453), *eofor* meaning 'image of a boar on a helmet' (1328), *eofor hēafod-segn* 'boar's-head helmet' (2152).

In Old Icelandic, the ancient word for 'wild boar', *jǫfurr*, is used only in the meaning 'prince' (also 'god'), a usage which symbolizes this animal's special status in Germanic tradition. The wild boar was also a totemic animal to Germanic tribes, who traced their lineage to a pair of divine brothers, Ibor and Agio; the name of the first is cognate to the Indo-European words for 'wild boar'. Because of the special cultic significance of the wild boar in Germanic tradition, the name for it is tabooed in its original meaning and replaced by other words, especially words meaning 'domestic pig', a semantic development comparable to that of Greek.

An important aspect of the boar cult in Germanic tradition is its connection with plant and animal fertility, shown by passages in a number of literary and legal texts and by archeological findings showing that the boar was a sacrificial animal and considered the food of gods and heroes (Beck 1965:56-69 et pass.). This further reflects an Indo-European view of the boar as a mythological breeder, the very trait captured in its original Indo-European name.

Early Celtic tradition is characterized by various depictions of boars as cult symbols: sculptures (especially the three bronze boars from Neuvy-en-Sullias), images on shields and military banners, on Gaulish coins, etc. In Old Irish the word for 'wild boar' (OIr. *torc*) also meant 'prince' as in Germanic (the original Indo-European word for the animal had evidently already been tabooed). Welsh tradition preserves a tale about the king Twrch Trwyth (*twrch* 'wild boar'), who was divinely turned into a boar (Beck 1965:116-17); cf. the Homeric passage discussed above in 2.1.3.3 where a god turns into a boar.

The ancient pagan traditions of the Baltic Slavs preserved a conception of a huge mythic wild boar which, flashing its white tusks, appeared out of the sea every time that the sacred city Retra was threatened by misfortune (Ivanov and Toporov 1965:37-38, 116, 134-35).

The concordant evidence from various Indo-European traditions on the significance of the wild boar, together with the cognate words in various dialects, permit us to trace the entire complex of ritual conceptions, together with the name of the animal, back to Proto-Indo-European.

2.1.8. Deer, European elk, and antelope

2.1.8.1. The Proto-Indo-European term

We may reconstruct a term for these animals, with variо̂us suffixes and a common root *el-, *ol- which may originally have meant 'brown, red': cf. Toch. A *yäl* 'antelope', *ylem* 'of or pertaining to an antelope'.

PIE *(e)l-k̂ʰ-: Skt. *ŕśya-* (in the Rigveda, which also has *ŕśya-dá-* 'trap or pitfall for antelope'), *ŕśa-* 'male antelope', Gk. *álkē* 'European elk', Lat. *alcē*, gen. *alcēs* id. [from Germanic], ORuss. *los'*, OHG *ëlho, ëlaho* (Ger. *Elch*), OE *eolh*, OIcel. *elgr* (the source of Engl. *elk*).

PIE *el-en-, *el-n̥-: Gk. *ellós* 'fawn' (< *el-n-os), *élaphos* 'deer, doe' (< *el-n̥-bʰo-s),[36] Myc. Gk. *e-ra-pi-ja* 'pertaining to a deer' (fem.) (Risch 1976:313), Arm. *eɬn*, gen. *eɬin* 'deer', OIr. *elit* 'doe' (< *el-n̥-tʰī), Lith. *élnis* 'deer', OPruss. *alne* 'male deer' (Toporov 1975-:I.77), OCS *jeleni, alйnijĭ* 'deer' (Russ. *olen'* 'deer', *lan'* 'doe').[37]

The distribution of meanings and forms for 'deer', 'antelope', and 'European elk' makes it possible to distinguish two stem forms and their meanings. The first was the semantically marked stem *el-en-, *el-n̥- (with extension *-en-/*-n̥-), originally meaning 'deer', and the second was *el-k̂ʰ- (with extension *-k̂ʰ-), meaning either 'European elk' or 'antelope', the meanings in complementary distribution by dialect. Toch. A *yäl* 'antelope' belongs to this group semantically, and may represent the bare root. Thus the second stem form has indeterminate original semantics, while the first one is unambiguously 'deer'. The precise Proto-Indo-European meaning of *el-k̂ʰ- — which may have been 'European elk', 'antelope', or 'brown antlered animal' in general, but was distinct from 'deer' — can be established only on the basis of broader information about the original territory of the Proto-Indo-European speakers.

2.1.8.2. The taboo on the original word for 'deer' and its mythological significance

Several Indo-European dialects taboo the word for 'deer' at a fairly early time, replacing it with other terms. In particular, in Iranian, where the deer has special cultic and ritual significance, the term is replaced by a new compound *gav-az-(na-), lit. 'bull-goat': Avest. *gavasna-* 'deer', Khotanese Saka *ggūysna-*,

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36. The element *-bʰo- in *el-n̥-bʰo- may be cognate to the analogous element of Skt. *ŕṣabhá-* 'bull', which is usually analyzed as root *vŕṣa-* plus *-bha-* (Thumb and Hauschild 1959:II.44).

37. A possible connection of *olinā 'elbow' with *el-n̥- 'deer' has been advanced; it assumes a metaphor 'horned bone' (Mastrelli 1976).

Sogd. *γ'wzn-*, Pehl. *gawazn* (Abaev 1958-1979:II.320). Even this term is subsequently tabooed in Iranian, replaced by the euphemistic 'antlered one' (metaphorically, from 'branchy'), which also extends to the animal as a totem of the East Iranian Sakas (*sāka* 'Scythian'): Oss. *sag* 'deer' beside *sāka* 'branch, twig', Skt. *śākhā* 'branch', cf. Russ. *soxa* 'branch', *soxatyj* 'European elk', lit. 'branchy' (Abaev 1949:I.49, 179).

Illustration 5.
Fresco showing a deer hunt. Çatal Hüyük, 7th–6th millennia B.C.

In Old Icelandic tradition the deer is the basic mythic horned animal on the Cosmic Tree, where it reaches beyond the boundaries of the Middle World to the top of the tree; it was represented as a constellation, which is analogous to the conception of the European elk among northern peoples — the Lapps and the Greenland Eskimos (Dumézil 1959:105-6).[38] In the Edda the deer is called *hjǫrtr*, a term different from the original Indo-European one and formed, like its early Germanic cognates OE *heorot* (Engl. *hart*) and OHG *hiruz* 'deer' (Ger. *Hirsch*), from a root meaning 'horn, antler; antlered animal' (cf. the same kind of replacement in Iranian and Slavic, above). Celtic also uses a secondary term based on 'antler': Bret. *karo*, Corn. *carow* 'deer' (from 'antlered': Porzig 1954:175 [1964:259]).

In another group of dialects, Albanian, Baltic, and Germanic, the ancient term for 'deer' is replaced by a different word: Alb. *bri* 'horn, antlers', Latv. *briêdis* 'European elk; deer', Swed. dial. *brind* 'European elk' (Porzig 1954:210 [1964:310]).

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38. In some Slavic traditions the European elk acquires cultic and mythological significance, displacing the deer; it is represented as a constellation (Ivanov and Toporov 1974:49). This may be connected to the taboo replacement of the original East Slavic word for 'elk' by the descriptive *soxatyj* 'branchy (antlered)'.

~2.1.9. Wild bull, aurochs, and bison

2.1.9.1. The Indo-European term for the wild bull and its connection to Semitic

A generic term for wild cattle and aurochs is attested in the main early dialects: Gk. *taûros* 'ox, bull', Lat. *taurus* id., Osc. *taurom*, Umbr. *turuf, toru* '*tauros*', Lith. *taūras* 'aurochs', OCS *turŭ* 'bull', ORuss. *tur"* 'aurochs', Alb. *tarok* (cf. also Gaul. *tarvos*, MIr. *tarb* 'bull', OIcel. *þjórr* 'bull'): PIE *t^hauro-. The same word can be seen in Semitic *$t$awr-* (Fronzaroli 1969:VI.304); this indicates an origin for the term in a Southwest Asian migratory word for this animal, which had an important cultic role in the ancient cultures of the eastern Mediterranean.[39] In this respect the word has much in common with the culturally significant Southwest Asian migratory terms for 'leopard' and 'lion', mentioned above.

2.1.9.2. The cultic role of the aurochs or wild bull in individual traditions

In some Indo-European traditions, particularly in Baltic and Slavic, which have preserved the word in its original meaning 'aurochs', this animal is connected to a whole complex of archaic rites and folklore motifs. A Russian *bylina* preserved in an early recording associates three animals of cultic significance: the aurochs, the *ljutyj zver'* (lit. 'fierce beast'), and the wild boar (Ivanov and Toporov 1974:170). In medieval Kiev there was a place named *Turova Božnica* 'aurochs altar' (Chronicle, sub anno 1146); in northern Russia there is an analogous name *Kapišče Turovo* 'aurochs temple'. Similar conclusions about the ritual significance of the aurochs can be drawn from Baltic folklore toponymics (Būga 1958-1961:II.634-36).

2.1.9.3. Derivatives from the term for 'wild bull' in Indo-European dialects and their Caucasian parallels

Derivatives probably formed from this root arise in individual early dialect groupings; they include forms with zero grade, secondary nasalization, and phonetic transformation of the initial part of the root.[40] With initial change

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39. The bull is the second most significant cult animal after the leopard in ancient Southwest Asian culture of the seventh and sixth millennia B.C. as known from Çatal Hüyük (Mellaart 1967); this is also true of later Crete, as reflected in the legend of the Minotaur and perhaps Plato's myth of Atlantis.

40. If we admit such root-initial phonetic changes and root vowel changes, then we can relate this same root to the form *st^heuro- attested by Av. *staora-* 'cattle', Goth. *stiur* 'bull', OIcel. *stjórr* 'bull', OE *stēor* (Engl. *steer*), OHG *stior* (Ger. *Stier*); cf. the same *e vocalism in OIcel. *þjórr* from *t^heuro-.

through prefixation of secondary *s-* the root appears in a number of dialects in the meaning 'European bison' (*Bos primigenius* Boj.): Lith. *stuṁbras*, Latv. *stumbrs* and, with simplification of the initial cluster, *sumbrs* and its doublet *sūbrs*. As shown above, such phonetic transformations of cultically significant words are frequent among the names of animals. Related to these forms is OPruss. *wissambris* 'bison', from **wis-sambri-*, where *wis-* refers to musk and the similar strong-smelling substance characteristic of bison (Pokorny 1959:1134): cf. OIcel. *visundr* 'bison', OHG *wisunt* (Ger. *Wisent*). Another phonetic transformation of the initial consonant produces the Slavic word for 'bison': ORuss. *zubr'*, Czech *zubr*, South Slavic **zǫmbrŭ* (the source of Rumanian *zímbru*, MGk. *zómbros* 'bison').

A migratory term widespread in the Caucasus is probably related to this set of words: Oss. *dombaj* 'bison' (and also 'lion'), Kabard. *dombej*, Adyghe *dombaj*, Abkhaz *a-domp'èj*, Svan *dombāj*, Balkar *dommaj*, Karachay *dommaj*, and others (Abaev 1958:I.365). The link between Caucasian and Balto-Slavic is interesting in view of the range of the bison. Now nearly extinct, it formerly lived in the Caucasus uplands, where evidence for it goes back to the Stone Age (there are Mousterian camps with significant quantities of bison bones: Semenov 1968:289), and, up to medieval times, in eastern Europe — the historical territory of the Balts and Slavs (Calkin 1956:133, 138, 229, 1962:77, 1966:58-59, 101). The paleozoological facts help explain the origin of the Indo-European dialect terms. A distinctive species of animal, found in the territory of the Balts, Slavs, and eastern Iranians, was given a special designation formed by phonetic alteration of the inherited Proto-Indo-European term for 'wild bull'. As a result, Baltic and Slavic have doublet words, one regularly continuing the protoform and meaning 'aurochs' (OCS *turŭ*, Lith. *taūras*), and the other, phonetically reshaped, meaning 'bison' (ORuss. *zubr'*, Lith. *stuṁbras*).

2.1.10. Hare

2.1.10.1. The Indo-European word for 'hare' and its dialectal replacements

The Proto-Indo-European term for 'hare' goes back to a root ** k̂has-*, ** k̂has-no-:* Skt. *śaśá-* 'hare', Khotanese Saka *saha-*, Welsh *ceinach* (from **cein-* 'female hare' < **k̂has-n-ī*), OHG *haso* (Ger. *Hase*), OE *hara* (Engl. *hare*), OIcel. *heri*, OPruss. *sasins* 'hare'. The original meaning is 'gray', preserved in some dialects: Lat. *cānus* 'gray', OHG *hasan* 'flecked with gray', OE *hasu* 'gray'; cf. also Gk. *ksanthós* 'light-haired'. The **a* root vocalism is striking (see I.3.1.2 above), as is the case also with **thauro-*.

In Baltic (except for Old Prussian, see above) and in Slavic there is a taboo replacement by descriptive forms like Russ. *zajac* 'hare' (lit. 'jumper': cf.

Skt. *háya-*, Arm. *ji* 'horse' beside Skt. *hinóti, hínvati* 'drives, urges on', Pokorny 1959:424, Vasmer 1964-1973:II.84), Lith. *kìškis* (with other terms in various dialects: Būga 1958-1961:II.674); cf. also Russ. *serjak* 'hare' from *seryj* 'gray'.

In Old Hittite texts enumerating 'animals of the gods' we find an animal name *šaša-*, positionally identifiable with the Sumerogram DÀRA 'mountain goat'. The verb that combined with this animal name, to judge from KUB XIX 1 III 43ff., was *kunk-* 'shake, hang(?)'; and *šaša-* is contrasted with SILÁ 'lamb' (Goetze 1962:29). *šaša-* was obviously an animal of small size, ritually significant in Hittite tradition and equatable to a 'jumping goat'. In view of its formal correspondence to Skt. *šašá-* 'hare', the Hittite word could have had the same meaning. In that case the Hittite word must be considered a borrowing from Aryan (the regular Hittite reflex should be **kaša-*), unless it is due to assibilation of the initial **k-* (Josephson 1979 admits assibilation of **ḱʰ-* before *a* in Anatolian).

2.1.11. Squirrel, polecat, and ermine

2.1.11.1. The term for 'squirrel' in the Indo-European dialects

A reduplicated form meaning 'squirrel' or 'polecat' is attested in a number of Ancient European dialects and also in Iranian. Lith. *vèveris, vaiveris* 'squirrel', 'male polecat, squirrel, marten, or chamois' (Būga 1958-1961:II.652), Latv. *vàvere* 'squirrel', OPruss. *weware* 'squirrel', ORuss. *vĕverica, viverica* 'squirrel', Russ. *veverica* 'squirrel; ermine', Lat. *uīuerra* 'ferret'. The word is an Ancient European dialect innovation **we(i)wer-*, which could have referred to one or another small forest mammal.

In Germanic, due to the special mythological significance of the squirrel, the original word was replaced by the descriptive form **aik-werna* (**aik* 'oak'): OIcel. *íkorne* 'squirrel', OHG *eihhurno* (Ger. *Eichhorn*), OE *ācweorna*. In the Edda, the squirrel (*íkorne*) is depicted as the liveliest animal of the Middle World, constantly running through the Cosmic Tree and uniting the upper part with the lower (*Grímnismál* 32). In Latvian folk songs the squirrel is asked to give fur, using the same formulas as are applied to other fur-bearing animals, notably the otter and beaver (Mühlenbach and Endzelin 1923-1932:IV.512).

There is another dialectal term for 'ermine, weasel' in Germanic, Baltic, and Venetic (see Pokorny 1959:573-74): OHG *harmo* 'ermine' (cf. Ger. *Hermelin*), Lith. *šarmuõ, šermuõ* 'ermine', *šarmonys* 'weasel', Latv. *sę̃rmulis* 'ermine' (Fraenkel 1962-1965:II.965). For 'weasel' Germanic uses a term derived from **weis-*, which denoted a strong or musky odor (Pokorny 1959:1134): OHG

wisula (Ger. *Wiesel*), OE *weosule* (Engl. *weasel*).

In view of the late, dialectal nature of the words for 'squirrel', 'weasel', and 'ermine', no corresponding semanteme can be reconstructed for Proto-Indo-European.

2.1.12. Monkey or ape

2.1.12.1. A reconstructed Proto-Indo-European word for 'ape', and its connections with Southwest Asian words

Widely distributed cognate words for 'monkey, ape' in the ancient Indo-European dialects make it possible to posit a well-defined protoform at the Proto-Indo-European time depth. The cognates fall into two formal sets, one with initial *k-* and one without it. Skt. *kapí-* 'monkey' (from Vedic on; cf. personal name *Vṛṣākapí-*, lit. 'male monkey'), Gk. *kêpos ~ kêbos* 'long-tailed monkey' (cf. also Gk. *píthēkos* 'monkey, ape' < **[ka]pithekos*?); OIcel. *api*, OE *apa* (Engl. *ape*), OHG *affo* (Ger. *Affe*), Celtic *abrános* (the Celtic word for 'monkey, ape', according to Hesychius: see Pokorny 1959:2-3), ORuss. *opica (opiica), opyni* 'monkey, ape' (Sreznevskij 1958:II.682-83, 700-701),[41] OPol. *opica* (15th century), Cz. *opice*, USorb. *wopica*, Polab. *opó*, Serbo-Cr. *ȍpica*, Slovene *ȏpica*.

The alternation of initial *k-* and *Ø-* points to an earlier postvelar $*q^h$-, with its regular reflexes of *k* and *Ø* in the respective dialects (see I.2.4.6 above). The protoform can be reconstructed as $*q^he/op^h$-, with a variant $*q^he/op$-, due to dissimilation of aspiration (see I.1.4.3 above), reflected in Germanic. The word is obviously an ancient Southwest Asian migratory word, attested in a number of Near Eastern languages, including Afroasiatic, in which it goes back to the earliest historical stages: Akkad. *uḫūpu, i/aḫūpu* (von Soden 1981:III.1427), Hebr. *ḳôp̄*, Aram. *ḳôp̄ā*, Egypt. *gjf* 'monkey, ape' (Erman and Grapow 1955:V.158). Semitic has an emphatic (postvelar) *ḳ*, which is in accord with the reconstructed postvelar $*q^h$ of Indo-European.

Since the term for 'ape, monkey' is found in both Proto-Indo-European and Proto-Semitic, its source cannot be determined (see Mayrhofer 1956:I.156). In its areal distribution and age of borrowing the word belongs to the same class as those for 'leopard; panther', 'lion', and 'aurochs; wild bull'.

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41. Several investigators posit a Slavic borrowing from Germanic (Vasmer 1964-1973:III.144-45), although there is insufficient evidence for this claim. ORuss. *opyni* probably belonged to the East Slavic pagan lexicon; playing games with a monkey or bear was considered a sin. The other Russian word, *obez'jana*, represents a later borrowing from Persian *būzīna*, possibly via Turkic.

~ 2.1.13. Elephant and ivory

2.1.13.1. Early dialect terms for 'elephant' and their connection to Southwest Asian migratory terms

Despite the restricted dialect distribution of cognates, a word for 'elephant; ivory' can be reconstructed as *yeb^h- (or *Heb^h-), going back to an early stage of dialect unity and reflected in a number of archaic words from only two dialects: Lat. *ebur* 'ivory; elephant', Skt. *íbha-ḥ* 'elephant'. Like the other animal names listed above, it is an evident Near Eastern migratory word, found in a number of ancient Near Eastern languages, including Afroasiatic: Egypt. *ȝbw* 'elephant' (Erman and Grapow 1955:I.7; on the evidence of Coptic *ebou, ebu* a protoform *(j)ebu* can be reconstructed), Hebr. *šen-habbīm* 'elephant tusk' (lit. 'tooth': *šen*).

In the same semantic sphere, an ancient migratory term for 'ivory' is found in other Indo-European dialects: Myc. Gk. *e-re-pa*, gen. *e-re-pa-to* 'ivory', adj. *e-re-pa-te-jo* 'made of ivory', Hom. *eléphas*, gen. *eléphantos* 'ivory', *elephánteios* 'made of ivory'. The word can be compared to Hitt. *laḫpa-*, in one text with Glossenkeil: ⟨ *la-aḫ-pa-aš ú-nu-wa-an-du* 'let them decorate [it] with ivory', KUB XXXVI 25; in a trilingual Sumerian-Akkadian-Hittite text *laḫpaš* corresponds to Sumerian *zu* and Akkad. *šinnu* in the sense 'elephant tooth' (Laroche 1965b, Masson 1967:80-83).

Comparison of Hittite-Luwian *laḫpa-* and Gk. *eléphas*, gen. *eléphantos* permits us to regard the initial *e-* of the Greek form as the typical prothetic vowel of that language, and reconstruct a protoform *leb^{h}ont^h-; there is a regular reflex of zero grade *ḷb^{h}ont^h- in Goth. *ulbandus* 'camel'.[42] Like the Latin and Sanskrit word for 'elephant', this one goes back to an ancient stage of dialect unity. Another word belonging to this set may be *alpi 'camel', posited for Tocharian (the Tocharian word is proposed as a source of Central Asian loans of the form [arpa] 'camel': see Clauson 1973:40).

Evidently the speakers of individual Indo-European dialects who settled new territories and encountered camels for the first time transferred the word for 'elephant' to the unfamiliar large animal. Another group of dialects forms a

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42. There are no formal grounds for considering Goth. *ulbandus* 'camel' (OSax. *olbundeo* 'camel', *Heliand* 3299; OE *olfend*, OIcel. *ulfalde*) a loan from Gk. *eléphas*, as is usually assumed. The regular phonetic correspondences of these words clearly allow them to be traced back to a common Proto-Indo-European form. For the semantic shift from 'elephant' to 'camel' in Proto-Germanic or earlier cf. the analogous development in Sumerian and Akkadian (Landsberger 1934:92, Nagel 1963:193). Goth. *ulbandus* was probably borrowed into Slavic as OCS *velĭbǫdŭ* (Russ. *verbljud*) 'camel': Vasmer 1964-1973:I.293-94, cf. Sreznevskij 1958:I.241. The Slavic word for 'elephant' (Russ. *slon*) is borrowed from eastern Asiatic languages (archaic Chinese *sδäŋ, Burm. *s^{h}aŋ < *slaŋ* 'elephant': Pulleyblank 1963:23), whereas many western European languages borrow the word for 'elephant' from Greek via Latin.

new word for 'camel': Skt. *úṣṭra-* 'camel; buffalo' ('buffalo' in the Rigveda), Avest. *uštrō* 'camel' (cf. the personal name *Zaraθ-uštrō*, lit. 'camel driver': Mayrhofer 1977:43ff.; but see also Thieme 1981), from the root *wes- 'moisten'.

Thus two words for 'elephant' can be reconstructed for archaic Indo-European dialect groupings, both in all likelihood of general Near Eastern origin: *yebʰ- ~ *Hebʰ- and *lebʰ-ontʰ- (possibly *leHbʰo-, taking into account the Hittite-Luwian form). Comparison of the two protoforms suggests that they may ultimately be related to each other through a single Proto-Indo-European word for 'elephant', a form reminiscent of other words for 'elephant' in languages of the ancient Near East.

2.2. Animals of the Lower World

2.2.1. Serpent, snake, and worm

2.2.1.1. Indo-European words for 'serpent'; their variants and replacements in individual dialects

The serpent as a basic mythic being of the Lower World is represented by cognates in all the early Indo-European dialects, cognates which reveal some phonetic variation: Skt. *áhi-* 'serpent', Ved. *Áhi- Budhnyá-* 'Serpent of the Depths', Av. *aži-* 'serpent', Gk. *óphis* 'snake; grass snake', Arm. *iž* 'snake, viper': PIE *ogʰoi-. Lat. *anguis* 'snake; serpent; dragon', MIr. *esc-ung* 'eel' (lit. 'water snake'), Lith. *angìs*, OPruss. *angis*, ORuss. *už* 'snake species', Russ. *už* 'adder, viper', Arm. *awj*: PIE *angʰoi-.[43] Gk. *ékhis* 'snake', *ékhidna* 'mythological snake': PIE *egʰi- (see below for a possible Germanic reflex of this form in OIcel. *ægir* 'Serpent'). This latter stem forms the basis for the term for a species of hedgehog, lit. 'snake-eater' (apparently the reference was to a mongoose, which kills poisonous snakes): Gk. *ekhînos* 'hedgehog', Oss. *wyzyn/ uzun*, Arm. *ozni*, Lith. *ežỹs*, Latv. *ezis*, Russ. *ež*, OHG, OE *igil* (Ger. *Igel*) 'hedgehog'.

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43. A Baltic and Slavic semantic innovation from the same Indo-European root is the word for 'eel', a fish common in the Baltic Sea basin: OPruss. *angurgis*, Lith. *ungurỹs*, Russ. *ugor'* (Toporov 1975-:I.88-89); cf. also Lat. *anguilla* 'eel'. The original meaning 'snake, worm' is reflected in Germanic cognates: OHG *angar* 'larva' (Ger. *Engerling*), OPruss. *anxdris* 'grass snake', Lith. *inkštìras* (Toporov 1975-:I.96). Cf. Gk. *ímbēris · égkhelus* (Hesychius; evidently in the meaning 'water snake'); the Greek word *égkhelus*, which corresponds formally to both PIE *angʰoi- and *egʰi- (Pokorny 1959:44), means 'water snake' but not 'eel', since it is opposed to the generic term *ikhthûs* 'fish' as in Homeric *egkhélués te kaì ikhthúes*, Iliad 21.203 and 353. Therefore, *contra* some investigators (Watkins 1971:1500, cf. Pokorny 1959:43-44), an original meaning 'eel' cannot be reconstructed for Proto-Indo-European *angʰoi- 'snake' (for the dialectal nature of these words see Porzig 1954:125, 202 [1964:188, 298]).

-The words show phonetic differences, evidently correlated with semantic differences. The original root *eǵʰi-, preserved in the archaic derivative, undergoes taboo transformations, yielding two different forms *angʰoi-, *ogʰoi-, names for 'snake' and 'serpent' as mythic and ritually significant beings.

In a number of dialects this taboo leads to complete replacement of the original word by neologisms like Lat. *natrix* 'water snake', OIr. *nathir*, Goth. *nadrē*, OIcel. *naðr*, OHG *nātara* 'adder' (Ger. *Natter*), Engl. *adder* (an Italic-Celtic-Germanic isogloss: Porzig 1954:101, 125 [1964:153, 188]). Another is Skt. *sarpá-* 'snake, reptile', Lat. *serpēns* 'snake' (in Pliny the word also refers to small crawling insects), Gk. *herpetón* 'crawling animal' (Wackernagel 1953:I.165), from PIE *serpʰ- 'crawl': Skt. *sárpati* 'crawls', Gk. *hérpō* 'crawl', Lat. *serpō* id., etc.

Slavic preserves the original term *ǫžī as the name of a particular species of snake, while the meaning 'mythic serpent, dragon; serpent in general' is expressed by a euphemism: OCS *zmĭja* 'snake; dragon' (*óphis, drákōn*), originally 'crawling on the ground; belonging to the Lower World' (cf. Alb. *dhémje* 'caterpillar'), from PIE *ǵʰdʰ-e/om- 'earth'. Another euphemism is the Germanic designation of 'serpent' and 'mythic serpent, dragon' as 'worm': Goth. *waúrms* 'snake', OIcel. *ormr* 'serpent' (e.g. in the Edda: *Miðgarðs-ormr* 'Snake of the Middle World', which marks the boundary of the earth and is the 'belt of all the lands', *umgjǫrð allra landa*). This euphemism is based on the original meaning 'worm; insect'.[44] In some Germanic languages, this meaning is found together with that of 'serpent': e.g. OE *wyrm* 'serpent; dragon; worm', Engl. *worm*. Elsewhere, the word preserves its original meaning, while 'serpent' is named by one of the words just reviewed: cf. Lat. *uermis* 'worm', Gk. *rhómos* 'wood worm', Lith. *varmas* 'insect; mosquito', ORuss. *vérmie* 'locust; worms'. The same word provides a term for red or purple dye in a number of dialects: OPruss. *wormyan* 'red' (lit. 'worm-colored'), Ukr. *vermjanij* 'red', OHG *wurmoht, wurmrōt, wurmfar* 'dyed red', OE *wurma* 'purple' (a Balto-Slavic-Germanic isogloss): PIE *wr̥mi-, *wr̥mo-.[45]

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44. Comparable semantic shifts among the meanings 'worm', 'insect', 'snake', and 'lizard' are found in other cognate sets, and can be explained as resulting from the assignment of all these animals to a single category. The word meaning 'lizard' in one dialect group (OCS *ašterŭ*, Russ. *jaščerica* 'lizard', Latv. *šķirgaîlis*, Alb. *hardhêlē* 'lizard') has cognates meaning 'worm' (Gk. *skarís* 'worm species') and 'insect' (Lith. *skerỹs* 'locust', cf. Gk. *kóris* 'bedbug' with a different initial) in other dialects.

45. There is phonetic similarity between this stem and another Indo-European stem with the same meaning, *kʰor̥mi- 'worm': Skt. *kr̥mi-* 'worm', Sogd. *kyrm-* 'worm', Pers. *kirm* 'worm', Oss. *kalm* 'snake, worm', OIr. *cruim* 'worm', OPruss. *girmis* 'larva', Lith. *kirmìs* 'worm', OCS *črĭvĭ* 'worm' (the source of the Slavic word for 'red': OCS *črĭvenŭ* 'red', a perfect analogy to the word 'red' formed from the other stem *wr̥mi-).

The word for 'ant', *mor-w-/*wor-m-, is formally related to these words: Russ. *muravej*, Gk. *bórmaks* 'ant', Skt. *vamrá-* 'ant' (see I.4.1.3 above). The semantic relatedness of

These taboo replacements for 'mythic serpent; snake' in Indo-European dialects become understandable in the light of the special mythological role of the serpent in all the ancient cultural traditions.

2.2.1.2. *The basic motif connected with the serpent in Indo-European mythology*

The basic mythic motif connected with the serpent is the struggle of the uppermost deity with the main embodiment of the Lower World. Archaic Indo-European mythic motifs depict the killing of the serpent by his divine opponent. Comparison of the archaic traditions makes possible the reconstruction of whole text fragments of this Indo-European myth, in which the ancient name of the serpent is used. The Rigveda (I, 32, 1-2) reflects these texts in the following formulas: *áhann áhim párvate śiśriyāṇáṁ* 'he killed the dragon (*áhim*), which was resting on the mountain', *áhann áhim ánv apás tatarda prá vakṣáṇā abhinat párvatānām* 'he killed the dragon (*áhim*), he made an opening for the rivers, he cut apart the waist of the mountains'. In the Avesta the same motif is reflected in passages such as *yō janat ažīm srvarəm yim aspō.garəm nərə.garəm* 'he who killed the horned serpent (*ažīm*), who devoured horses, devoured people' (Yašt 9, 11). There is a striking semantic and lexical parallel in a passage in the Edda, which confirms the possibility of reconstructing these text fragments for Proto-Indo-European (*Helgakviða Hundingsbana* I:55.5):

> *er þú felt hefir inn flugar trauða*
> *jǫfur, þann er olli ægis dauða*
> 'You, who overthrew the wild boar who disdained to flee, you who called
> forth the death of the serpent (*ægir*)'[46]

Just as in the myth the uppermost deity overcame the serpent to free nature, in healing rituals the shaman priest rids the patient of 'worms' which are identified with mythic serpents, e.g. in the Atharvaveda (II, 31, 5):

> *ye kŕmayaḥ parvateṣu vaneṣv oṣadhīṣu paśuṣv apsv antaḥ*
> *ye asmākam tanvam āviviśuḥ sarvaṁ tad dhanmi janima kŕmīṇām*
> 'Those worms which are in the mountains, in plants, in animals, in the water,
> those which have come into our body, I crush the worms' entire clan'

these roots is confirmed by the possibility of using *khₒrmi- in the meaning 'ant', shown by Lith. *skìrvinti* 'run around like an ant' (Specht 1944:45).

46. Here and in some other older Germanic texts, OIcel. *ægir* and its cognates are to be interpreted as cognates to Gk. *ékhis*, Skt. *áhi-* 'serpent' (Plassmann 1961:111ff.); OIcel. *ægir* is also found in the compound *ægis-hjálmr* 'snakelike helmet', elucidated as *f orms líki* 'like the worm (i.e. serpent)' (Plassmann 1961:95; for *ægir* see also pp. 121-24).

In the incantations against worms and the mythic texts about the serpent-slaying god in the archaic Indo-European traditions, not only the lexemes coincide, but also such essential traits as the magic number nine ('nine worms', 'nine daughters of the Serpent', etc.): see Toporov 1969:25-27, Plassmann 1961:121-24.

In some archaic Indo-European traditions where the original word for the mythic Serpent is lost (as with Hitt. *Illuyankaš* 'Serpent'; or Gk. *Púthōn*, from PIE *bʰudʰ-* 'Lower World', see II.1.4.5 above), the complete structural scheme of the myth and its individual details are preserved. For instance, the Serpent steals body parts of his divine opponent (his eye, *šakuwa*, and heart, *kir*, in the Hittite variant); a woman or goddess helps the serpent-killing god (Inara in the Hittite myth, Athena in the Greek one). After a temporary victory by the serpent, the god reassembles his body and from the sky he kills his enemy in the Lower World (see Kretschmer 1927, Fontenrose 1959; cf. Littleton 1970).

This entire complex of motifs concerning a one-on-one battle of the ranking deity with the serpent or dragon is highly characteristic of all mythic traditions of the Near East and Caucasus, from the earliest Sumerian written sources to folklore themes of medieval and modern times (see Ivanov and Toporov 1974:136ff.).

2.2.2. Otter, beaver, and water animal

2.2.2.1. Indo-European dialect terms for 'water animal', 'otter', 'beaver'

Lexemes which in some dialects (Iranian, Baltic, Slavic, Germanic, Latin, Celtic) refer to specific animals, the otter (*Lutra vulgaris*) and beaver (*Castor fiber* L.), in other dialects (Hittite, Greek, Armenian, Indo-Aryan) mean 'water animal' in general and often have ritual and/or cultic significance. These ritually significant water animals are named descriptively, as 'water dogs' or with derivatives from *wot'or-* 'water'. A Hittite rendition of a Hurrian myth about a water monster Hedammu (KUB VIII 67 IV 17) relates how it devoured 'stream dogs', ÍD-*aš* UR.ZÍRḪI.A (the same passage contains the analogously constructed IKU-*aš* KU₆ḪI.A 'field fish', apparently 'lizards': Friedrich 1949:233, 248). The reference is evidently to a small water-dwelling mammal, which is compared to a dog. In Greek, a derivative of the Indo-European word for 'water' refers to a water monster: *húdros* 'Hydra' (Iliad 2.723), with the later attested feminine *húdrā* 'water snake'. In Sanskrit a derivative of the same root, *udrá-*, means 'water animal'; it is clearly a substantivized adjective meaning 'pertaining to water' (cf. Vedic *an-udrá-* 'waterless').

Reference specifically to otters (*Lutra vulgaris*) is attested in Waigali *wacak'ok* 'otter' (Morgenstierne 1954:222), Avest. *udra-*, Oss. *wyrd*, *urdæ*,

Russ. *vydra*, Lith. *ū́dra*, OPruss. *udro*, OHG *ottar*, OIcel. *otr*, i.e. in the Iranian-Balto-Slavic-Germanic dialect area. It is evidently a semantic innovation of this dialect group, shared by Iranian but not Indic. It is interesting that there is also a word specifically meaning 'beaver' (*Castor fiber*) in the same set of dialects plus Italic and Celtic, while the group of dialects that lack 'otter' also lack 'beaver'.

The Common Indo-European word for 'beaver', **bʰibʰer ~ *bʰebʰer*, preserves an original meaning 'brown' or 'shiny' in some of the dialects which lack it in the meaning 'beaver'. The word is attested in the Rigveda in the sense 'red-brown' (of horses, cows, gods, plants), Ved. *babhrú-*; in Mitannian Aryan *bapru-nnu* is a horse color (Mayrhofer 1966:137ff., 1974:§7); the non-reduplicated cognate is a horse color term in Slavic: Pol. *brony* 'bay', OCzech *brony* 'white', ORuss. *bronyi* 'white'. In later Sanskrit the term refers to a specific animal, the ichneumon (*Herpestes ichneumon*, a long-tailed species of mongoose that kills otters and mice). In Greek the non-reduplicated cognate means 'toad', which is consistent with the meaning of Old Prussian *brunse* 'roach; small fish', Lith. dial. *bruñšė* (Toporov 1975-:I.256-57).

In the other dialect group the same root, in reduplicated form, means 'beaver': Av. *bawra-, bawri-*, Lith. *bebrùs/bẽbras*, OPruss. *bebrus*, Russ. *bober*, OHG *bibar* (Ger. *Biber*), OE *beofor* (Engl. *beaver*), OIcel. *bjórr*, Lat. *fiber*, OBret. *beuer* '*fiber*', '*castor*'[47] (Toporov 1975-:I.203-5).

In summary, derivatives of ***wot'or-** 'water' mean 'otter', and reduplicated derivatives of the color term mean 'beaver', only in a sharply limited dialect group which includes the later European dialects (Baltic, Slavic, Germanic, Italic, Celtic) and Avestan. This is apparently an innovation, one having to do with the particular ecological environment inhabited by speakers of these dialects. It is notable that the Indo-Iranian languages are split by this isogloss: Sanskrit shows the more archaic situation, while Avestan displays the innovation.

2.2.2.2. *The ritual and cultic role of the beaver in individual Indo-European traditions*

In this same area we find mythological and ritual significance for the otter and beaver, which can be connected to the role of these animals as basic representatives of the Lower World in western Asian cultural traditions. In the Avesta, the beaver is the sacred animal of Anahita, a female deity originally associated with the Lower World. In Slavic folk songs, 'black beavers' are associated with the roots of the Cosmic Tree (Ivanov and Toporov 1965:80). In Latvian folk

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47. In Old Irish the same meaning is expressed descriptively: *dobor-chú* 'water dog'.

songs the Divine Twins dance in beaver and otter skins; the songs contain the words

ūdri, ūdri, bebri, bebri,
duod man savu kažuociņu!
  'Otters, otters, beavers, beavers,
  Give me your pelts!' (Mühlenbach and Endzelin 1923-1932:IV.406)

These features of Baltic, Slavic, and Avestan tradition find no parallels in other early Indo-European traditions, which gives cultural-historical confirmation of the secondary, environmentally determined origin of these animals' significance.

2.2.3. Mouse and mole

2.2.3.1. The Common Indo-European term for 'mouse'

A Common Indo-European term for 'mouse', **mŭs-*, is attested throughout the main early dialects: Skt. *mū́ṣ-* 'mouse' (in this meaning in the Rigveda), 'rat', Pers. *mūš* 'mouse', Oss. *myst*,[48] Gk. *mûs*, Arm. *mukn*, OCS *myšĭ*, Lat. *mūs*, OIcel., OHG, OE *mūs* (Ger. *Maus*, Engl. *mouse*).

Beginning with the earliest Indo-European mythic conceptions the mouse is associated with burial rites and a female deity of the Lower World.

2.2.3.2. The mythological and ritual role of mouse, shrew, and mole in early Indo-European traditions

In Hittite tradition the mouse figures in rituals performed by priestesses to prevent death. In the Hittite-Luwian ritual KUB XXVII 67, the 'Old Woman' (Sumerogram SAL ŠU.GI) saves a person from death by tying a piece of tin — a symbol of death — to a mouse which is set free to run 'beyond the mountains and valleys', i.e. into the other world. Analogous motifs are connected with a mouse cult in Greek tradition, attested from the time of Homer (e.g. Iliad 1.39). The mouse was the cult animal of the god Apollo Smintheus,[49] in whose temple at Chrysa near Lectum promontory in Asia Minor mice were specially raised and kept beneath the altar. The god himself was depicted with mice or as standing on a mouse. Apollo's son, the god of healing Asclepius, resurrected the dead,

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48. Oss. *mystūlæg* 'weasel' (cf. Lat. *mustēla* 'weasel, marten') has the same root (Abaev 1973:II.143).

49. His name *Smintheús* can be etymologized on the evidence of the gloss *smínthos, smís · mûs* 'mouse' (Hesychius; see Grégoire 1949).

for which he was struck by Zeus's lightning (Grégoire 1949, Toporov 1975a).

In Germanic and Slavic traditions the mouse was a holy animal of a pagan goddess associated with burial rites and conceived of as blind. Among the East Slavs the Milky Way, in folk belief thought to be the path taken by the soul to the next world, was called *myšina tropka* 'mouse path' (Vasmer 1964-1973:III.27). A relic of the mouse rites is preserved in Slavic superstitions and games connected with Baba Yaga (Potebnja 1865:90-95), who can evidently be identified with the SAL ŠU.GI, 'Old Woman', of the Hittite-Luwian rite (Toporov 1963).

The magic role of the mouse woman is also reflected in Lithuanian folklore, specifically in the story 'The enchanted castle', where a mouse is the priestess under whose supervision boys undergo an initiation rite (Ivanov and Toporov 1965:95). The original term for 'mouse' was tabooed in Lithuanian and replaced by another word, *pelẽ*.

Mice and the female deity connected with them are conceived of as blind in Slavic and Germanic mythological beliefs and associated terms: Cz. *slepá baba* 'blind old woman', name of a game; Pol. *ślepa babka*, a game; Serbo-Cr. *slìjepī mìš* (lit. 'blind mouse') 'bat' and 'blind-man's buff', Ger. *blindes Mäusel* 'blind mouse' (Potebnja 1865:92). This permits us to link them to the sightless animals closely related to field mice: the bat and the mole (*Talpa europaea* L.).

The mole appears together with the mouse in a number of ancient mythological motifs connected with the god of healing Asclepius. The sanctuary (*thólos, thumélē*) of Asclepius in Epidaurus was built on the model of a mole's den. The god's very name can be etymologized as containing one of the Indo-European words for 'mole', Lat. *talpa*; it is also ultimately related to the Near Eastern name of the disappearing and reappearing god of fertility, Hitt. *Telepinu-*, Hatt. *Talipinu, Talipuna*, and to migratory terms for several of the animals associated with that mythic complex (Grégoire 1949, Toporov 1975a:42-43; these deities are discussed in more detail below).

In Sanskrit tradition the mole is venerated together with the god of healing Rudra, to whom the mole (Skt. *ākhú-*) belongs; prayers are addressed to Rudra, asking him to take away illnesses (Rigveda II, 33).

Despite the cultic significance of the mole as a sacred animal in Indo-European tradition, unrelated names for it have arisen separately in the various historical dialects, evidently due to taboo replacement of the original word.

The special cultic and ritual significance of the mouse and mole in Indo-European tradition, which associates them with burial rites and healing ceremonies, has its roots in prehistoric antiquity. In the ancient culture of Asia Minor in the seventh to sixth millennia B.C., we find traces of special cultic use of mice and shrews, which were placed in graves by the high priestesses; this symbolizes the connection of these animals with the highest female divinity (Mellaart 1967).

2.2.4. Turtle

2.2.4.1. Dialect terms for 'turtle'

The Indo-European words for 'turtle' form separate cognate sets in different dialect areas, which makes it impossible to trace any one of the various forms back to Proto-Indo-European. One group of cognates is Gk. *khélus* 'turtle', 'lyre', Serbo-Cr. *žëlva* 'turtle', Slovene *žełva*, Czech *želva*, Russ. *želvak*, which require a protoform **ghel-u-*. In East Slavic the old word is tabooed and replaced by a derivative from *čerep* 'skull': Russ. *čerepaxa* (Zelenin 1929-1930:II.53).

Similar taboo processes could have led to the replacement of the original term in other Indo-European dialects, where we find new terms, a number of which go back to names of other animals of the Lower World. This may be the explanation of Skt. *kūrmá-ḥ* 'turtle', formally comparable to Lith. *kùrmis*, Latv. *kur̃mis* 'mole'. These forms may reflect, with some phonetic reshaping, the same root as the protoform for 'worm': **khoṛmi-* (see note 45 above).

2.2.5. Crab

2.2.5.1. The Indo-European term for 'crab'

The primary term for 'crab' in the early Indo-European dialects is formed from a reduplicated base **kharkhar-* (Pokorny 1959:531) meaning 'hard, rough': Skt. *karkara-* 'hard', Gk. *kárkaroi · trakheîs* 'rough, hard (pl.)' (Hesychius). Words for 'crab': Gk. *karkínos* 'crab', Prakrit *karkaṭa-* 'crayfish', *karka-* 'crab', Lat. *cancer* 'crayfish', Russ. *rak*, Slavic **raku̯* (with dissimilative loss of the initial **k-*) 'crayfish'. In Germanic there is a replacement (perhaps due to taboo) of the original word by a descriptive one related to **k'rebh-* 'crawl; scratch' (cf. OIcel. *krafla*, OHG *krappeln*): OIcel. *krabbi*, OE *crabba* (Engl. *crab*), MHG *krabbe* 'crab'; the same source gives OSax. *krebit* Ger. *Krebs* 'crayfish'.

2.2.6. Toad and frog

2.2.6.1. Descriptive names for 'toad' and 'frog'; their role in Indo-European mythology

Words primarily of a descriptive nature can be reconstructed for the meanings 'toad' and 'frog' in various dialect groupings; they are probably the result of euphemistic replacements for the name of this animal, which played an essential

In another dialect group — Latin, Celtic, and Germanic, from the Ancient European group — there is a different word for 'fish', evidently a dialectal innovation (see Porzig 1954:110, 171, 184, 193 [1964:165, 254, 272, 285]): *p^heiskʰ- ~ *p^hiskʰ-: Lat. *piscis*, OIr. *íasc*, Goth. *fisks*, OIcel. *fiskr*, OHG, OE *fisk* (Ger. *Fisch*, Engl. *fish*); also Russ. *peskar', piskar'* 'gudgeon' (but see Vasmer 1964-1973:III.267).

2.2.10.2. The problem of the Indo-European word for 'salmon'

A number of dialects have a special term for one species of fish, the salmon: OHG *lahs* (Ger. *Lachs*), Lith. *lašišà, lãšis*, OPruss. *lasasso*, Russ. *losos'*, Oss. *læsæg* 'salmon'. In Tocharian the cognate word Toch. B *laks* means 'fish' in general. The narrow dialect distribution of the word, and its absence from a number of dialects, demonstrates its late rise in its specialized sense as referring to a species of salmon, a spotted reddish fish found in rivers of the Caspian basin (*Salmo trutta caspius* Kessl.) and northern Europe (*Salmo salar* L.) (Berg 1955:335; cf. Krogmann 1960, Lane 1970:82-83). The word for 'salmon', *lak̂hs-, can be traced to the Indo-European root *lak̂h- 'red; spotted': Skt. *lākṣā* 'red lacquer', Pers. *raxš* 'spotted; red and white'[52] (see Thieme 1953, Krause 1961, Abaev 1973:II.32n1).

As the speakers of Indo-European dialect groups migrated into new ecological environments, new words arose to refer to previously unknown animals found in the new territories. As a rule such words were formed from derivatives of inherited roots, the derivatives receiving specialized meanings. The word for 'salmon' in the dialect group just mentioned seems to have arisen in just this fashion.

2.3. Animals of the Upper World

2.3.1. Bird and eagle

2.3.1.1. Indo-European words for 'bird'

A generic term for 'bird' in Indo-European can be singled out in the form *Hwei-: Skt. *ví-/vé-* 'bird' (in the Rigveda the word is also frequently used of other beings which fly through the air: horses, gods, and sometimes arrows),

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52. There is a precise semantic parallel in the words for salmon or trout in MIr. *erc* 'salmon, trout; spotted, dark red', OHG *forhana*, MHG *forhe(n), forhel* (Ger. *Forelle*), OE *forn(e)* 'trout', from PIE *p^herk̂h- 'spotted': Skt. *pŕśni-* 'spotted', Gk. *perknós* 'spotted; blackish; perch', *pérkē* 'perch', lit. 'spotted'.

Av. *vīš* 'bird', Pehl. *way, wāyendag* 'bird'; Gk. *aietós* 'eagle', Arm. *haw* 'bird; chicken'; Lat. *auis* 'bird', Umbr. acc. sg. *avif 'aues'*, Welsh *hwyad* 'duck'. The word is related to *Hwe(i)-, originally 'blow', secondarily 'air', 'wind', and a generic term for the Upper World. Birds were of course seen as beings which fly through the air; this distinguished them from the beings of the Middle World, which move, run, or hop over the ground, and those of the Lower World, which crawl on the ground or live under the ground or in water (including insects and larvae, which were identified with the insects).

For flying, the means of locomotion of Upper World beings, Indo-European uses the root *pʰetʰ-: Gk. *pétomai* 'fly', Skt. *pátati* 'flies', Lat. *petō* 'strive, seek, make way toward', Hitt. *pittai-* 'run; hurry; fly' (with semantic transfer). The same root forms derivatives in -r/-n- meaning 'feather', 'wing', 'flight': Hitt. *pattar*, gen. *pattanaš* 'wing', Gk. *pterón* 'feather; wing' (cf. Arm. *t'ir* 'flight', Skt. *patará-* 'flying', Av. *patarəta-* 'flying'), OHG *fedara* (Ger. *Feder*) 'feather', OE *feðer* (Engl. *feather*), Lat. *penna* 'feather, wing'. In a few separate dialects the word acquires the meaning 'bird': OIr. *én* 'bird', OWelsh *eterin* 'bird', and others.

In its meaning 'fly, flying' the root also appears in a compound: Skt. *āśu-pátvan-* 'fast-flying' (in the Rigveda *āśupátvā śyenás* 'fast-flying falcons'), Gk. *ōku-pétēs* 'fast' (lit. 'fast-flying'), Lat. *accipiter*, ORuss. *jastrębъ* 'accipiter', Russ. *jastreb* (from original 'fast-flying'; for this comparison see Pisani 1975:161): PIE *ōk̂ʰu-pʰ(e)tʰ-er- (for the first element *ōk̂ʰu- 'fast' cf. Gk. *ōkús* 'fast', Skt. *āśú-*, Av. *āsu-*, etc.).[53]

2.3.1.2. The Indo-European word for 'eagle'

Among the inhabitants of the Upper World, special ritual and cultic significance is accorded the eagle, PIE *Hel/or-: Hitt. *ḫaraš*, gen. *ḫaranaš* 'eagle', Pal. *ḫaraš* 'eagle', Gk. *órnis*, gen. *órnithos* 'bird', Myc. Gk. *o-ni-ti-ja-pi* 'of a bird' (Risch 1976:313),[54] Lith. dial. *arêlis, erêlis* 'eagle', Latv. *ḕrglis*, OPruss. *arelie* (= *arelis*), OCS *orĭlŭ*, Russ. *orel*; Goth. *ara*, OIcel. *ari*, OHG *aro* (Ger. poet. *Aar*), MHG *adel-ar* (Ger. *Adler*), lit. 'noble eagle', OE *earn*, OIr. *irar* 'eagle'; cf. Arm. *oror* 'kite; gull' (with semantic transfer).

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53. The Latin form can be explained as the result of the change of *-k̂ʰw- to -kk-, with the subsequent development of -i- to break up the consonant cluster: *akkpter > accipiter. The Slavic form *(j)asŭ-str-ębŭ- is a regular development of the same protoform, with *-pʰtʰr- > -str- as in a number of other words (e.g. Russ. *stryj* 'paternal uncle', *Stribog*", high-ranked East Slavic pagan deity, both from *ptr- 'father').

54. In Greek there is a semantic extension from 'eagle' to 'bird', with the generic meaning attested even in Homer. It is interesting that the Indo-European generic word for 'bird' acquires the meaning 'eagle' in Greek (*aietós*). Here we have a switch of generic and specific meanings in words belonging to the same category. Similar instances of semantic broadening include the change from 'lion' to 'wild animal' in Toch. A *lu*, 'salmon' to 'fish' in Toch. B *laks*.

2.3.1.3. The mythic role of the eagle in ancient Indo-European tradition. The connection of eagle and sea

In Indo-European tradition as reflected in Sanskrit and Old Icelandic mythology, the eagle is always at the top of the Cosmic Tree (Wilke 1922). In ancient Germanic traditions the eagle appears together with the sacred bear and wolf as the most important of the birds in terms of cultic functions; it is one of the three sacred animals of the afterworld Valhalla (Beck 1965:9, 97 et pass.).

In Hittite tradition, beginning with the earliest texts, the eagle is the main ritual bird, comparable in significance to the lion. In the Old Hittite ritual KUB XXIX 1 cited in note 22, 'they made eagle's eyes (for the king), and they made him lion's teeth'. In an archaic song to the god Pirwa (Bo 6483), an eagle (*ḫaranan*) is sent to the god from the city *Ḫaššuwa-* (lit. 'royal city'). The eagle often serves as messenger to the gods, flying to the sea and bringing news from there. This motif is repeated in the Old Hittite ritual of purification of the king and queen (Otten and Souček 1969), in the Telepinus myth, and especially clearly in the ritual KUB XXIX 1 (just mentioned), which reads (I.50): *nu* GIŠDAG-*iz* ÁMUŠEN-*an ḫal-za-a-i e-ḫu-ta a-ru-na pí-e-i-mi...* 'and the Throne summons the eagle: Go! I send you to the sea!' The eagle comes back and reports that he has seen (*šuwayaun*) the 'lower, former gods', *katterreš karuileš* DINGIRMEŠ (evidently the earlier gods, overthrown and relegated to the underworld).[55]

This association of eagle and sea, or water in general, is probably a Common Indo-European mythological motif, as is reflected in archaic types of hydronyms and toponyms found in various Indo-European traditions which combine the element 'eagle' with 'sea', 'water', 'stream', etc. A clear example is the Old Hittite city name URU*ḫa-ra-aš-ḫa-pa-aš* 'Eagle River City' (KBo III 54 B 13, Watkins 1973a:84), which finds an exact correspondence in toponyms such as the central European Celto-Illyrian *Arlape* (now *Erlaf*): Toporov 1975-:I.102.

Interestingly, in Latin the very word for 'eagle', *aquila*, is etymologically related to the word for 'stream, sea, water': Lat. *aqua*, Goth. *aḥva* 'river', OE *ēagor* 'sea, stream', etc. This evidently represents a taboo replacement of the original word for 'eagle', the new term based on a property of this bird, which was associated with the sea or bodies of water;[56] the same explanation would account for the meaning of Arm. *oror* 'gull'.

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55. Similar motifs occur in the Vedic hymn to the eagle (*śyená-*), which 'knew all the generations of gods' (*avedam aháṁ devánāṁ jánimāni víśvā*, Rigveda IV, 27, 1) and which brings the sacred beverage soma from the sky for Indra.

56. Under this etymological interpretation, Lat. *aquilō* 'north wind' and *aquilus* 'dark brown, brown-black' must be regarded as derivatives from *aquila* 'eagle' and not vice versa (see Pokorny 1959:23, Tovar 1973:77-82).

2.3.1.4. Taboo replacements for 'eagle' in individual Indo-European dialects

Taboo replacements of the word for 'eagle', ascribable to the eagle's special cultic and ritual significance in Indo-European tradition, can also be observed in other ancient Indo-European dialects, for instance Indo-Iranian, where several parallel forms meaning 'eagle' arise. One is Skt. *śyená-* 'eagle; falcon', Av. *saēna-* 'large bird of prey', possibly 'eagle'; the term is based on the bird's dark gray color and comes from *$\hat{k}^h y\bar{e}$-: Skt. *śyává-* 'dark brown; dark', Av. *syāva-* 'black', Pers. *siyāh*, Russ. *sivyj* 'gray', *sinij* 'bright blue'.

In early Sanskrit, beginning with the Rigveda, *śyená-* is used together with the epithet *rjipyá-* 'fast-flying', cognate to the basic word for 'eagle' in Iranian;[57] the Iranian term evidently arose from the earlier epithet: *árksiphos · aetòn parà Pérsias* 'eagle in Persian' (Hesychius); cf. Av. *arazifya-* 'eagle', Pehl. *āluh* < **arduf*, Pers. *āluh*. The same ancient Indo-European epithet underlies Arm. *arcui* 'eagle' (Hübschmann 1897[1972]:424-25, Ačarjan 1971:I.319-20, Greppin 1978:45ff., Tumanjan 1978:194), borrowed into Georgian as *arc'iv-i* 'eagle'. The same epithet is the source of the name of the Urartean king Menua's horse *Arṣibini* (Melikišvili 1960:204-5, Lamberterie 1978:251-62).

2.3.2. Crane

2.3.2.1. The Indo-European term for 'crane'

The Proto-Indo-European word for 'crane' comes from the root **k'er-*, possibly of onomatopoetic origin (cf. Skt. *járate* 'sounds, makes noise'): Gk. *gérēn, géranos* 'crane', Arm. *krunk*, Oss. *zyrnæg* 'crane', Lith. *gérvė*, Latv. *dzērve*, OPruss. *gerwe*, Russ. *žuravl'*, OHG *kranuh* (Ger. *Kranich*), OE *cranoc* (Engl. *crane*), Lat. *grūs*, gen. *gruis* 'crane'. Since cognates are present in Greek and Armenian, the absence of a Sanskrit cognate must be due to later loss.

2.3.3. Raven and crow

2.3.3.1. The Indo-European word for 'raven' as onomatopoetic

The onomatopoetic root **k'er-* is evidently cognate to **k^her-/*k^hor-/*k^hr̥-*,

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57. Other Indo-Iranian euphemisms for 'eagle' include Oss. *cærgæs* 'eagle', originally 'kite; bird of prey', lit. 'chicken-eater'; Sogd. *crks* 'bird of prey', Av. *kahrkāsa-*, Pers. *kargas* 'kite' (Abaev 1958:I.302-3).

Chapter Three

Indo-European terms for domestic animals. The economic functions of animals and their ritual and cultic role among the early Indo-Europeans

3.1. Animals which were ritually close to man

3.1.1. The horse

3.1.1.1. The Proto-Indo-European term for 'horse'

The Proto-Indo-European term for 'horse', *ek̂ʰwos (without formal distinction between the masculine and feminine gender), is attested in all the early Indo-European dialects: Hier. Luw. á-sù-wa 'horse' (Karatepe 41ff.), nom. pl. á-sù-wa-i (cf. Lyc. esbe-di 'cavalry'), Laroche 1960:I.62. Mitannian Aryan LÚa-aš-šu-uš-ša-an-ni 'horse trainer' (equivalent to Skt. aśvá-sani- 'groom'), literally 'acquirer of horses', Kammenhuber 1961:6 et pass., Mayrhofer 1956:I.62. Skt. áśva-, Avest. aspa-, OPers. asa- 'horse', Sogd. 'sp-, Wakhi yaš, Oss. jæfs. Gk. (Myc.) i-qo 'horse' (Ventris and Chadwick 1973:548, Morpurgo 1963:115); Hom. híppos 'horse' (with geminate -pp- from *-k̂ʰw-, cf. I.2.3.2 above). Venetic eku- in the compound ekupeθaris, apparently originally 'pertaining to a wheelwright', Pulgram 1976. Latin equus 'horse'. OIr. ech, Gaul. epo- 'horse' in names like Epo-na 'muliōnum dea' 'goddess of coachmen', i.e. 'horse goddess' (Holder 1961-1962:I.1458ff.). OE eoh 'horse', OIcel. jór, Goth. aíƕa- 'horse' (Feist 1923: 15). Toch. A yuk, B yakwe 'horse'.

Special feminine forms arise independently in some dialects: Skt. áśvā, Avest. aspā-, Lat. equa, Lith. ešvà, ašvà 'mare' (Fraenkel 1962-1965:I.20).[1]

A number of dialects (in the Greco-Aryan group) attest ancient derivatives in *-yo- from the root *ek̂ʰw-: Gk. (Myc.) i-qi-ja 'chariot', Gk. híppios 'one who goes out on a chariot' (of a god) (Hom. hippio-khármēs 'warrior on a chariot'), cf. Myc. i-qe-ja 'pertaining to a horse' (Gk. hippeía), Skt. áśviya- id., Avest. aspya-.

Another ancient derivative, in -n-, appears in Lat. equīnus 'equine; pertaining

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[1]. In two Indo-European dialects — Slavic and Armenian — there is no term for 'horse' from this root, which must mean that the original word was replaced by other terms. Traces of the ancient term can be found in Slavic toponyms such as Osvica, Osveja, Osovka (Toporov 1975-:I.137). In Armenian, ēš 'donkey' is believed to reflect the Proto-Indo-European root for 'horse' (Watkins 1970; cf. further Toporov 1975-:I.137, with references; Lamberterie 1978:262-66), while Arm. ji, gen. jioy 'horse' is compared to Vedic (poetic) háya- 'horse', which probably goes back to a descriptive derivation from *ĝʰei- (Pokorny 1959:424).

to horses' (cf. Umbr. *ekvine*), Lith. *ašvíenis* 'workhorse', OPruss. *aswinan* 'horse's milk; kumiss', Skt. (Ved.) *aśvín-* 'having horses'.

Also Proto-Indo-European may be several terms for body parts of horses, reconstructed on the evidence of a number of ancient dialects: Skt. *mányā* 'edge of horse's ear' (O'Flaherty 1978:476), Lat. *monīle* 'mane', OHG *mana* 'mane' (Ger. *Mähne*, Engl. *mane*); a dialectally more restricted word for 'mane' can be reconstructed on the evidence of Skt. *grīvá* 'mane'; Common Slavic **grīvā* 'mane' (Russ. *griva*, Serbo-Cr. *grìva*, Cz. *hříva*, etc.).

3.1.1.2. The role of the horse among the early Indo-Europeans. The horse in Old Hittite tradition. Its military, transport, cultic, and mythological role

The special military-transport, ritual-cultic, and economic significance of the horse among the Indo-Europeans can be established on the evidence of the earliest sources for each of the early Indo-European traditions. The earliest mention of horses in texts of the ancient Indo-European languages is in the Anittas text of the early second millennium B.C., which enumerates warriors and horses (Sumerogram ANŠE.KUR.RAḪI.A, 70 Rs.) and discusses harnesses, evidently of horses (Giorgadze 1965:93, Neu 1974).[2]

The special ritual significance of horses in the Old Hittite tradition is clear both from the cultic and legal status of horses reflected in the Hittite Laws (discussed above, II.1.3.2) and from the traces of horse sacrifice reflected in Hittite rituals (e.g. KUB XXIX 56 11-12, where horses are mentioned in connection with sacrifice using the verb *šipant-* 'perform a sacrifice or ritual libation'). The Indo-European source of the Old Hittite conceptions connected with the horse cult are established by comparative analysis of the Old Hittite deity Pirwa, who is represented as riding on a horse (Otten 1951, Cornil and Lebrun 1972:13-14). Pirwa can be compared to deities who bear etymologically identical names and are connected with horse cults elsewhere in Indo-European.

The significance of the Old Hittite information pertaining to horses lies in the fact that it reflects a particular, chronologically identifiable layer in the military and cultic use of horses.

3.1.1.3. Horsebreeding and the Mitannian Aryans

A qualitatively new stage in the development of horsebreeding in ancient Asia

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2. The Hittite reading of the Sumerogram ANŠE.KUR.RA 'horse' is unknown; however, the hieroglyphic Luwian form mentioned above testifies to the presence of the Indo-European word for 'horse' in Anatolian.

Minor arose in the middle of the second millennium B.C., when the Hittites became acquainted with the use of horses harnessed to lightweight two-wheeled military chariots. This way of using horses, and the training and care of such horses, were being practiced at that time in the Mitannian state to the east and southeast of the Hittite kingdom, along the upper Euphrates in northern Mesopotamia. A description of these horse-training methods is preserved in the famous Treatise of the Mitannian Kikkuli on the care of horses and a few other analogous texts (Kammenhuber 1961, 1968). This text uses a number of special terms, interpretable on the basis of Aryan, which testify to the extremely high level of horsemanship among the Aryans. Words interpreted as Aryan in this Hittite treatise include, in addition to *aššuššanni* 'groom' (cf. Skt. *aśvásani-*) mentioned above, the following horse-training terms (Kammenhuber 1961, Mayrhofer 1966, 1974):

Compound terms designating uneven numbers of laps of horses in the stadium (*wašanna* 'racecourse'):[3] *aika-wartanna* 'one lap': *nam-ma-aš* 20 IKUḪI.A *a-i-ka-wa-ar-ta-an-na pár-ḫa-i* 'then (he) makes them (horses) run 20 fields in one lap' (KUB I 13 II 1, 17 and 22). The compound *aikawartanna* consists of *aika-* 'one' (cf. Skt. *éka-* beside Avest. *aēva-*, OPers. *aiva-* 'one') and *-wartanna* 'turn' (cf. Skt. *vártate* 'turns', Ved. *vartan-í-* 'track, path, rolling out', Grassmann 1873:1223; Oss. *æwwærdyn* 'train a horse', Bailey 1957:64);[4] cf. the corresponding Hittite word in the same treatise: *waḫnuwar* 'turn', an infinitive from the verb *waḫnu-* 'turn'. *ter(a)-wartanna* 'three turns': cf. Skt. *tri-* in compounds (*tri-pád-* 'three-legged'), Avest. *θri-*, and Skt. *tráya-* in compound numbers (*tráyo-daśa-* '13', cf. Lat. *tredecim*), Avest. *θrayō*. The Mitannian Aryan form is closer to the form of Indo-Iranian compound numerals. *panza-wartanna* 'five turns': cf. Skt. *páñca* 'five', Avest. *panča* 'five'. *šatta-wartanna* 'seven turns': cf. Skt. *saptá*, Avest. *hapta* 'seven'. *na-wartanna* 'nine turns': cf. Skt. *náva*, Avest. *nava* 'nine'. The Mitannian Aryan form is clearly from **nawa-wartanna*, with haplological loss of *-wa-*.[5]

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3. The form *wašanna* 'racecourse' is itself of Aryan origin: cf. Sogd. *'nxr-wzn* 'ring of the zodiac; path (*wazana*) of the stars' (Benveniste 1962a:9), Skt. *váhana-* 'animal (which the gods ride)', OE *wægn*, Engl. *wagon*, Ger. *Wagen*, PIE **weĝh-*.

4. The structurally identical Sanskrit compound *ekavṛt-* is used in the somewhat different sense 'single, only' (in the Atharvaveda); but cf. Skt. *āvarta-* 'lock of a horse's mane' (O'Flaherty 1978:476). An exact correspondent to the Mitannian Aryan term can be found in Old Iranian **Varta-aspa-* 'trainer (literally 'turner') of horses' (in Akkadian cuneiform rendered as *Ú-mar-ta-as-pa-*: Zadok 1975:247). Also attested in Old Iranian (Avestan, *Yašt* 5, 50) is the expression *nava frāθwərəsāma razurəm* 'a forest of nine circles (i.e. in size)' in connection with a description of a race or contest on horse-drawn carts (Hauschild 1959), which coincides exactly with the Mitannian Aryan horse term *na-wartanna* 'nine turns', discussed below.

5. The analysis of these Mitannian Aryan forms gives us the possibility of determining with some approximation which Aryan dialect they reflect. It is obviously a separate Indo-Iranian dialect, attested only in these and similar fragments in cuneiform texts written in other languages. It is a dialect where diphthongs have not yet monophthongized: cf. *-ai-* in *aika-* 'one': Skt. *eka-* 'one', OPers. *aiva-*. On the other hand, it shows assimilation of *-pt-* to *-tt-*: cf. *šatta-* 'seven'

Judging by the horse-training treatise and other evidence, the Aryan dialect reconstructible from these fragments was the language of oral communication for the Mitannians of the relevant social stratum. This can be seen from the parallel use and juxtaposition of Hittite and Aryan words, e.g. the Hittite-Aryan hybrid form *anda wart-* 'make a turn' and others. Meanwhile, the language of the mass of the population of the Mitannian state was Hurrian, a non-Indo-European language already known from other areas of the Near East long before the formation of the Mitannian kingdom (Laroche 1978). However, given the advanced horse-raising culture in the Mitannian kingdom, a culture subsequently transmitted to the Hittites, we must assume that this culture was brought in specifically by the Aryan element of the Mitannian kingdom, as is reflected in the predominantly Aryan nature of the Mitannian horse-training terminology.[6] Prior to the formation of the Mitannian kingdom, the Hurrians themselves made little use of horses, either military or economic. Moreover, in the Hurrian tradition the main transport animals were bulls: in the Hurrian poem 'The song of Ullikummi' the Thundergod, preparing for battle, harnesses bulls to his carriage. Even in late Hurrian cultic representations of the early first millennium, the Thundergod is shown standing on a light cart to which a bull is harnessed (gold vessel from Hasanlu, early first millennium B.C.: Haas 1975:92).

In contrast to the strictly Hurrian data, all the ancient evidence concerning the early Indo-Iranian traditions speaks for the exceptional cultic and military-economic significance of horses.

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beside Skt. *saptá*, Avest. *hapta*. Only in the Middle Indic period do we find analogous assimilation of consonant clusters. This dialect shares with Iranian its reflex of the Indo-European palatal *g^h: corresponding to Sanskrit -*h*-, Mitannian Aryan shows an assibilated phoneme rendered as *s*, which links it with Iranian, where this consonant is reflected by *z*: cf. Mitannian Aryan *wašanna* 'racecourse' beside cognate Skt. *váhana-*, Sogd. *wzn*. It is interesting that several of the attested Mitannian Aryan words are semantically closer to their Iranian cognates than to the Indic ones: e.g. *wašanna* and Sogd. -*wzn*; -*wartanna* and Oss. *æwwærdyn*.

Thus the Mitannian Aryan dialect does not coincide with any of the historically attested Indo-Iranian dialects and, judging from just these fragmentary pieces of information, can be reconstructed as a separate Aryan (Indo-Iranian) dialect with distinct reflexes of Common Aryan forms. It can therefore be maintained that by the middle of the second millennium B.C. separate dialects had formed within Indo-Iranian; one of them is reflected in the Mitannian Aryan linguistic fragments.

6. An Aryan element in the Mitannian culture is further attested by the Mitannian pantheon, which has as its major royal deities gods with Aryan names: *Mitrašsil, Uruwanašsel, Indara, Našatiyanna*. These names, which have Hurrian endings, can be identified with the ancient Indo-Iranian pantheon reflected in Vedic respectively by *Mitrá-Váruna-, Índra-, Násatyā* (the Divine Twins, the Ashvins), see Dumézil 1961. Further evidence is a number of personal names, including royal names and those of the social stratum *maryannu* (also interpreted on the basis of Aryan: Skt. *márya-* 'young man; young hero'; see below): such names include *Mattiwaza* beside Skt. -*máthi-* 'destroying' (in compounds in the Rigveda) and *vája-* 'force' (also in the Rigveda as the second element of compounds such as *citrá-vája-* 'having exceptional force'), which points to a compound **mathi-vája-* 'having destructive force'; *Tušratta* beside Skt. *tveṣá-ratha-* 'whose chariot rushes ahead', etc., see Mayrhofer 1966, 1974.

_*3.1.1.4. Horses in the ancient Indo-European tradition. The horse cult in the Rigveda and the Ashvins*

As early as the Rigveda, the horse is one of the basic sacred animals. It is associated with the divine twins, the Ashvins, who, among other things, heal and care for horses (Dumézil 1966:278). The Ashvins travel on carts harnessed with horses:

> *arváñ tricakró madhuvā́hano rátho jīrā́śvo aśvínor yātu súṣṭutaḥ*
> *trivandhuró maghávā viśvásaubhagaḥ śám na ā́ vakṣad dvipā́de*
> *. cátuṣpade*   (I, 157, 3)
> 'May the three-wheeled car of the Aświns, drawn by swift horses,
>   laden with honey,
> Three-canopied, filled with treasure, and in every way
>   auspicious, come to our presence, and bring prosperity
> to our people and our cattle'
>
> (H. Wilson 1854:100-101)

In the Rigveda, together with hymns to the sun there are a few hymns to apotheosized horses which are cited by name (IV, 38-40; VII, 44; X, 178). The divine horse Etaśa is described in the Rigveda as 'drawing the chariot of the Sun'. Of particular interest is the Vedic funeral hymn to a horse (X, 56), which is followed by a hymn to 'heavenly horses', a hymn in praise of the apotheosized horse, winner of races.

The ancient Indo-European horse cult, revealed in the ritual of horse sacrifice (cf. II.1.3.2 above), appears in the earliest rites, which are the subject of hymns in the Rigveda (I, 162-63), see Puhvel 1970a. These hymns to a horse sacrificed at the horse pillar (*aśvayūpá-*, I, 162, 6) name the earliest gods of the Vedic pantheon, beginning with Mitra, Varuna, and Indra (I, 162, 1).[7] The ritual pillar *aśvayūpá-* is functionally identical to the Cosmic Tree, Skt. *aśvatthá-*, literally 'horse tree'. This name reflects the ancient conception of the Cosmic Tree as having a horse tethered to it; cf. the analogous name for the Cosmic Tree in the Edda: *Ygg-drasill*, literally 'place where Odin's horse is tied', elsewhere also *askr Ygg-drasils* 'ash (tree) of Odin's horse', Sternberg 1936:118, de Vries 1957:II.380ff. Thus the ritual horse, the Cosmic Tree with a horse tethered to it, and deities — the divine twins, protectors of horses and the Cosmic Tree — form a complex of ritual and mythological conceptions, inherited by Sanskrit religion from Proto-Indo-European religion.

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7. Cf. in the later archaic ritual text *Śatapatha-Brāhmaṇa* (4.2.1.11ff.): *sa hi vāruṇo yad aśvaḥ* 'the horse is Varuna's' (literally 'is that which is of Varuna').
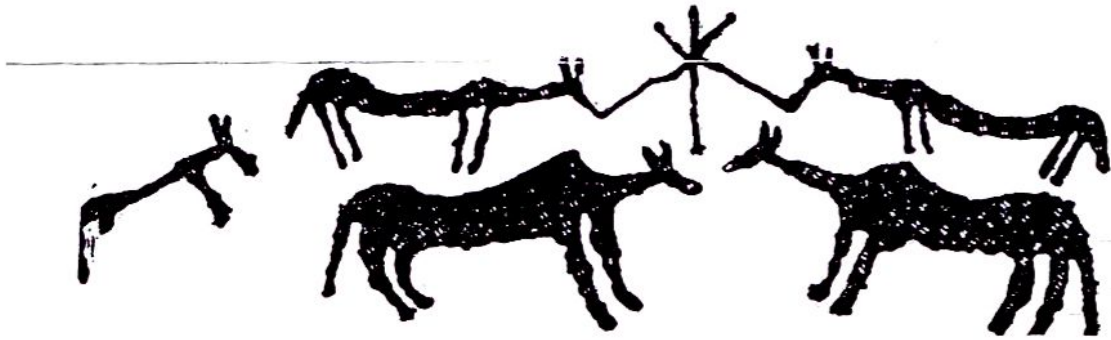
Illustration 6.
Horses at the Cosmic Tree. Minusinsk ravine, southwestern Siberia

3.1.1.5. The horse in Old Iranian tradition and its ritual significance

In the Old Iranian tradition, the ritual significance of horses is evident primarily in rites of horse sacrifice, analogous to the Sanskrit rites and reconstructed from written documents and archeological data (cf. II.1.3.2 above). The ancient rite of horse sacrifice was preserved until recently in the descendants of Scythian traditions, cf. the Ossetic ritual of dedicating a horse to a deceased person, *bæxfældīsyn* (Abaev 1958:I.435). Ossetic also preserves the ancient horse-breeding term *æwwærdyn* 'horse training' (cf. above on the Mitannian Aryan cognate *-wartanna*).

Evidence for the great significance of horses in the Old Iranian tradition is the unusually high frequency of Old and Middle Iranian names of rulers containing the root *aspa-* 'horse': *Asparuk* (in Greek rendition, *Aspauroúkis*) in Georgia, second to third centuries A.D. (Cereteli 1941); Arm. *Aspūrak* (Justi 1895:47), Turco-Bulg. *Asparuk* (Abaev 1949:I.157), literally 'light-colored horse' or 'having light-colored horses', from OIran. **aspa-* and **rauk-* 'light, light-colored'; *Áspakos, Išpakai*, a Scythian prince (Vasmer 1923:I.14, 34); *Banádaspos*, king of the Iazyges, a Sarmatian tribe, OIran. **vanat-aspa-* 'victory-horsed', from *van-* 'conquer' (Vasmer 1923:I.35); **Ašta-aspa-* (Gk. *Astáspēs*) 'having eight horses', **Vista-aspa-* (OPers. *Vīštāspa-*), Mayrhofer 1979:I.25, I.97 et pass.

3.1.1.6. Horses in Ancient Greek tradition. The ritual and mythological role of horses

In ancient Greek tradition as reflected as early as the Mycenean texts, the horse is a ritually significant animal whose cult is symbolized by a special female

deity, whose name in Mycenean is *po-ti-ni-ja i-qe-ja*, literally 'lady of horses' (*Potniāi hiqweiai* = Class. Gk. *Potníai hippeíai* [dat.]: Lejeune 1958, cf. Ventris and Chadwick 1973:483, 548). In the Balkans, in modern Croatia, a Mycenean representation of a female deity seated on a horse was found (Levi 1951, fig. 4a).[8]

Also connected with horses is the Mycenean word for 'chariot', *i-qi-ja* (Gk. *híppios*, cf. Hom. *hippio-khármēs* 'warrior on a chariot'), which points to the uses of horses as harness animals for lightweight military chariots; horses (usually two) harnessed to lightweight military chariots are a favorite motif of Mycenean art and are especially frequent on the bas-relief tombstones of Mycenean kings. Use of wheeled carts for transportation of merchandise and food was also characteristic of the Mycenean period.

Archeological evidence testifies to relics of the Indo-European funeral rite of horse sacrifice among the Mycenean Greeks: a horse skeleton was found in a burial vault in the Pronoia necropolis (Blavatskaja 1966:80n37, 1976:96). This is consistent with the existence of Mycenean personal names formed from *i-qo-* 'horse' (cf. the later Greek names of the same type: Lejeune 1958:289).

The high development of horsebreeding in Mycenean Greece is revealed by special terms for 'young horse', 'colt', 'foal': Myc. *po-ro* (Gk. *pôloi*) 'colts', corresponding regularly to Goth. *fula*, OIcel. *foli*, OE *fola* (Engl. *foal*), OHG *folo* (Ger. *Fohlen, Füllen*) 'foal', Alb. *pélë* 'mare'.

Horses and the related complex of ritual and cultic concepts in the Creto-Mycenean cultural area are associated specifically with the Indo-European Greek ethnic element. Horses and horse cults were absent on Crete until the middle of the second millennium B.C.; prior to this time the bull was the sacred and cult animal. The appearance of horses on Crete dates from the Late Mycenean period, i.e. the time when the Greeks first appeared on the island. One of the Cretan seals of this period depicts a horse loaded onto a ship (Pendlebury 1939:221).

Homer preserves archaic formulas comparing a swift horse to a bird and coinciding etymologically with Indo-Iranian formulas: e.g. *ōkées híppoi* 'swift horses' (11 times in Homer) beside Ved. *áśvā āśávah* 'swift horses' (*āśúm áśvam*, Rigveda I, 117, 9; VII, 71, 5), Avest. *āsu.aspa-* 'owning swift horses' (see Schmitt 1967:§493ff.).[9]

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8. This Mycenean depiction of a deity on horseback and Mycenean statuettes of horsemen (Blavatskaja 1966:80) are among the earliest iconographic attestations of horseriding. In this connection it is of further interest that the Hittite horse-riding deity Pirwa is identified in the Late Hittite period with the Hurrian Ishtar — an androgynous deity on horseback (Cornil and Lebrun 1972:13-14). These female models of a deity on horseback can be regarded as prototypes for the horseback-riding Amazons of Greek mythology, whom tradition associated with Asia Minor (Leonhard 1911).

9. Cf. the Venetic reflex of the image of horse as bird in the compound *ekvopetaris*, identifiable with Skt. *aśvapatara-* 'flying horse' (literally 'horse-flying'), Prosdocimi 1972:222. Cf. also the image, frequent in the Rigveda, of eagles harnessed to carts and hence equated to
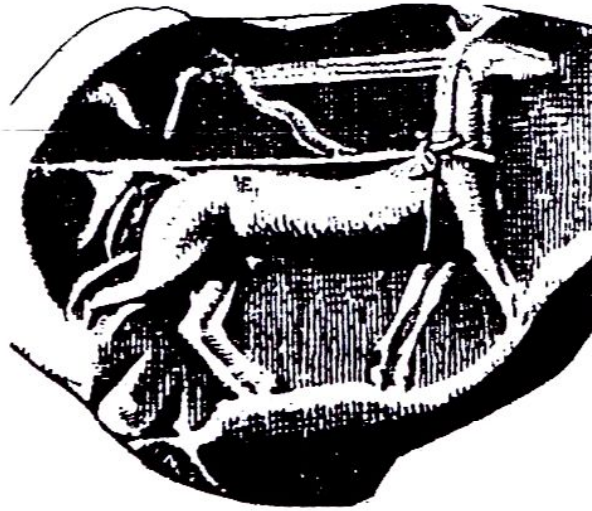
Illustration 7.
Minoan seal showing a harnessed horse. Hagia Triada, Crete,
2nd millennium B.C.

In classical Greek tradition, beside the preservation of traces of former mythic conceptions of the horse as a sacred animal, inherited from the Mycenean period, we find a new use of the horse for riding (attested by the early classical period: Greenhalgh 1973:45, 46, 53ff., Hill 1974), and later in agriculture for plowing (first millennium B.C.).

3.1.1.7. *Traces of the horse cult in Roman tradition*

In Roman tradition the ancient Indo-European rite of horse sacrifice is preserved in all its essential details, which coincide with the Sanskrit ritual of the Ashvamedha. In Rome an annual *Equus October* rite was performed, during which a sacred horse — the right-hand one of a harnessed pair (Lat. *bīgae*) which had won a horserace — was slaughtered and its body cut into pieces (as in the Ashvamedha).[10] Its tail was brought to the wall of the Regia sanctuary, whose very name shows the originally royal character of the festival (the horse sacrifice was of a similar nature in the Indic and Iranian tradition). The Latin name of the festival, based on its calendar timing, coincides with the Sanskrit name of a month (September to October) *áśvayuja-* 'month of the Ashvins' (literally 'month of harnessed horse team'; Skt. *yuj-* 'harness' is cognate to Lat. *bīgae* 'harnessed pair'). The Latin rite was dedicated to the god of war Mars, in ancient times the protector of new settlements and the appropriation of new lands (Dumézil 1966:211, 217-25).

horses. Also typologically relevant here is the Urartean horse name 'eagle', cf. II.2.3.1.4 above.

10. By the classical Roman period, charioteers were no longer a basic part of the army; they had been replaced by horseback riders who constituted a new type of troops — the cavalry.

The horse cult was also connected with the social structure of ancient Rome, where there was a special social stratum of horsemen, the *equites*, whose ritual leader was the *magister equitum* 'leader of horsemen'. During the annual ritual of *transuectio equitum* 'parade and review', a sacrifice was performed to one of the divine twin brothers, who by now bore the Greek name Castor (Dumézil 1966:401-2) and is comparable to the Ashvins.

3.1.1.8. The horse in Celtic tradition

An ancient Indo-European ritual in which the king is symbolically wedded to a sacrificed horse is preserved in the Celtic tradition (see II.1.3.2 above). The ritual closeness of horse and man is symbolized in Gaulish representations of horses with human heads, which corresponds to the Old Irish myth of the magic horse which avenges its master (Sjoestedt-Jonval 1936:36-38).

In Gaulish tradition an important cultic role of horses is apparent in the goddess *Epona*, whose name is etymologically related to the Indo-European term for 'horse' and who was considered the 'goddess of coachmen', *muliōnum dea*. It is also noteworthy that in the Gaulish calendar there was a month named for the horse (*EQUOS*) (see de Vries 1961:123ff.).

Together with the original Indo-European term for 'horse' (OIr. *ech*, Gaul. *epo-*), Celtic attests another word with the same meaning: OIr. *marc*, Welsh *march* 'horse', probably Gaulish *márkan* (the Celtic term for 'horse' according to Pausanias, X 19.11), which has cognates in the Germanic languages: OIcel. *marr* 'horse', *merr* 'mare', OHG *mar(i)ha* (Ger. *Mähre*), OE *mearh* 'horse' (Engl. *mare*); for these terms see below.

3.1.1.9. The horse cult in Germanic tradition

In the Germanic tradition, the cultic role of the horse is revealed in many archaisms of Indo-European origin. In addition to the manifestations of a horse cult in connection with burial rites (mentioned above, II.1.3.2) and the archaic name for the Cosmic Tree *Yggdrasill* (literally 'pillar of Odin's horse'), the myth of two royal brothers with the horse names Hengist and Horsa, who, according to legend, led the Anglo-Saxon invasion of Britain, is of particular interest. These same two names were preserved in Schleswig-Holstein until the nineteenth century, as ritual names for carved horse heads on the roofs of houses (Ward 1968:54). Legend connected the royal brothers Hengist and Horsa with the rite of the White Horse, which was thought to embody "all cattle"; the rite was preserved until the nineteenth century (Woolner 1967).

As in the Iranian and Greek tradition, old Germanic personal names contain

the word for 'horse', e.g. OE *Frid-hęngest* (comparable to Mitannian Aryan names like *Biridašua*, *Biriyaššuwa*, see Schmitt 1967:244).

3.1.1.10. The old Germanic terms for 'horse'

Together with the ancient name for 'horse' (Goth. *aíhva-*, OIcel. *jór*, OE *eoh* 'horse'), Germanic displays a number of innovations designating varieties of this animal. The clearest examples are OHG *hengist* 'horse', '*equus*' (Ger. *Hengst*), OE *hęngest*, OIcel. *hestr* 'horse' and OHG *hros* (Ger. *Ross*), OE *hors* (Engl. *horse*), OIcel. *hross* 'horse'. Later innovations in German include *Pferd* 'horse', going back via Medieval Lat. *paraverēdus* 'post horse' to a posited Celtic source (Paul 1956:II.453), and *Stute* 'mare', whose original meaning was 'herd of horses': cf. OHG *stuot* beside OE *stōd* 'place for breeding horses; stud farm' (Engl. *stud* 'herd of animals, especially horses', cf. Russ. *stado* 'herd, flock': PIE *sthā̄-*).

3.1.1.11. The Celto-Germanic term for 'horse' and its Asiatic sources

There is a distinctive set of Germanic terms for 'horse' (OIcel. *marr* 'horse', *merr* 'mare', OHG *marah* 'horse',[11] *mariha* 'mare', OE *mearh* 'horse', *mięre* 'mare'),[12] with Celtic cognates (OIr. *marc*, Welsh *march*, Gaulish *márkan* 'horse'). A Celto-Germanic protoform for these attested words can be posited in the form *markʰo- (Pokorny 1959:700). The word has no cognates elsewhere in Indo-European and must be considered a loan[13] into the Celto-Germanic dialect group from some eastern Asiatic source.

This term for 'horse' is found throughout the Central Asian and East Asian linguistic area and is the basic term for 'horse' in many languages of Eurasia. In Altaic (specifically, in Mongolian, the Tungusic family, and Korean) it appears in the form *mor- (Mong. *morin*, Tungusic *murin*, Korean *mal*:

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11. This is the source of OHG *marah-scalc* 'one who takes care of horses; groom', which provides OFr. *mareschal* 'groom; marshal', Fr. *maréchal*.

12. In the ancient Germanic dialects these terms for 'horse' evidently had specialized senses (perhaps 'riding horse') and coexisted with the old Indo-European terms, Goth. *aíhva-*, OE *eoh*, OIcel. *jór* < *ehwaR. This older term for 'horse' was used in Germanic as the name of one of the runes, 'eoh' (M), cf. the Old English rune M with the phonetic value *e* and the reading *eoh* in rendering the name of the poet Cynewulf (ninth century A.D.). That the rune M, obviously borrowed from the Latin alphabet where it had the phonetic value *m*, had a Germanic reading *e*, *eoh*, can be explained if we posit a parallel Germanic word for 'horse' with an initial *m-*. This is a symbolic renaming of the rune 'horse' *markʰos > *marhaR by means of the semantic equivalent *ehwaR, which began with another sound, namely *e-*, which was then ascribed to the rune (on symbolic runes see Makaev 1965:62-64).

13. The word has been claimed to be a loan by Meillet (1952:153).

Polivanov 1968:63, 167, 168), which may have had a diminutive *mor-qa* (Ramstedt 1946-1947:25) or *morkin* (see Novikova 1979:67ff.). In another East Asian group of languages, Sino-Tibetan, the word has the form *mraŋ, whence Chin. *mǎ* from *mra* (cf. Jap. *m̩ma* > *uma*), OBurm. *mraŋ, OTib. *rmang* < *mraŋ (Polivanov 1960, Coblin 1974), cf. Tamil *m̩ā* and others in Dravidian (Burrow and Emeneau 1961:318).

The word is plainly a migratory term which spread throughout the languages of Central and East Asia, whence it could have entered the Celto-Germanic dialects. The inherited Indo-European *eḱʰwos was used to denote a harnessed horse in these languages, whereas the borrowed Oriental word *markʰo- in all probability referred to a riding horse.

Horseback riding became known in the areas of historical Celtic and Germanic settlement only around the first millennium B.C. (Clark 1952:301-15). The words for 'horse' point clearly to contacts of the Celto-Germanic groups with speakers of Asian languages before the first millennium B.C., which could have occurred during the historical migrations of the tribes speaking Celto-Germanic dialects.[14]

3.1.1.12. The horse cult among the ancient Balts

A horse cult in many ways analogous to those just discussed is also found in the Baltic tradition. The Balts had a special god of horses (*equorum deus*) with various names and epithets, as well as a ritual of horse burial and ritual horse races during funerals. An indirect trace of horse sacrifice in Baltic can be seen in the custom of drinking 'horse's blood' together with 'mare's milk' (Toporov 1975-:I.136). The Divine Twins, called 'sons of God' (Lith. *Diẽvo sūnēliai*) in Baltic as in Greek, are constantly associated with two horses, which are often used as ornaments on the roofs of houses; cf. the analogous custom in Germanic tradition and the connection with the horse of the Greek Dioscuri (Gk. *Dioskoúroi* 'sons of the Sky God', Ward 1968). Baltic preserves several ancient words connected with the Indo-European name for 'horse' (Lith. *ašvà* 'mare', *ašvíenis* 'work horse', OPruss. *aswinan* 'mare's milk') and hydronyms derived (as in Sanskrit and other traditions, Porzig 1964:303-4) from the same root (e.g. Lith. dial. *Ašvà*, river name, and others: Fraenkel 1962-1965:I.20); but even by Common Baltic times new words for 'horse' and varieties of horses had arisen: OPruss. *sirgis* 'mare', Lith. *žirgas* 'horse', Latv. *zir̂gs* 'horse'; Lith. *arklỹs* 'horse', Latv. *ar̃kls* 'horse'. The latter word is formed from the identical word for 'plow' (Lith. *árklas* '(wooden) plow', Latv. *ar̃kls* '(metal) plow', Mühlen-

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14. The fact that this Celto-Germanic borrowing from an East Asiatic language can be dated to the first millennium B.C. (see also Novikova 1979:67ff.) rules out the possibility that it was borrowed from Hunnic; the Huns spread into Europe only in the first centuries A.D.

bach and Endzelin 1923-1932:I.141), which points to the use of horses for plowing (cf. the use of horses in agricultural labor in classical Greece and other late Indo-European cultures).

3.1.1.13. The horse in Slavic tradition. Slavic terms for 'horse'

In the Slavic tradition, the cultic role of the horse is reflected most clearly in medieval data about the Baltic Slavs, who preserved paganism longer than the other Slavs. Each of the three major gods of the Baltic Slavs was characterized by its own sacred horse of a particular color. Sacred horses also figured in fortunetelling (Ivanov and Toporov 1965:32-45 and Table 2). In an East Slavic sacrificial altar of the ninth century A.D. dedicated to the Slavic 'Thundergod on horseback' Perun (the site is at Peryn', near Novgorod), who is etymologically and functionally identical to the Hittite god on horseback Pirwa, the remains of a sacrificed horse were found (Sedov 1953). In the same area and in approximately the same century (prior to the eleventh century A.D.) we find horse sacrifice as part of a building rite, accompanied by the erection of two horse figurines at the peak of the roof (as in the Baltic and Germanic traditions): Mironova 1967. Slavic folklore preserves numerous echoes of ancient beliefs in horses as sacred animals (Ivanov and Toporov 1974:340 et pass.).

While they preserve rites and mythological motifs reflecting the ancient Indo-European horse cult and the complex of notions associated with it, the Slavic languages have completely lost the Indo-European word for 'horse', replacing it with new lexical formations (see Trubačev 1960:47ff.): OCS *konjĭ* '*híppos*', 'horse', ORuss. *kon'* 'horse', *komon'* 'war horse'; OCS *kobyla* '*híppos*', 'mare', Russ. *kobyla* (a migratory term, reflected in Gallo-Latin *caballus* 'horse', Gk. *kabállēs* (Hesychius), and a number of Asiatic langauges: OTurk. *kevä̈l, kevil* 'racehorse', Pers. *kaval* 'fast horse'). Among the later borrowings from Asiatic languages into separate Slavic languages are Russ. *lošad'* 'horse', dial. *lošá* 'foal', from Tkc. *(a)laša* 'horse; gelding' (Dmitriev 1962:540), Russ. *merin*, ORuss. *merin*" (from 1500 A.D.) from Mong. *morin*; and others.

3.1.1.14. The ancient Balkan term for 'horse'

In a group of ancient Balkan Indo-European dialects, words for 'horse' or 'foal' are areal innovations, evidently derived from a base meaning 'breastfeed; suck' (Alb. *mënt* 'suck; breastfeed', OHG *manzon* 'udder', cf. Bret. *menn* 'young animal', Pokorny 1959:729): Alb. *mës* 'foal', 'donkey foal',̇ Illyr. *mandos* 'small horse', Lat. *mannus* 'small Gaulish horse', Messap. *Iuppiter Menzanas* 'god to whom horses were sacrificed'. The word is borrowed into other Balkan and

Mediterranean languages: Rum. *mînz* 'foal', Ger. (Tyrol. dial.) *Menz* 'dry cow', Basque *mando* 'mule', see Solta 1974:57.

3.1.1.15. The role of horses among the ancient Indo-Europeans

Comparison of the ancient Indo-European traditions associated with the horse cult and the use of horses in transport and for military purposes allows us to reconstruct the presence of domesticated horses for Proto-Indo-European. They were designated by the term *ek̂hwos, which had great cultic significance (horses were sacrificed and were associated with gods, including the Divine Twins, and with the Cosmic Tree), and were also used as harness animals for carts and war chariots. Only in the more recent traditions do we find wide use of horses for horseback riding in war and transport; for the archaic period, horseback riding can be posited only as a means of horsebreaking, including taming wild horses.

3.1.1.16. The domestication of the horse; its wild ancestors

The domestic horse (*Equus caballus* L.) and all the early varieties in which it is known in the Old World must be descended from one single species of wild horse. Several types of wild horses are known: large horses with massive skeletons and wide hoofs, found primarily near the glacial zone of Europe, and several types of smaller, less massive wild horses found far from the glacial zone in eastern Europe and in Asia (Gromova 1949, Azzaroli 1966). One of these smaller types of horses, whose size was more appropriate for domestication, must have been the ancestor of the domestic horse.

The Przewalski horse (*Equus przewalskii*), found in Central and Eastern Asia and surviving to this day in scattered groups near the Gobi desert in Mongolia, cannot have been that ancestor because, according to recent data, it differs genetically from the domestic horse (the Przewalski horse has 66 pairs of chromosomes while the domestic horse has 64). Hence the original area of the Przewalski horse is ruled out as the center of domestication of the horse. Further evidence against an Asian center of domestication is the lack of domesticated horses in eastern Asia, in particular in China, until the Yin period, at which point the horse is introduced from the west, evidently under West Asiatic cultural influence (L. Vasil'ev 1976:278-79).[15]

15. These new facts undermine the earlier view (Polivanov 1968) according to which a horse domesticated from the Przewalski horse was called *mor-* in the Altaic languages, from which the word was borrowed into Chinese and other South Asian languages. The term *mor-* must have originally referred to the same domesticated horse known further west, and not to one descended from the Przewalski horse; consequently, the domesticated horse entered Central Asia from the west.

The remaining types of equids, close to wild horses and possible ancestors of the domestic horse, include several biologically close species: the tarpan (*Equus gmelini*), found in Europe north of the Black Sea between the Dnieper and the Volga, which survived until the nineteenth century (Berg 1955:136, Bibikova 1967, Nobis 1955, 1971);[16] and the European wild horse, extinct since the eighteenth century (see Drower 1969, Bökönyi 1974). These possible ancestral horses are distinct from the onager (*Equus hemionus onager* Bodd.), which was used as a draft animal in very early times (Noble 1969). The onager was found in the broad steppe zone north of Mesopotamia (Jarmo, ca. seventh millennium B.C., see Berger and Protsch 1973:225), including Asia Minor and the Transcaucasus (Zeuner 1963).[17]

It is not clear whether the horse remains found at Anau in southwest Turkmenia (ca. 4800 B.C.; for further discussion see Kuz'mina 1976:151, Matolcsi 1973) belong to onagers or wild horses. If the Anau bones could be shown to be close to ancestral domestic horses, then Central Asia would have to be considered the area of first domestication of the horse (cf. Harlan 1976:92); from there the domestic horse could have entered the easternmost regions of Europe. It is noteworthy that clear evidence of developed horsebreeding is first found precisely in the most eastern region, to the east of the Dnieper (Bibikova 1969).

The earliest evidence for the cultural use of horses — specifically domestic horses, to judge from osteological data — was recently found in burial grounds in the lower Volga region; radiocarbon dating for one burial ground (Lipovyj Ovrag, Xvalynsk district, Saratov province) places it at the end of the fifth millennium B.C. (E. N. Černyx, p.c.). Specifically, horses were used for sacrifice (as shown by a find of two horse skulls on a sacrificial floor next to a burial in the burial ground at S"ezžee), and there was a horse cult (shown by bone carvings of horses in the Xvalynsk burial ground). This Lower Volga culture shows close links — in particular, in its sacrificial floors with animal skulls — with the more southern Caspian areas (Vasil'ev 1979).

3.1.1.17. The area of first domestication of the horse

In principle, these eastern European areas — the range of the tarpan — can be

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16. The chromosome count of the tarpan, which became extinct in the last century, is of course unknown, and therefore it is impossible to precisely determine its relation to the domestic horse (*Equus caballus*): see Kuz'mina 1976:150.

17. Traces of the wild horse (*Equus ferus*) are found in the Transcaucasus, in particular at the Mesolithic site of Barmaksyz on the Calka plateau in Georgia, where the wild horse was the most important hunted animal (Kuftin 1941:123, Munčaev 1973:73).

considered the area of first domestication of the horse.[18] It is no accident that we find the earliest traces of the domestic horse precisely in these ranges of the wild horse. The earliest find of domestic horses in the northern Black Sea area dates to the second half of the fourth millennium B.C. (the village Dereivka on the right bank of the Dnieper: Bibikova 1967:113; cf. Kovalevskaja 1977:19, Bökönyi 1974:238). This territory later yields a significant quantity of domestic horse bones,[19] both in the eastern area from the Don to the trans-Volga region (where the quantity of horse bones is significantly greater) and in the western area (Bibikova 1967). In this connection it is significant that bones of the wild horse *Equus caballus Missii*, which may be the ancestor of this type of domesticated horse, are found much farther east, in the Volga steppes (see Bibikova 1969).

In the southern Near East the domesticated horse is attested for the fourth millennium B.C. in culture sites in Mesopotamia, Elam (Susa), and adjacent areas of ancient Iran, where ancient horses are depicted on vases and statuettes from Hafaj, near Baghdad (Wiesner 1939, Hermes 1936a, 1936b, Potratz 1938, Hančar 1955; for the chronology of the appearance of horses in the Near East in the third millennium B.C. see also Thomas 1970:260, Kuz'mina 1974, 1976a, 1977).

An analogous picture can be reconstructed for Asia Minor at an even earlier period. Domesticated horse bones were recently found at Demirci Hüyük, Yarıkkaya, and Norşun-Tepe in eastern Anatolia. They are found in Bronze Age strata as early as the second half of the fourth millennium B.C. (see Bökönyi 1978:54, Zarins 1979:60, Piggott 1979:10, Mellaart 1981).

The earliest written evidence for horses in Asia Minor is found in Old Assyrian tablets from Kültepe (*kārum Kaniš*), which make frequent mention of *rabī sisê* 'chiefs in charge of the horses' and also sometimes mention the use of horses (*sisā'um*) for transport (see Kammenhuber 1961:13).

The fact that the ancient evidence for the appearance of domesticated horses in these possible areas of domestication is simultaneous makes it less likely that independent parallel domestications took place. We are dealing with rapid diffusion of this novelty from one area to another. The paths of diffusion may have been the Balkans, where the horse is attested on the Danube in the third millennium (see Semenov 1974:294), and the Transcaucasus, where traces of horses are found by the very beginning of the third millennium in Kvacxelebi (see Kušnareva and Čubinišvili 1970:110; for horses in the Transcaucasus and

18. There is one more site where wild or domestic horses appear early: Bavaria, in southern Germany, ca. 3670 B.C.: Berger and Protsch 1973:222.

19. Paleozoologists find it difficult to distinguish the bones of domestic horses from those of their wild ancestors, especially at the early stages of domestication. In particular, in finds in the southern Ukraine and in Bavaria it is not always clear whether the bones are those of wild or domestic horses (Matolcsi 1973, Kuz'mina 1976), which makes it difficult to decide the question of just where the horse was domesticated and the species *Equus caballus* first appeared.

Caucasus see also Mežlumjan 1965). Another path of diffusion may have been to the east of the Caspian Sea via southern Turkmenia, where iconographic evidence for horses is found from the fourth millennium (Sarianidi 1973:113), although horses become frequent in this area only in the second to first millennia B.C., after a period when the camel reigned supreme as the basic means of transportation (see Calkin 1970:155-56, Masson 1976:437, 447).

Even investigators who maintain that the horse was domesticated in more than one place consider southwestern Asia to have been one of the centers, from which the horse could have penetrated into Central Europe.

In several of the ancient eastern civilizations located in the area where wild horses may have been domesticated, the domesticated horse was nonetheless an innovation introduced from another culture. This is shown, among other things, in the ancient Sumerian appellation of the horse as 'mountain donkey' (ANŠE.KUR.RA), which indicates that horses were imported from mountainous regions.[20]

3.1.1.18. Indo-European and Near Eastern horse names

The culture-historical and linguistic facts about horses and their domestication give us some grounds for attributing the domestication to the Indo-European ethnic group — the tribes speaking Indo-European dialects. All known ancient names for 'horse' in languages historically spoken in the area of possible domestication of the horse are connected in one way or another with PIE *eк̂hwo- 'horse'. Some ancient Near Eastern terms for 'horse' — e.g. Hurr. *eššĭ, iššĭya-* 'horse' (Otten 1953a:25, Goetze 1962a:35, Laroche 1978:85), Akkad. *sisu* 'horse' < *sisā'um* (cf. the spelling ANŠE.ZI.ZI, possibly to be read in certain contexts as ANŠE*sí-sí*, in documents from southern Mesopotamia in the third dynasty of Ur, at the end of the third millennium B.C.: Civil 1966), Ugarit. *ssw*, Aram. *sūsyā*, Hebr. *sûs* 'horse' (Gesenius 1968:692), Egypt. *śśm.t* 'horse' (Erman and Grapow 1955:IV.276) — can be compared to PIE *eк̂hwo- (see von Soden 1972:II.1051).[21] Certain Caucasian words for 'horse' and terms connected with horses may belong here: e.g. Abkhaz and Ubykh *(a)čy* 'horse', Avar and Lak *ču*,

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20. That ancient Mesopotamia is one possible area of horse domestication follows from the fact that traces of horses going back to the seventh millennium B.C. are found in this area. Similar remains found in Paleolithic caves in Palestine evidently are those of wild horses (Kovalevskaja 1977:18).

21. Akkad. *sisû* (and Sum. *sí.sí?*), Hebr. *sûs*, and Egypt. *śśm.t* may be reduplicated forms of the Indo-European root where the *к̂h has already been assibilated. Another, although highly problematical, way to formally relate the Indo-European and non-Indo-European forms would be to posit PIE *šeк̂hwo-, with an initial palatal sibilant (cf. the similar protoform given in Goetze 1962a:35). This initial *š is lost in the majority of Indo-European dialects (cf. I.2.4.2 above), while in Greek *híppos* a trace of it can be seen in the initial aspiration (*spiritus asper*).

Akhvakh *ičwa* 'horse', and also Georg. *aču* (a word for urging horses on), *ačua* 'horse' (children's word).

The wide distribution among various Near Eastern languages of resemblant forms for 'horse' is grounds for considering the word a migratory term. The source of these migratory forms may have been dialects of Proto-Indo-European in which **K̑ʰ* had been assibilated — either *satem* dialects or dialects like Anatolian, in which assibilation is contextually conditioned by position before *-u-* (see I.2.3.2 above).

3.1.1.19. The ancient influence of Indo-European horsebreeding on eastern Asia (China)

Since the Przewalski horse, which ranged throughout a vast territory of eastern Asia, is ruled out as the ancestor of the domestic horse, the horse as a transport animal must have been imported from the western regions of Asia, precisely the area where it was first domesticated by tribes evidently of Indo-European origin. Together with the horse, Central and East Asia received a whole complex of ritual and mythological concepts about the horse and associated rites, which must have arisen in connection with its domestication. This is the only explanation possible for the striking similarity between the Indo-European complex of beliefs associated with the horse and those of Altaic-speaking peoples.

Altaic traditions include a horse sacrifice, analogous to that of Indo-European, connected with the worship of the Sky God and his sons (Koppers 1929, 1935), and the horse is associated with the Cosmic Tree as in Indo-European (Toporov 1973:159, 190).[22]

This entire complex of ritual and mythological concepts associated with horses must have been imported together with the horse farther to the east, into China (Vasil'ev 1976:278-79ff., Pulleyblank 1966). For the Yin culture of the second millennium B.C. the horse is the main cultic animal; it is worshipped, and it is sacrificed at the funeral of a ruler. And in Chinese cultic art of the early Bronze Age the Cosmic Tree is associated with horses (Toporov 1973:190).

The reproduction of a whole complex of Indo-European ritual and myth-ological concepts in East Asiatic cultures would be hard to explain except by positing long contacts with the tribes whose beliefs these were. This in turn requires that we posit migrations of Indo-European tribes which had horses, out of their original homeland (and hence out of the area of first domestication of

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22. The formal and semantic resemblance of PIE **ek̑ʰwos* with the Proto-Yeniseian terms for 'mare' and 'gelding' **kut- ~ *kus-* is interesting in this connection: Arin *quše, qus*, Asan *pen-guš, pen-kuš*, Kott *penkuš*, Pumpokol *kut* 'mare; gelding' (Toporov 1967:318).

Near East may be connected with the great significance of the donkey as the essential transport animal, which preserved its special role in economic life even after the appearance of the horse, cf. Veenhof 1972. In those ancient cultures which made greatest use of the donkey, the horse, which appeared later, is named as a variety of donkey, which is natural given the similar external appearance of these animals (especially if we compare the donkey to the small horses of antiquity). The Sumerians called the horse 'mountain donkey' (ANŠE.KUR.RA), and in several languages one and the same stem is used for both 'donkey' and 'horse': e.g. in Abkhaz-Adyghe, Abkh. *ačy* 'horse', *ačada* 'donkey', Adyghe *šy* 'horse', *šy-dy* 'donkey', and others.

The lack of a clear Proto-Indo-European word for 'donkey', given the presence of domesticated donkeys throughout most of the territory where horses were domesticated and where the Indo-European-speaking tribes must have lived, can be explained by assuming that *ek̂ʰwos was originally used with the meaning 'donkey' as well as 'wild horse; horse'.[26] In that case a striking parallel emerges between PIE *ek̂ʰwo- or its possible antecedent *šek̂ʰwo- (see note 21 to this chapter) and certain ancient Near Eastern terms for 'donkey', which represent an extremely early migratory word: Egypt. *šk* 'donkey' (dim.), Copt. *sēǧ* beside OTurk. *eškäk ~ ešgäk ~ ešjäk ~ ešäk* 'donkey';[27] Cl.Mong. *elǰigen* 'donkey' (Vladimircov 1929:224, 353), which presuppose an ancestral form with a palatalized phoneme (Turkic *š* : Mongol. *l*) as early as Turco-Mongolian.[28] The presence in Turco-Mongolian of a term for 'donkey' which is similar to that of Egyptian indicates that the term together with the animal diffused from the ancient Near Eastern area into Central and Eastern Asia, where paleozoological data show that the domestic donkey is a recent introduction.

3.1.3. 'Bull', 'cow', and 'cattle'

3.1.3.1. The Proto-Indo-European term for 'bull', 'cow'

A Proto-Indo-European form is attested in all major early dialects, without gender distinction: *k'oou-, *k'ou-:

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26. Arm. *ēš* 'donkey', from *ek̂ʰwo-, may represent a survival of this ancient meaning; see note 1 above. Cognacy of Arm. *ēš* to Lat. *asinus*, Gk. *ónos* is formally less satisfactory.

27. Russ. *išak* 'donkey' was borrowed from this later Turkic form around the sixteenth century: see Dmitriev 1962:534.

28. The Egyptian diminutive *šk* 'little donkey' corresponds strikingly to the generic term for 'donkey' in Turco-Mongolian. A typologically analogous borrowing is that of Lat. *asellus* 'donkey (dim.)' into the Germanic languages as a generic term for 'donkey'. Borrowing of diminutives as neutral terms, or development of diminutives into neutral terms, with the former diminutive replacing the original term, is known to be a typologically widespread phenomenon.

Skt. *gáuḥ* 'bull; cow'; Avest. *gāuš* 'bull; cow; cattle'; Pers. *gāv* 'cow', Oss. *qūg/ǧog* (Abaev 1973:II.312), Arm. *kov* 'cow'.

Gk. (Myc.) *qo-u-ko-ro* = *boukóloi* 'cattle herders', Gk. (Att.) *boûs*, (Dor.) *bôs*, gen. *bo(w)ós* 'bull, cow', cf. *boú-tūron* 'butter' (literally: 'cow cheese', cf. Gk. *tūrós* 'cheese', whence Lat. *būtyrum*, Ger. *Butter*, Engl. *butter*).

Lat. *bōs*, gen. *bouis* 'bull, cow' (a loan from Osco-Umbrian, cf. Umbr. *bum* '*bouem*' ('bull', acc.), *bue* '*boue*' ('bull', abl.), Volsc. *bim* 'bull' (acc.)).

OIr. *bó* 'cow', OWelsh *buch*, OCorn. *buch*, Bret. *buc'h* 'cow'.

OHG *chuo* (Ger. *Kuh*), OE *cū* (Engl. *cow*) 'cow', OIcel. *kýr*, Latv. *gùovs* 'cow'.

OCS *govęždĭ* 'cattle', ORuss. *govjado* 'bull', Cz. *hovado* 'cattle'; OCS *gumĭno* 'threshing floor' (a compound, literally: 'bull' + 'trample' = 'place where cattle crush or trample harvested grain', Vasmer 1964-1973:I.474).

Toch. A *ko*, B *keu* 'cow'.

The Hittite term for 'cow' or 'bull' is attested in texts exclusively in the form of the Sumerogram GUD (nom. GUD-*uš*, acc. GUD-*un*); the Hittite reading is not known.[29]

In archaic compounds the root appears in zero grade: Skt. *śata-gu-* 'having hundreds of cattle', OPers. *θatagu-*, place name (originally an ethnonym 'having hundreds of cattle'), an exact correspondent to Gk. *hekatóm-bē* 'sacrifice; sacrificial animal; sacrificial rite' (orig. 'sacrifice of a hundred bulls'), Thieme 1952:62ff.[30]

3.1.3.2. The dialect differentiation of 'bull' and 'cow'

The evidence of the ancient Indo-European dialects shows that the original word meant 'bull' or 'cow' without differentiation (cf. the Sanskrit, Old Iranian, Greek, Italic, and Slavic cognates). Semantic differentiation and specialization arose only later, in individual dialects. In Tocharian, Armenian, Celtic, Baltic, and Germanic the ancient root comes to mean only 'cow', while the meaning 'bull' is expressed by other roots:

PIE **ukʰos-en-** (originally 'moisten, water': Skt. *ukṣáti* 'makes wet, sprinkles', Avest. *uxšyeiti* 'sprinkles'): Toch. B *okso* 'ox', Welsh *ych* 'bull',

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29. On the basis of the phonetic complements of the nominative and accusative singular endings -*uš* and -*un*, Friedrich (1952:275) considers possible a reading of the Hittite word as nom. **k(u)wauš*, acc. **k(u)waun*, which agrees with PIE **k'o(o)u-*.

30. Formally and semantically derived from the same root is **k'oōu-*, **k'oū-*, originally meaning 'cow dung': Skt. *gū-tha-* 'excrement', Avest. *gū-θa-* 'mud, dirt', Arm. *ku*, gen. *kuoy* 'dung, manure', cf. OMaced. *gotán · hūn* 'pig' (acc.) (from 'dirty'), Pokorny 1959:484; Slav. **govŭno*, Cz. *hovno*, Serbo-Cr. *góvno* 'excrement', originally 'cow dung': Vasmer 1964-1973:I.424.

Bret. *ouhen*, Corn. *ohan* 'bulls'; Goth. *aúhsa*, OIcel. *oxi, uxi*, OHG *ohso* (Ger. *Ochse*), OE *oxa* (Engl. *ox*); cf. also Skt. *ukṣā́* 'bull', Avest. *uxšan-* 'bull'.

PIE **wers-en-*, **wr̥s-en-* (originally 'pouring forth semen', 'male', cf. Avest. *varəšna-* 'male', Skt. *vr̥ṣṇí-* id., *vŕ̥ṣaṇau* (du.) 'testicles'): Toch. A *kayurṣ*, B *kaurṣe* 'bull' (from **kʼoou-wr̥s-*), Latv. *vḕrsis* 'bull', cf. OLith. *veřšis* 'bull', Skt. *vŕ̥ṣā* 'bull'.

PIE **k̑he/or-w-* (originally 'horned', cf. Hitt. *karawar* 'horn', Avest. *srū-* 'horn', Gk. *keraós* 'horned', see II.1.3.3 above): Alb. *ka* 'ox', OPruss. *curwis* 'bull', Pol. dial. *karw* 'lazy old ox' (Trubačev 1960:40).[31]

Comparison of these Indo-European forms meaning 'bull', which contrast with the original root **kʼoou-* with the undifferentiated meaning 'cow, bull', allows us to reconstruct for the Indo-European dialects a process whereby the meaning 'bull' becomes lexically marked by special words. Hence a form meaning 'bull' comes to coexist with the original word, meaning 'cow, bull', as in Sanskrit.[32] When there is a separate word for 'bull', the reflexes of the original word in many dialects lose the generic meaning and acquire the specific meaning 'cow', thereby becoming opposed to the specific term 'bull'.[33]

It is notable that the meaning subject to special marking is 'bull' and not 'cow'.[34] We can thus assume that in unmarked, neutral contexts PIE **koou-* usually had the meaning 'cow' but could also acquire the contextual specification 'bull'.

3.1.3.3. *The economic function of the cow based on Indo-European dialect data; dairying among the Indo-Europeans. Dialect words for 'milk'*

The overlap in meaning of the **koou-* reflexes is preserved in the Rigveda. In Vedic, *gáu-* in neutral contexts is usually interpreted specifically as 'cow' (e.g. in the hymn to Indra, III, 31, 4; the exorcism for the return of cattle, X, 19,

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31. This masculine root forms a derived feminine in **-ā* with the meaning 'cow' (in separate dialects, including Balto-Slavic): Russ. *korova*, Lith. *kárvė* 'cow'.

32. Sanskrit already has special words meaning specifically 'bull', and consequently incipient specialization of words from the root *gav-, gu-* in the meaning 'cow' (see Grassmann 1873:407ff.).

33. In Armenian a new term for 'bull', *cʼul*, which is opposed to inherited *kov* 'cow', is borrowed, evidently from Caucasian languages: cf. Adyghe *cᵒy* 'ox, bull', Abkhaz *a-cᵒ* id., and others (see Jakovlev and Ašxamaf 1941:240, Šagirov 1977:I.107).

34. If 'cow' were the marked member of the opposition we would be dealing with the reverse of the process described above, namely with the appearance of new words for 'cow' and semantic specialization of the inherited generic term to 'bull'. Only in the later histories of individual dialects can we observe such a semantic change. The Balto-Slavic derivative of **k̑horwos*, meaning 'bull', produces an opposed feminine **k̑horwā* 'cow'. The loss of the masculine form in Slavic leads to the semantic specialization of the inherited generic **kʼoou-* to the meaning 'bull', Slavic **gov-ęd-*, which contrasts with **kórvā* 'cow'.

6ff.; and numerous other analogous contexts). In Sanskrit, *gáuḥ* is usually 'cow', presented as a dairy animal which gives 'rich milk, sweet as honey':[35]

urū̆cy àsmai ghṛtávad bhárantī mádhu svā́dma duduhe
jényā gáuḥ (III, 31, 11)
'Outstretched, bringing him rich milk, the noble cow
let itself be milked of sweet honey'

The symbolism of the Rigveda, which must also reflect earlier Indo-Iranian cultic tradition, frequently uses the image of a dairy cow and its milk as a symbol of cosmic fertility and the abundance of words associated with the ritual song. The song itself is often compared to a cow or to streams of milk.

The economic function of the cow as a dairy animal can be reconstructed for a period of great antiquity, either for the Proto-Indo-European stage or for very ancient dialect groupings. This function of the cow is clearly evident in the presence of words for 'milk' in the ancient dialect groupings: Gk. *gála*, gen. *gálaktos* (with subsequent phonetic changes in later dialects) 'milk',[36] Lat. *lac*, gen. *lactis* (from **glakt-*, with dissimilative loss of the initial velar). Cognate to this set of words is Hitt. *galaktar ~ galattar*, which denotes a pleasant-tasting, sweet plant juice used in rituals, *galank-* 'feed to satiety' (Friedrich and Kammenhuber 1975-:I.61), cf. the participle *galankant-* 'sated': *...aš-šan kuiš kururi para galankanza* 'who is sated with enmity (war)', KBo XVI 24+25 I 35/46.[37]

The dialectal spread of the Hittite-Greek-Latin correspondence indicates that this word for 'milk' already occurred in Proto-Indo-European. This is confirmed by the presence in Old Chinese of a form **lac* meaning 'milk', which according to Karlgren (*apud* Pokorny 1959:401) must have entered Old Chinese from an eastern dialect of Indo-European. The presence of cognate words in

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35. In Sanskrit and Old Iranian we already find a highly developed terminology associated with the dairying function of cows: Skt. *dhénā* 'milk cow', *dógdhi, duhâti* 'he milks', Pers. *dōxtan* 'milk' (verb), etc. (see Abaev 1958:I.371).

36. As early as Homer the term denotes an economic product gotten by milking: cf. in the Odyssey (4.87-89):

ἔνθα μὲν οὔτε ἄναξ ἐπιδευὴς οὔτε τι ποιμὴν
τυροῦ καὶ κρειῶν οὐδὲ γλυκεροῖο γάλακτος,
ἀλλ' αἰεὶ παρέχουσιν ἐπηετανὸν γάλα θῆσθαι
'There no man, thief or shepherd, ever goes
hungry for want of mutton, cheese, or milk —
all year at milking time there are fresh ewes.' (Fitzgerald 1963:55)

37. Both of these Hittite meanings of *galak-* can be traced to the original meaning of 'milk': milk was both a liquid given by a dairy animal and a satiating food product. In the first sense, 'milk' can be metaphorically transferred to the meaning '(white, milky) juice given by plants', cf. Lat. *lac (herbārum)* 'white juice of plants (herbs)', *lactens annus* 'time in spring when sap runs', Gk. *gála* 'plant juice', *galáktōsis* 'formation of plant juice'. (Cf. the numerous typological analogs for a connection of terms for sap and milk in various traditions: Ivanov 1974:127.)

Hittite and a far eastern dialect (perhaps Tocharian), and also in Greek and Latin, further confirms the Proto-Indo-European origin of this word for 'milk', subsequently replaced in individual dialects.[38]

Another term for 'milk', 'butter', also fairly archaic in terms of dialect geography, is reflected in Aryan and Celtic and consequently goes back to the period of incipient dialect separation: Skt. *ghṛtám* 'whole milk, cream, butter' (frequent in the Rigveda, with many derivatives) and MIr. *gert* 'milk' (Pokorny 1959:446).

Also Proto-Indo-European is the verb 'milk' **melk̂'*-: Gk. *amélgō* 'I milk', Lat. *mulgeō* id., cf. MIr. *bligim* id., Alb. *mjel* 'milk' (inf.), OHG *milchu* 'I milk' (Ger. *melken*); OE *melcan* (Engl. *milk*), Lith. *mélžti*, ORuss. *mlěsti* 'churn', Toch. A *mālklune* 'milk, milking'.[39] The lack of a cognate in Indo-Iranian[40] is due to replacement of the original word by a derivative of **dʰeugʰ-* with the original meaning 'give milk', 'squeeze', 'manage, succeed': Skt. *duháti, dógdhi* 'milks', Pehlevi *dōxtan, dōšīdan* 'milk', Pers. *dōxtan*, Oss. *dūcyn* (Abaev 1958:I.371-72).[41]

It is noteworthy that Indo-Iranian replaces both the original verb 'milk', **melk̂'*-, and the original noun 'milk'. This may have had to do with specific details of the evolution of dairying among the cattle-breeding Indo-Iranian tribes after their separation from the other Indo-European tribes. The new

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38. The replacement of the term for 'milk' in some of the ancient Indo-European dialects can be explained as taboo replacement, since milk played a magical role in ancient Indo-European conceptions: see Devoto 1962:275.

39. In particular in the following context: *sne mālklune yo mālkant kowi* 'and the cows got milked without being milked', 63 b 5, Sieg and Siegling 1921:1.

40. An Indo-Iranian word Skt. *mṛjáti* 'rubs, cleans', Avest. *mərəzaiti* 'brushes against', etc. (Pokorny 1959:722) is sometimes cited with **melk̂'*- (although with reservations), but is more likely cognate to Gk. *amérgō* 'tear off, break off', Lat. *mergae* 'pitchfork' (the root is **merk̂'*-; for the Iranian words see Abaev 1958:I, 1973:II.101).

41. These original meanings can be reconstructed by taking into consideration the semantic development of the word in various dialects. The dialect words for 'daughter' are an important set that go back to this root: Skt. *duhitár-* 'daughter', Avest. *dugədar-*, Arm. *dustr*, Gk. *thugátēr*, Goth. *daúhtar*, OHG *tohter* (Ger. *Tochter*), Engl. *daughter*, OPruss. *duckti*, Russ. *doč'*, Toch. B *tkācer* (with the apparent original meaning 'breastfed', Trubačev 1959:66). Also related are formations like Skt. *Kāma-duh(ā)*, the name of a mythic cow which grants any wish (originally 'giving milk in abundance'); the second element *-duhā* corresponds to the name of the Greek goddess *Túkhē* (probably originally 'cow granting wishes'), beside *tugkhánō* 'hit mark, achieve' (see Pokorny 1959:271). Also connected with the image of abundance of milk is the cognate OIr. *dúan* 'song, poem'.

Another symbol of abundance which is connected with milk in Indo-European tradition is **ĕudʰ-*, with the original meaning 'udder': Skt. *ū́dhar* 'udder' (in the Rigveda the cow's udder is an image of abundance of any kind: Grassmann 1873:271-72), Gk. (Hom.) *oûthar* 'udder' (as a symbol of abundance: *Árgos ... oûthar aroúrēs*, Iliad 9.141 'to Argos ... the udder of fertile tillage'; *oúthata gàr spharageûnto*, Odyssey 9.440 '(their) udders let loose (milk)'); Lat. *ūber* 'udder, teat, breast' and also 'fertility, abundance of fields, fertile field'; OHG (dat.) *ūtrin*, MHG *ūter* (Ger. *Euter*) 'udder', OE *ūder* (Engl. *udder*), OIcel. *júgr* 'udder', cf. Lith. *ūdróti* 'be pregnant' (of a pig; from 'be pregnant (in general)', originally 'swell'); ORuss. *vymja* 'udder' Russ. *udit'* 'swell'.

dialect words for 'milk' link Indo-Iranian with other dialects: Skt. *kṣīrám* 'milk' (six times in the Rigveda), Oss. *æxsyr*, Munja *xšīr*, Pers. *šīr* 'milk', Alb. *hirrë* 'whey'; Avest. *xšvīd-* 'milk', Lith. *svíestas* 'butter', Latv. *sviêsts* 'butter'; Skt. *páyas-* 'milk' (frequent in the Rigveda), Avest. *paēman-* 'mother's milk', Pers. *pīnū* 'sour milk', Lith. *píenas* 'milk', Latv. *piēns* 'milk'. Both words unite Indo-Iranian and Baltic (and in one instance Albanian).

In approximately the same dialectal area we find a dialectal word for 'sour milk', 'cheese': Avest. *tūiri-* 'curdled milk', 'whey', Gk. (Hom.) *tūrós* 'cheese', cf. *boú-tūron* 'butter'; Russ. *tvorog* 'curds'.

The same area of distribution characterizes another word, which denotes several varieties of milk: reduplicated forms in Skt. *dádhi*, gen. *dadhnás* 'yogurt, sour milk' (probably also of cultic significance, hence the priest's name *Dadhyáñc-* in the Rigveda); OPruss. *dadan* 'milk' (cf. *ructan-dadan* 'sour milk'), Alb. *djathë* 'cheese', *dháḷḷë*, Geg dial. *dhálltë* 'skim milk', 'churning'; unreduplicated forms in Gk. *thénion* 'milk', Arm. *dal* 'colostrum', 'milky liquid'. The word is from the root **dʰeH(i)-*, originally 'suckle', 'nurse, give milk' (Skt. *dháyati* 'suckles' Gk. *thḗsato* 'he sucked', Arm. *diem* 'suck', OIr. *denaid* 'sucks', Lat. *fēlō* 'suck', Goth. *daddjan*, OHG *dīen* 'nurse, let suckle', Latv. *dêju* 'suck', OCS *dojiti* 'give the breast').[42]

In another dialect group (Celtic, Germanic, Slavic, Tocharian) the word for 'milk' is formed from the originally verbal root ***melk̂'-** 'milk': OIr. *melg*

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42. Related to this basic ancient meaning are both the dialect terms for 'milk' mentioned above and the semantic derivatives attested in individual dialects:

'Suckle' > 'one who/which suckles; suckling': Lat. *fīlius* 'son' (cf. 'daughter', note 41 above), OIr. *dínu* 'lamb', OIcel. *dilkr* 'lamb', OCS **dětĭ* 'child', Latv. *dêls* 'son', Lith. *pirm-dėlė̃ (kárvė)* 'cow which bears a calf for the first time'.

'Give milk, nurse' > 'one who nurses; wet nurse': Skt. *dhātrī* 'nurse', *dhenú-* 'giving milk', cf. Avest. *daēnu-* 'female quadruped', Pehl. *dāyag* 'nurse', Gk. *thḗlus* 'feminine; female (animal)', *tithḗnē* 'nurse', Lat. *fēmina* 'woman' (literally 'one who feeds'), *fēlīx* 'fertile; happy' (from *'giving milk'), OCS *děva* 'maiden' < 'woman', Alb. *déle* 'sheep'.

Also related to these are the meanings 'milk cow' and 'milk (a cow)': Skt. *dhénā* 'milk cow', MIr. *delech* 'milk cow'; Gk. *thḗsthai* 'milk (a cow)', cf. Russ. *doit'* id., *doenoe moloko* 'dairy milk' (see Toporov 1975-:I.285); and also 'nipple; mother's breast' (Gk. *thēlḗ* 'mother's breast', MIr. *del* 'nipple', OHG *tila* 'woman's breast', OE *delu* 'nipple').

The system of meanings of these various dialect words has particular interest for the typology of change in this semantic field. The original meanings 'suck(le)', 'nurse, feed with milk', and 'give milk' were undifferentiated, and all the remaining meanings, including 'milk (a cow)' and 'dairy (cow)', can be related to them. A typological comparison is Egypt. *mhr*, which had all these meanings: 'milk (a cow)', 'suckle', 'give milk (of a cow)', 'nurse (a baby)', whence the terms for 'infant', 'unweaned young animal' and for dairy implements (Erman and Grapow 1955:II.115-16). Therefore it is difficult to pick out an original meaning for the semanteme 'milk (a cow)' as specifically either from 'suck' or from 'give milk'. If it goes back to 'suck', this may indicate that the original means of milking animals was sucking (cf. Trubačev 1960:9-10, Toporov 1975-:I.285). It would not, however, mean that the speakers of Indo-European dialects with the root **melk̂'-* 'milk (a dairy animal)' were unacquainted with ordinary milking. It is more likely that the connection of the meanings 'suck' and 'milk (a dairy animal)' reflects earlier ways of using domestic animals and associated symbolic concepts. A definitive solution to this problem requires a semantic typology based on a broad ethnographic survey.

'milk', *bó-milge* (gen.) 'cow's milk', *mlicht, blicht* 'milk'; Goth. *miluks* 'milk', OHG *miluh* (Ger. *Milch*), OE *meolc* (Engl. *milk*), OIcel. *mjǫlk* 'milk' (the Slavic terms are usually considered loans from Germanic: OCS *mlěko*, Russ. *moloko* 'milk'); Serbo-Cr. *mlâz* 'the quantity of milk from one milking', ORuss. *ml"zu, mlěsti* 'churn butter';[43] Toch. A *malke*, B *malkwer* 'milk'.

The abundance of such dialect words for milk, milk products, and milking, and the names for domestic animals, especially young ones, formed from them testify to an elaborate livestock-breeding terminology and a developed dairying economy by Proto-Indo-European times. Another consequence of this culture is the Proto-Indo-European metaphor by which the udder and the milk cow were poetic symbols for any kind of abundance. Even by Proto-Indo-European times images symbolizing abundance with milk had become features of poetic and religious speech, as is reflected in Indo-European literary, mythological, and ritual traditions.

3.1.3.4. The cow as a cultic and ritual animal among the ancient Indo-Europeans

Another important function of the cow is reflected in Sanskrit tradition in the ritual of sacrificing a pregnant, 'eight-legged' (*aṣṭápadī*)[44] cow, whose fetus was removed and sacrificed to the gods. The ritual was Proto-Indo-European, as is proven by the existence of an identical rite in Rome: a pregnant cow (*forda boue*) was sacrificed in a ritual called *Fordicidia* 'killing of a pregnant cow' (Dumézil 1966:364-66).

This Aryan-Italic ritual and mythological correspondence give particular significance to an Old Hittite symbolic passage (Testament of Hattusilis, Sommer and Falkenstein 1938) which points to an analogous rite in the Hittite tradition: *apaš annaš-šiš-ma* GUD-*uš man ḫuišwanti-wa-ma-kan* GUD-*iš* ÚR *šarrir* 'and she, his mother, (cried out) like a cow: They have torn out the womb of a living cow!'[45]

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43. With a secondary development of the meaning 'suck' in Slovak (Moravian) *mlze* 'suckles' (of children and calves): Vasmer 1964-1973:II.645; see above for semantic shifts within this semantic field.

44. This term reflects the distinctive Indo-European feature of classifying living beings by the number of legs: see I.1.2.4 above for bipeds vs. quadrupeds. The Greek term for a sea monster or octopus is interesting here: Myc. *po-ru-po-de-*, Gk. *polúpous*, gen. *polúpodos*, literally 'many-legged'; as are Skt. *a-pád-* 'legless' (in the Rigveda, of the snake *Vṛtra*, which the god Indra kills) and *éka-pad-* 'one-legged' (in the Rigveda, used of the goat at the Cosmic Tree), and also Gk. *trípous* 'three-legged' in the full text of the Sphinx's riddle (cf. Porzig 1968:172).

45. A typological parallel to the sacrifice of a pregnant cow and removal of the fetus from the womb can be seen in several stock-raising African societies, where — as in Indo-European traditions — a fetus torn out of the womb is offered to the gods (Dumézil 1966:365).

3.1.3.5. The economic significance of cows and bulls in ancient Indo-European traditions

The whole set of functions of the milk cow, which produced young animals and fed them, gave the cow special economic significance in comparison to other domestic animals, in particular bulls.[46] In the Old Hittite Laws (§67) a cow has a substantially higher value than a working bull: in the Old Kingdom, the reparation for one stolen cow was 12 working bulls. On the other hand, a pedigreed breeding bull, indispensable for propagation, was valued more highly than a cow. The theft of one breeding bull in the Old Hittite kingdom required a payment of 30 working bulls and calves (Hittite Laws, §57).

Hittite tradition, like other ancient Indo-European traditions, reflects the functions of bulls as plowing animals (the Hittite Sumerogram is GUD.APIN.LAL 'plowing bull'). According to the Hittite Laws (§178), a plowing bull was the most highly valued of all (12 shekels of silver), a breeding bull (GUD.MAḪ) was next (10 shekels), followed by a pregnant cow (GUDÁB *armaḫḫant-*, 8 shekels), then an adult cow (GUDÁB.GAL, 7 shekels), while a harness horse (ANŠE.KUR.RA *turiyaš*) was worth 20 shekels (§180). This hierarchy of prices reflects the special value of a plowing bull compared to an ordinary bull or even a breeding bull or pregnant cow. But a draft horse was valued much more highly than any cow or bull, a fact which is in agreement with the nature of ancient Indo-European rituals examined above.

By this time, i.e. by the first half of the second millennium B.C., the horse had already become the main transport animal, displacing the bull in this function. For the earlier period prior to the domestication of the horse, before it assumed the role of basic transport and draft animal, and before the development of the harness itself (for which see below, on terminology for transportation and harness), the bull was the main draft animal and means of transportation. Traces of this earlier function of the bull are still visible in historical Indo-European traditions.

3.1.3.6. The domestication of the bull and the relation of Indo-European terms for 'bull' and 'cow' to Near Eastern and Central Asian migratory terms

The domestication of the wild bull (*Bos taurus* L.) and the presence of cows and bulls among domestic animals go back to an ancient period well before the domestication of the wild horse. Evidence of domesticated bulls and cows is found by the beginning of the Neolithic. There are two major centers of cattle domestication in Eurasia: a European zone where the ancestral wild cow was the

46. In these traditions the higher value of a cow compared to a bull increased after the introduction of the horse as a means of transport.

huge European bison (*Bos primigenius* Boj.), and a western Asian area where the ancestral wild cows were distinct species, one short-horned (*Bos brachyceros*) and one long-horned (*Bos longifrons*). The western Asian area is considered the center of first domestication of wild cattle (Curwen and Hatt 1953:43-44, Clark 1952:122-23, Semenov 1974:292-93, Perkins 1973). Çatal Hüyük in Asia Minor — a culture dated to the seventh to sixth millennia B.C. — yields drawings representing bulls with riders, indicating that bulls were ridden as part of the taming process (see Illustration 8).

Illustration 8.
Drawing of a man riding a bull. Çatal Hüyük, 7th–6th millennia B.C.

The domestication of several varieties of wild cattle was a continuing process that went on over a long period of time in the two centers of domestication. The result was gradual changes in the physical appearance of domesticated cattle and the formation of special breeds of domestic cattle (Clark 1952:122-23).

The two areas — the Near East (including Greece and the adjacent Balkan region) and southeastern Europe — show considerable discrepancy in their respective dates of first appearance of domesticated cattle: in the Near East domesticated cattle are found in Çatal Hüyük, northern Mesopotamia, and northwestern Iran around 7000 B.C.; Thessaly and the adjacent Balkan area are considered by some scholars to be the area of oldest cattle finds (Bökönyi 1974:109) while in southeastern Europe cattle remains are found only from the end of the fifth and the beginning of the fourth millennia B.C. onwards (see Berger and Protsch 1973:220, 224).

Various ethnic elements could have participated in this long process of

domestication, as is supported by the distribution of resemblant terms for 'cow', 'bull' not limited to related linguistic groups. These terms — which refer to both wild and domesticated cattle — are migratory words.

Indo-European dialects preserve words from a common base ***tʰauro-** — originally 'wild cow, wild bull' in Indo-European — a Near Eastern migratory term, which shows that the speakers of these dialects were acquainted with the wild cows found specifically in the Near East (*Bos brachyceros* and *Bos longifrons*). The domestication of these species of wild bovines must have given rise to domestic cattle, referred to by the common word ***k'ᵒou-**.[47] This conclusion is in agreement with another, strictly linguistically based argument that the term for the European bison (*Bos primigenius* Boj.) is a later innovation of individual dialects derived by phonetic alteration of the original stem ***tʰauro-** (see II.2.1.9.3 above).

That speakers of Proto-Indo-European were among those who domesticated wild cattle is also shown by the presence in Indo-European dialects of another term for 'bull', derived from the verb ***t'emH-** 'tame, subdue; bridle; force': OIr. *dam* 'bull', Ved. *damya-* 'young bull to be tamed', Alb. *dem* 'young bull' (Mayrhofer 1963:II.35), Gk. *damálēs* 'young bull to be tamed', *damálē* 'heifer' (for this root see II.1.3.3n23 above).

Such facts increase the plausibility of the relatedness of PIE ***k'ᵒou-**, ***k'ᵒu-** and Sumerian GUD 'bull; cattle' proposed long since by Ipsen (1923:175ff.). The word reflected in Sumerian *gu(d)* 'bull; cattle', phonetically *g̀u* = [ŋu] according to Diakonoff 1967:49, is evidently a Near Eastern migratory term of wide distribution. It is found in Egyptian (beginning with the Old Kingdom) in the form *ng3w* 'type of large bull with long horns, especially as a sacrificial and harness animal', 'god in the form of a bull' (Erman and Grapow 1955:II.349); cf. also the later attested *gw* 'type of bull' (ibid. V.159). It is highly plausible that the Sumerian and Egyptian forms are connected — perhaps via other languages — with the postulated Indo-European forms ***k'ᵒou-** and ***k'ᵒu-**. The sequence of a velar nasal /ŋ/ and a pharyngeal in Egyptian is comparable to the glottalized labiovelar of Indo-European.[48]

Further to the east a similar term for 'bull; cattle' is found in ancient East Asia, specifically in Old Chinese in the forms *'kuo* and *,ngi̯ǝu* (Nehring 1935:73-77) and in a number of Altaic languages (Ramstedt 1946-1947:25) which show a distinctive semantic shift from 'cow' to 'female quadruped' to 'mare': Manchurian *geo* 'mare; cow; female (of quadrupeds)', cf. *geo murin*

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47. Together with these new terms, some dialects preserve the original word for 'wild bull', with phonetic transformations, as a term for the domesticated bull or steer: Avest. *staora-* 'bull, cow', Oss. *stur/stor* 'bull; cow', Pehl. *stōr*, Pers. *sutūr*, Goth. *stiur* 'steer', OIcel. *stjórr*, OE *stēor* (Engl. *steer*), OHG *stior*, and others.

48. A similar root *gu-* 'stockyard' can also be posited for Northwest Caucasian: Abkh. *a-gup* 'collective of herders', *a-gᵒarta* 'herd', Bžanija 1973:85.

'mare' (literally 'female horse'), Jurjen *k'ó mù-lîn* 'mare', Evenki *gēɣ* 'mare', *goɣo* 'female wild deer', Cl.Mong. *gegün* 'mare' (Cincius 1975:145).

The agreement among various forms of linguistic evidence for terms for 'wild bull' and 'domesticated bull' pinpoints the Near East as the area of first acquaintance with the wild and the domestic bull.

3.1.3.7. *The cultic role of the bull among the ancient Indo-Europeans*

The congruity of Indo-European terms for wild and domestic bulls with Near Eastern migratory words, and the Near Eastern locus for the first domestication of cattle, are both in essential agreement with the similarities between archaic Indo-European conceptions of cosmic deities as bulls and corresponding notions in Egyptian, Sumerian, and ancient Semitic mythology.

In the Rigveda, gods of thunder such as Indra and Parjanya (and sometimes also the Ashvins) are constantly called bulls. An example from the Hymn to the dream of the Moon:

sahásraśṛ́ṅgo vṛṣabhó yáḥ samudrā́d udā́carat (VII, 55, 7)
'thousand-horned bull, who rose up out of the sea'

Analogous symbolism equating a lunar deity with a bull is also known in ancient Mesopotamia (Labat 1970:280) and was discovered recently in an ancient culture of southern Turkmenia of the third to second millennia B.C. (Masson 1976:435-36).

In addition, in the Rigveda a sacred bull is indirectly associated with the sun: in a wedding hymn, two bulls (*gā́vau* (du.), X, 85, 11) are harnessed to the cart of the sun goddess Surya. Later in the same hymn, 'two bulls are slaughtered under the constellation Agha' (*aghā́su hanyante gā́vo*, X, 85, 13), which can be seen as a trace of cosmic sacrifice associated with the Sun. An analogous sacrifice of bulls associated with a deity is attested in Anatolian traditions, in the Hittite-Palaic ritual KBo XIX 153 III 14: EGIR.*ŠU-ma* GUD.MAḪ *ši-pa-an-ti nu* SALŠU.GI *ma-al-ti* 'and then he sacrifices a breeding bull and the Old Woman prays' (and cf. in older Russian traditions *molit' byka*, literally 'implore (a) bull', meaning 'sacrifice').

In ancient Greek tradition we find the *bouphonía*, or festival of ritual slaughter of a sacred bull. The festival is a complex of ritual activities preparing for the slaughter of the bull (which has eaten sacrifical bread), and is divided among performers of various functions: 'water-bearing maidens' bring water to wash the axe and knife, the 'first stabber' stuns the bull with the axe, and the 'second stabber' kills it with the knife and escapes (Frejdenberg 1936:95). This tradition has its roots in deep antiquity and echoes the Cretan

tauromakhía (Pendlebury 1939:219, fig. 39 et pass., Webster 1958) and the even earlier traces of bull cults in Çatal Hüyük in ancient Asia Minor (seventh to sixth millennia B.C., Mellaart 1967). If the Mediterranean tradition of sacral bull games ending with the sacrifice of the bull goes back to ancient Asia Minor, it also continues, transformed in character, in the form of the modern bullfight, the *corrida*.

In Greek tradition we also find bull sacrifice replaced by a sacrificial loaf depicting a bull (Frejdenberg 1936:197, 402). A similar custom is reflected in Sanskrit tradition and especially in the Slavic practice, preserved until recently, of baking a kind of loaf called *korovaj* which figured in weddings as a masculine symbol and whose name is based on the ancient term for 'bull', **korv-* (cf. Pol. dial. *karw* 'old ox'; for *korovaj/karavaj* see Ivanov and Toporov 1974:244-58).

According to Procopius (fourth century A.D.), the Slavs sacrificed bulls to their god 'Thundermaker'. This custom corresponds to the Sanskrit and ancient Greek conceptions of the thundergod (Indra, Zeus) as a bull; it was preserved among the East Slavs in the rite of slaughtering 'Elijah's bull' on the day (in the Orthodox calendar) of the prophet Elijah. (The name of the prophet Elijah, also known as 'thunder-hurler' among the East Slavs, replaced the old pagan name for the thunder god: Ivanov and Toporov 1974:169.) Rites of bull sacrifice are also attested in ancient Germanic archeological sites (Beck 1965:58, 62, 65, 182).

Parallel metaphors in Sanskrit, Greek, and Old Irish traditions permit reconstruction of an image whereby a hero was equated to a bull and women or girls to cows (Campanile 1974); cf. also the equation of a woman to a heifer (GUD) in the Hittite tradition (in the prayer of queen Puduhepa to the goddess Arinna, KUB XXI 27).

Taken together, all these facts clearly show the great antiquity of the function of bulls in worship, transport, and the economy of Proto-Indo-European society. Only in the later Proto-Indo-European tradition, after the introduction of the horse, did the bull yield its cultural primacy.

3.1.4. Sheep, ram, and lamb

3.1.4.1. The Proto-Indo-European words for 'sheep', 'ram', and 'livestock'

A Proto-Indo-European stem meaning 'sheep' is reconstructed as ***Howi-**: Luw. *ḫawi-* 'sheep', (Hier.) *hawa/i-* (Laroche 1959a:44-45, 151), Skt. *ávi-* 'sheep', *avikā́* 'sheep', *avi-pā(lá)-* 'shepherd', Arm. *hoviw* 'herder' (from 'shepherd', cf. Skt. *avi-pālá-*), Gk. *ó(w)is* 'sheep, ram', Lat. *ouis* 'ram, sheep', OIr. *oí* 'sheep'; OIcel. *ǽr*, OE *ēow* (Engl. *ewe*), OHG *ou* 'sheep', Goth. *awistr* 'sheep stall'; Lith. *avìs*, Latv. *avs* 'sheep', OCS *ovĭca* (< *owi-kā) 'sheep'. The dialect

3.2.1. The dog

3.2.1.1. The Proto-Indo-European term for 'dog'

A Proto-Indo-European term for 'dog' can be reconstructed as *k̂hwon-/ *k̂hun-, reflected in all the main early dialects: Hier. Luw. *sù-wa-nà-i*, Skt. *s̑(u)vā́*, gen. *s̑únaḥ*, Waigali *ccū̃*, *tśun*, Avest. *span-*, *spānəm*, Pers. *sag*, Arm. *šun*, gen. *šan*, Gk. *kúōn*, gen. *kunós*, Lat. *canis*;[60] OIr. *cú*, gen. *con*; Goth. *hunds*, OIcel. *hundr*, OHG *hunt* (Ger. *Hund*), Engl. *hound*; Lith. *šuõ*, gen. OLith. *šunès*, Latv. *suns*; Toch. A *ku*, obl. *kon*, B *ku*, obl. *kwem*.[61]

3.2.1.2. Blending of terms for 'wolf' and 'dog' in certain Indo-European traditions. The equation of dogs and wolves and the ritual and mythological function of the dog

In several Indo-European branches the word for 'dog' also means 'wolf': Skt. *śvaka-* 'wolf' (cf. Iranian terms for 'dog' with the same suffix: Avest. *spaka-* 'of a dog', Median *spáka*, Pers. *sag* 'dog', Parth. *'spg* 'dog'),[62] OIr. *cú* 'dog; wolf'. The transfer of the word for 'dog' to wolves can be explained by the physical similarity of early dogs to wolves (*Canis lupus* L.), which were in fact ancestral to dogs.

Wolves and dogs are also blended in various mythological traditions, where their names are interchangeable. For instance, in the Germanic tradition the two wolves which are the sacred animals of Odin/Wotan are consistently called his 'dogs'. Warriors, who in the Germanic tradition are associated with the war god Odin, are referred to both as 'wolves' (OIcel. *vargr*) and as 'hounds, dogs' — which howl like hounds (*sem hundar*), Jacoby 1974:82-83. Furthermore, a number of mythic motifs having to do with wolves and people turning into wolves are also extended to dogs: people change into dogs, taking the form of a

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60. For the phonetic interpretation of the Latin form see I.2.3.2 above.

61. The Slavic word for 'dog', OCS *pĭsŭ* (ORuss. *p's"*, Russ. *pes*) comes from another root *ph(e)k̂h-o-, in zero grade, with the original meaning 'hair, fur'. Slavic *ĭ reflects the reduced vowel which arose between two stops in zero grade. This Slavic word is originally a descriptive term for 'dog', having to do with the animal's furry coat; cf. Russ. *gustopsovyj* (composed of *gusto-* 'thick', 'dense' and *ps-*, the root in question), *psovina* 'long hair of a dog', and others. For another explanation of Slav. *pĭsŭ* as going back to PIE *ph(e)ik̂h- 'spotted' (Gk. *poikílos*) see Vasmer 1964-1973:III.248-49, Trubačev 1960:19ff.

62. An Iranian form with suffixed *-ka* may be the source of ORuss. *sobaka* (Russ. *sobaka*), Pol. dial. *sobaka*, Kashub., Slovincian *sobaka*, etc.: Vasmer 1964-1973:III.702-3; but see the objections in Trubačev 1960:29-33, where the Slavic forms are traced to Turkic *köpāk*, *köbäk* 'dog' (on the assumption that Turkic initial palatalized *k̂-* is reflected in Slavic as *s-*).

dog-headed monster. An example is the Germanic notion of *Hundingas*, dog people or 'descendants of dogs' who had dogs' heads (Plassmann 1961:109). Identical dog-headed monsters are known in Celtic tradition, e.g. Gaulish *Cuno-pennus* 'dog-headed' (?). A similar notion of 'dog people' (LÚMEŠ UR.ZÍR) is widespread in the Hittite ritual tradition (e.g. KUB X 65, 66, XLVI 18, 19; KBo VII 48 IX 105) and can be compared to the 'wolf people' (LÚMEŠ UR.BAR.RA, see II.2.1.1.2 above). In the Hittite ritual of the War Deity (KBo IV 9; KUB XXV II 5 IV 30) it is said of 'dog people' (LÚMEŠ UR.ZÍR) that they dress as dogs; the same ritual mentions 'wolf people'.63

Ancient Indo-European traditions reflect a myth of the killing of the monster Wolf Dog, who is hostile to humans: examples are the Celtic cycle of legends about heroes (Cuchulain, Celtchar) who kill the Dog; the Maionian legend of Candaules as 'strangler of the Dog' (*kunágkhēs*), connected with a rite of puppy sacrifice that was preserved in Sardis, the capital of Lydia, until the second half of the first millennium B.C.64 This gives particular significance to an analogous rite of puppy sacrifice in the Hittite tradition (the Middle Hittite ritual *Maštigga*, KUB XXXII 115+XXXIV 84; the Tunnawi ritual, I 61-62, III 17-18), as well as the joint sacrifice of a dog and a (captive?) warrior, KBo XV 3; KUB XVII 17 10' and others. This is echoed in the ancient Germanic rite of sacrificing people, wolves, and dogs together to the war god Odin/Wotan (see Schlerath 1954).

3.2.1.3. The influence of the Indo-European conception of dogs on eastern Asia (China)

The Indo-European rite of joint sacrifice of a human and an animal, primarily a dog, finds a striking parallel in the ritual sacrifice of warriors together with

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63. There is a striking parallel to the equation of dogs and wolves in ancient Kartvelian tradition: the Svan name for the 'wolf dog' *žeyar*, to be compared with the Khevsurian *mc'evarni* 'dogs' who are identified with the 'wolf dogs' of the gods (Bardavelidze 1957:243-44 et pass.). The reference to wolves as dogs in Kartvelian may reflect an earlier euphemistic replacement of the original word for 'wolf' by other words, leading to its complete loss (see II.2.1.1.5 above). The equation of wolves and dogs is a common occurrence in the pan-Caucasian tradition reflected in the Nart epics. Also characteristic of the Caucasian, and specifically Kartvelian, mythological tradition is the depiction of the dog as man's companion and helper in hunting, see Virsaladze 1976; this finds an exact correspondence in the Hittite-Hurrian motif of the magical hunt with a dog, which, by the will of the gods, takes place in the mountains and lasts for many months (e.g. the myth of Kesshi the hunter, Friedrich 1949).

64. The dog (Lat. *canis*, Gk. *kúōn*) was also one of the symbols in a game (originally a ritual game) known as 'unlucky cast' or 'bone game'. Consequently the Skt. *śva-ghnín-* 'dog-killer' in the Rigveda refers to a successful player in the bone game. A special hymn in the Rigveda is dedicated to the bone game. Also related may be Gk. *kíndunos* 'danger' (from **kun-dunos*, literally 'dog's game', i.e. 'unlucky game', cf. Skt. *dyūtám* 'bone game'). The Russian expression *s"est' sobaku (na čem-libo)* 'learn to do (something)', 'gain experience at (something)', literally 'eat the dog (on something)' may also go back to this ancient metaphor: see Pokorny 1959:633, Vasmer 1964-1973:III.702, Pisani 1957:766ff. (but see the objections of Knobloch 1975 to this etymology of Gk. *kíndunos*).

dogs attested in numerous archeological finds from ancient China beginning with the Yin period (i.e. from the middle of the second millennium B.C.). Similar sacrifices are unknown from earlier times, which suggests that the custom was due to the influence of some western culture (Vasil'ev 1976:283-84). The generally Indo-European nature of the joint sacrifice of a warrior and a dog makes it plausible that the rite spread to China under the influence of Indo-European cultural traditions with which the population of Yin China came into contact. The plausibility of this hypothesis is increased by the fact that the Old Chinese term for 'dog', *k'iwen*, is evidently a loan from an early Indo-European dialect (see Conrady 1925). The same Indo-European word for 'dog' became a migratory term and spread to several other languages of eastern Asia.

The dog was one of the first animals to be domesticated. Dog bones are found in caves as early as the Mesolithic. From earliest times dogs were used for a variety of cultural and ritual purposes: for food, as watchdogs, in hunting; it is this complex of functions that gives rise to the ritual function of dogs as sacrificial animals. In a striking composition from Çatal Hüyük (ca. 5800 B.C.), a man is depicted hunting a fleeing deer with a dog (Illustration 11).
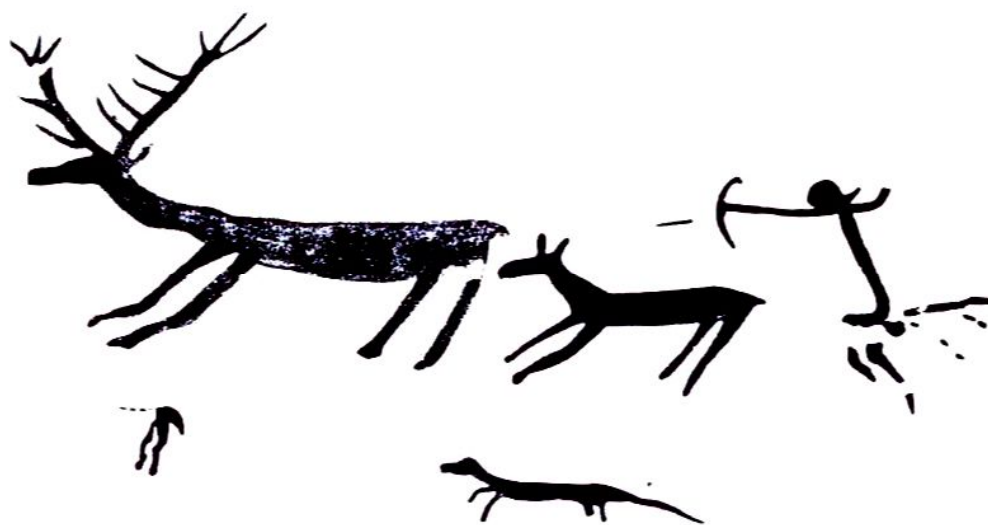

Illustration 11.
Deer hunt with a dog. Çatal Hüyük, 7th–6th millennia B.C.

In the Neolithic of western Europe one variety of dog, *Canis familiaris palustris*, shows similarities to the eastern Asiatic type, specifically to Chinese dogs (Clark 1952:122), which points to cultural connections between eastern and western Eurasia.[65]

65. The oldest evidence for domestication of the dog found so far comes from North America. The radiocarbon date is ca. 8400 B.C. (see Bökönyi 1974:316).

3.2.3. The cat

3.2.3.1. A migratory term for 'cat' in Indo-European dialects

Cognate words for 'cat' which go back to an old migratory term are attested in a number of Ancient European languages: OPruss. *catto*, Lith. *katē̃* 'cat', Latv. *kaķe* 'cat', ORuss. *kot"*, Russ. *kot*, Pol. *kot*, LSorb. *kot*, Cz. dial. *kot*, Slovak *kot*, Bulg. *kótka* 'cat'; also Ir. *catt* 'cat', VLat. *cattus* 'wild cat'. The Baltic and Slavic forms are often considered loans from Vulgar Latin (see Vasmer 1964-1973:II.350). In that case we must posit separate Vulgar Latin borrowings into Baltic and Slavic: a Proto-Balto-Slavic borrowing (see Trautmann 1923:120) would present chronological problems.

The word for 'cat' is hard to distinguish formally and semantically from words meaning 'give birth (to small animals)': e.g. in Slavic, Russ. *kotit'sja* 'give birth' (of cats, sheep, rabbits, hares), Pol. *kocić się*, Cz. *kotiti se*, Serbo-Cr. *kòtiti (se)* id., and also adjectives: Russ. dial. *sukótnaja* 'pregnant' (of cats and other small animals), *sukotaja* 'pregnant dog', Serbo-Cr. *skötna* 'pregnant' (of dogs and foxes), *kȏt* 'brood, litter' (Trubačev 1960:97).

Slav. **kotiti (sę)* 'give birth' (of small animals) is in turn etymologically related to such formations as Lat. *catulus* 'young of animal' (especially 'kitten', 'puppy'), *catula* 'small dog', *catulīre* 'be in heat' (of dogs), OIcel. *haðna* 'kid goat', 'small goat', OHG *hatele* 'goat'. This shows that the whole set of words is fairly old. It is based on **kʰatʰ-* 'cat', from which are derived verbs meaning 'give birth' (to small animals) and names for the young of small animals.

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76. The borrowing of 'pig' into Chinese, like the borrowing of OChin. *k'iwen* 'dog' from Indo-European (see 3.2.1.3 above), does not mean that the Chinese were previously unfamiliar with either animal. Indo-European cultural influence could have affected the economic and ritual functions of these animals in Chinese culture, with the consequence that the new borrowed word displaced the older native one.

3.2.3.2. The religious role of the cat in individual Indo-European traditions

The assumption that the term for 'cat' is ancient in this entire group of dialects, and not a recent loan from Vulgar Latin into Baltic and Slavic, is supported by the special religious significance of cats from earliest times in Baltic and Slavic traditions. In the ninth century A.D. the Great Moravian prince bore the name *Kocĭlŭ*, a derivative of the word for 'cat'; this agrees with the contemporaneous West Slavic legend of mice and cats. An analogously formed name is attested in the Italic tradition: *Catulus*, a cognomen of the Lutatia in Rome. This testifies to the extreme antiquity in Latin of the root *cat-* in the original meaning 'cat', 'give birth' (of small animals).

Even more conclusive information comes from the Baltic tradition, where Lithuanian mythological folklore texts frequently show the thunder god Perkunas or his opponent turning into a cat or another small animal (see Ivanov and Toporov 1974:77, 145). In ancient Germanic myth a cat lifted up by the thunder god Thor turns out to be the Cosmic Serpent.

All of this evidence testifies to ancient roots for the cultic significance of the cat, and hence the ancient status of its name, in this set of dialects. Since archeological evidence from eastern Europe in the first millennium B.C. shows that the domestic cat (*Felis domestica* Briss.) is infrequent (Calkin 1966:57), the cultic significance may reflect a more ancient cultural situation.

3.2.3.3. Phonetic variants of the word for 'cat' and its relation to Near Eastern words

In other ancient Indo-European dialects there is a phonetically similar word for 'cat' whose phonetic variation, however, does not permit it to be traced to the same root as *k^hat^h-. Such words are found not only in ancient Indo-European dialects but throughout the Near East and the Caucasus as well. A comparison of Oss. *gædy* 'cat', Arm. *katu* 'cat' to Gmc. **kattuz* (OE *catt*, ME *catte* (Engl. *cat*), LGer. *katt* (Ger. *Katze*)) may point to a common ancient **k'at'-u-* with two glottalized consonants, which is non-canonical for Indo-European. The word may be considered a borrowed migratory term, represented in two forms in Indo-European dialects: **k'at'-u-* and **k^hat^h-*, with subsequent transformation in separate dialects (cf. also MGk. *kátta*).

The original territory of the domestic cat and the source of its name may be taken to be North Africa, where we find what must be the original word for 'cat' that underlies the migratory term:[77] e.g. Nubian *kadīs* 'cat'.[78] This is the

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77. Ancient cultures of North Africa display motifs parallel to the Lithuanian myth of the thundergod turning into a cat: an example is the well-known Egyptian myth of the god Ra, who assumes the form of a cat and kills a serpent.

source not only of the Indo-European dialect words but also of words found throughout the Near East: Arab. *k̲it̲-*, Aram. *k̲at̲t̲ā*; Georg. *k'at'a*, Laz *k'at'u*; Kabard. *gedu*, Adyghe *gedu*; Tabassaran *gatu*, Andi *gedu*, Dido *k'et'u*, Avar *keto*; Turkish *kedi*. Given all these facts, the links between Near Eastern languages and cultures and the Indo-European dialects and traditions (Baltic, Slavic) located far from the Near East are striking.

3.2.4. Chickens, hens, and roosters

3.2.4.1. Areal terms for 'hen' and 'rooster' as onomatopoetic formations

An originally onomatopoetic term for 'chicken', 'hen', or 'rooster', derived from **kʰerkʰ-*, is attested in a number of Indo-European dialects. Its dialect distribution gives reason to consider it Proto-Indo-European: Skt. *kr̥ka-vā́ku-* 'rooster', Avest. *kahrka-* 'hen', Pehl. *kark* 'hen', Pers. *kark* 'chicken', 'hen', Gk. *kérkos* 'rooster', MIr. *cercc* 'brood hen'; Toch. B *kraṅko* 'rooster'.[79]

In its onomatopoetic character this word can be compared with innovated forms meaning 'rooster' in separate recent branches, based on words meaning 'sing', 'cry': Lat. *gallus* 'rooster' (cf. OCS *glasŭ* 'voice', Russ. *golos*); Goth. *hana* 'rooster', OHG *hano* 'rooster' (Ger. *Hahn*), OE *hĕnn* 'hen' (Engl. *hen*), OIcel. *hani* (these Germanic words are cognate to Lat. *canō* 'I sing'); OCS *kurŭ* 'rooster', Russ. *kur, kura* (cf. Lat. *caurīre* 'growl', Skt. *káuti* 'cries', 'roars'); ORuss. *pĕt'l''* 'rooster', Russ. *petel, petux* 'rooster' beside Russ. *pet'* 'sing'; etc.

Poultry raising was evidently weakly represented in the ancient Indo-European economy, which explains the fact that most terms for domestic fowl are developments in the individual branches and do not go back to Proto-Indo-European.[80] A number of such words are formed from the Indo-European terms for the respective ancestral wild birds, e.g. the terms for 'goose' and 'duck' discussed in II.2.3.7 above.

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78. It is interesting that this word, found throughout virtually the entire Near East, should be missing in Egyptian, where the word for 'cat' is *mjw*, obviously onomatopoetic. In Egypt, where the cat was one of the main sacred animals, there was evidently taboo replacement of the original word by a euphemism of onomatopoetic origin. It is not impossible that similar factors may have led to the transformation or replacement of the original Indo-European word for 'cat'.

79. The word for 'chicken' in Hittite is unclear. The Sumerogram MUŠEN GAL (literally 'large bird') means 'chicken'. In Hittite tradition as in Roman tradition, poultry raising is evidently connected with ritual divination from birds (Lat. *auspicium*) and is not economically important: evidence is the Sumerogram ᴸᵁMUŠEN.DÙ 'poultry breeder', 'diviner from birds', literally 'bird-doer'.

80. For example, words for 'domestic pigeon' such as Lith. *balañdis* 'dove, pigeon', Oss. *bælon* 'domestic pigeon' are limited to a small dialect group (Abaev 1958:I.249); cf. also OCS *golǫbĭ* 'dove', Lat. *columba* 'dove' (Vasmer 1964-1973:I.432-33), etc.

mori, moreni 'blackberry'; Lat. *mōrus* 'mulberry tree', *mōrum* 'mulberry', 'blackberry' (ancient forms in *-s* meaning 'tree, plant' and *-m* meaning 'fruit, berry'), Welsh *merwydden* 'mulberry' (with *e grade in the root). The dialect distribution of the forms (Greek, Armenian, Italic-Celtic)[53] testifies to their antiquity in Indo-European in the meanings 'mulberry' and 'blackberry'.

That the meaning 'mulberry' is older can be seen in the early Greek meaning of *móron* and its derivatives in Homer, as well as in the archaic opposition of *-s* and *-m* forms denoting respectively the plant and the fruit in Latin; moreover, Lat. *mōrus* means only 'mulberry tree' and not 'blackberry plant' (whereas *mōrum* means both 'mulberry' and 'blackberry'), while another ancient word *rubus* (from PIE *wr̥dʰ-o-s, see Schulze 1933: Skt. *várdhati* 'grows', *vr̥ddhá-* 'full-grown') denotes the blackberry plant. Semantic extension of 'mulberry' to 'blackberry' could have been based on the similar form and color of the two berries.

In Celtic the form means only 'mulberry'. Armenian has only the secondary meaning 'blackberry', the meaning 'mulberry tree' being expressed by a loan *t'ut'*, probably from Aramaic (Hübschmann [1897] 1972:155).

The meaning 'dark-fruited mulberry tree', 'dark-colored fruit of mulberry tree' is of Proto-Indo-European date, as is confirmed by its possible etymological connection to *mer-, *mor- 'dark, black' (Pokorny 1959:734): Hom. Gk. *morússō* 'blacken, make dirty', *memorugménos* 'dirty', *mórukhos* 'black (with soot)'.[54]

4.1.14.2. The range and economic significance of the mulberry

The black mulberry (*Morus nigra* L.) is a common fruit tree in the Mediterranean and in southwestern Asia; its original center of dispersal is considered to be the Near East (Vavilov 1959-1965:I.344). Its large fruits, distinguished by their deep purple, almost black color, are used for food in a number of high mountain regions of the Near East and the Pamirs of Central Asia (the fruits when dried provide flour which replaces grain flour); the leaves are used for livestock feed, and the wood is a valued building material (Vavilov 1959-1965:I.205, 343). A closely related species of mulberry (*Ficus sycomorus*) was used for shipbuilding in ancient Egypt (Semenov 1974:28). The Egyptian

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53. The Germanic forms (OHG *mūr-, mōrbere*, MHG *mūlber* 'mulberry') and Lith. *mõras* id. are regarded as loans from Latin (Pokorny 1959:749).

54. The same original root is probably also the source of another Greek term for a tree with dark fruits: *moría*, the sacred olive tree in Athens, dedicated to Athena, cf. *mórios Zeús* 'Zeus, protector of sacred olive trees'. However, despite its archaic structure the Greek word finds no correspondents in this meaning in the other languages. Another Greek term for 'olive tree', *éla(w)ion*, attested in Mycenean *e-ra-wo*, has a cognate in Lat. *oleum* 'olive tree' and can be considered fairly ancient in terms of dialect distribution, going back to an early dialect grouping (unless Lat. *oleum* is a loan).

-sycamore *nh.t* was a 'tree sacred to the gods' and had great ritual and mythological significance.

Another type of mulberry, the white mulberry (*Morus alba* L.), is known in eastern Asia; its center of dispersal is considered to be China (Vavilov 1959-1965:V.146), where it was originally used for raising silkwoñns. From there the white mulberry spread, together with the production of silk, to the west. The spread of the white mulberry and its new domestic function could have been the reason for the ousting of the inherited word for 'mulberry' in a number of Indo-European dialects which have lost the original word altogether (like Indo-Iranian)[55] or retained it only in its secondary meaning 'blackberry'.

4.2. Flora: Cultivated plants and grains

4.2.1. Grape and wine

4.2.1.1. Terms for wine in the ancient Indo-European dialects

Despite the considerable diversity of terms for 'grape' and 'grapevine' in the Indo-European daughter languages, the word for 'wine', **w(e/o)ino-*, is characterized by extreme stability across the various branches and shows regular phonetic correspondences among the main ancient dialects:[56]

Hitt. *wiyana-* 'wine', Luw. *winiyant-* 'wine', Hier. Luw. *wiana-* 'wine', Laroche 1959a:111 (PIE **wi(o)no-*, with zero grade).

Myc. Gk. *wo-no-* 'wine' (especially in compounds such as *wo-no-qo-so* = *woînops*, cf. Homeric *oînops* 'dark red', literally 'wine-red'); Hom. *oînos* 'wine' (i.e. grape wine, dark red in color, cf. *oînon eruthrón* 'red wine', Odyssey 12.19) with numerous derivatives (e.g. *oinó-pedon* 'vineyard' and others): PIE **woino-* with *o* grade, cf. Arm. *gini* 'wine' (**woinyom*), Alb. *vēnë*, Tosk *verë* 'wine' (**woinā*).

Lat. *uīnum* 'wine' (cf. Falisc., Volsc. *uinu*, Umbr. *vinu, uinu*, possible loans from Latin): PIE **weino-*, with *e*-grade vocalism. The same Indo-European form, with the same vocalism, underlies the Germanic and Slavic cognates[57] and their Proto-Germanic and Common Slavic antecedents:

55. The connection of the new term for 'mulberry tree' with silkworm raising can be plainly seen in such neologisms as Waigali *kuṇḍl'ik* 'mulberry tree', etymologized as **kṛmuka-lika-* (**kʰoṛmi-*, cf. II.2.2.1.1n45 above).

56. Here we see a regularity also to be observed elsewhere: the greater stability of the term for the basic food product relative to that of its source, which undergoes frequent lexical replacement in the course of dialect evolution. Compare the similar historical correlations in the terms for the food product 'honey' and its source, the bee, cf. II.3.2.5 above.

57. The Celtic forms OIr. *fín*, Welsh *gwin* 'wine', to judge from their vocalism, can be regarded as loans from Latin, Pokorny 1959:1121 (unless they go back to an Indo-European form with zero grade, as in Anatolian, in which case they are native Celtic forms).

Goth. *wein* 'wine', *weina-* in compounds such as *weinatriu* 'grapevine', *weinagards* 'vineyard', OE *wīn*, Engl. *wine* (cf. also OE *wīn-trēow* 'grapevine', *wīn-berige* 'bunch of grapes', *wīngeard* 'vineyard'), OHG *wīn* 'wine', Ger. *Wein* (and derivatives OHG *wīn-garto* 'vineyard', *wīnreba* 'grapevine').

OCS *vino* 'wine', Russ. *vino*, Pol *wino*.[58] Also related to these is an ancient Common Slavic formation preserved only in South Slavic: OCS *vinjaga*, Serbo-Cr. *vìnjaga*, Slovene *vinjága* 'grape' (Bezlaj 1976:217), whose second element *-aga* 'fruit' is cognate to Lith. *úoga* 'berry', Latv. *uôga* id., Toch. B *oko* id. and represents a Common Slavic archaism preserved only in this compound (there is a derivative in *-d-* from this form, also Common Slavic: OCS *agoda* 'berry, fruit', Russ. *jagoda*).[59]

The existence of cognates with the meaning 'wine', on the one hand in Anatolian and on the other in Greek, Armenian, Albanian, and Latin, as well as in Germanic and Slavic, is sufficient evidence for positing a form **w(e/o)in-o-* 'wine' for Proto-Indo-European.[60]

4.2.1.2. The connection of the Indo-European term for wine with Near Eastern terms

Phonetically similar terms for wine can be found in a number of ancient Near Eastern languages. A term for wine is reconstructed as **wayn-* for Semitic (Fronzaroli 1971:VII.613ff.): Akk. *īnu-*, Arab. *wayn-*, Ugar. *yn*, Hebr. *yayin*. In

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58. The corresponding Baltic forms are considered loans from Slavic: Lith. *vỹnas* 'wine', Latv. *vĩns* (the latter form is sometimes traced to MLG *wīn*).

59. There is insufficient formal evidence for considering the Germanic and Slavic terms to be loans from Latin, *contra* Pokorny 1959:1121, cf. Vasmer 1953:I.202 [1964-1973:I.316]. Evidence against such a position is the fact that in these groups the terms for wine go back respectively to a Proto-Germanic and a Common Slavic original form. The native status of the terms is further supported by ancient compounds such as the Proto-Germanic term for 'vineyard', Goth. *weina-gards*, OE *wīn-geard*, OHG *wīn-garto*, and the Common Slavic terms for 'grape(vine)' and 'vineyard' (OCS *vinjaga*, *vinogradŭ*; the structural coincidence of the latter with its Germanic equivalent does not necessarily establish a borrowing from Germanic to Slavic). Ultimately, the claim for a Germanic and Slavic borrowing of the term for wine from Latin is based not on the phonetic properties of the forms themselves, which show regular correspondences, but on cultural-historical assumptions about the original location of grapes and the ancient Indo-European homeland: see Bonfante 1974.

60. Even if we grant cognate status only to the Anatolian, Greek-Armenian, and Latin terms for wine (regarding not only the Celtic and Baltic forms, but also the Germanic and Slavic forms, as borrowings), the dialect distribution of the reflexes still establishes the Proto-Indo-European character of the word.

On the other hand, if we reconstruct a form with lengthened zero grade, **wīno* (yielding Lat. *uīnum*; cf. Lat. *līnum* 'flax' from **līno-*), as the protoform for a certain group of dialects, this removes all formal obstacles to considering the Celtic and Baltic forms as native Indo-European. In this case the Indo-European protoform with lengthened zero grade can be taken as the source (with no need for an alternative form **weino-*, with *e* vocalism) for all the Ancient European dialects.

Egyptian, beginning with the Old Kingdom, we find *wnš* in the meaning 'edible fruit; grape; wine'; cf. also *wnš.t* 'wine' (Erman and Grapow 1955:I.325). In Hattic, *windu-* can be segmented out as an element of compounds with a meaning referring to some beverage (possibly wine; cf. LÚ*windu-kkaram* 'wine steward; cupbearer'; see Kammenhuber 1969:496).[61] For South Caucasian (Kartvelian) a form **ɣwino-* 'wine' can be reconstructed (Geo. *ɣwino*, Ming. *ɣwin-*, Laz *ɣ(w)in-*, Svan *ɣwinel*), and **wenaq-* 'vineyard; grapevine'[62] (OGeo. *venaq-*, Ming.-Laz *binex-*, Svan *wenäq*): Klimov 1964:203-4, 83.

4.2.1.3. The term for wine as an ancient Near Eastern migratory word. The migratory word as a native Indo-European one; its etymological connections

The wide distribution of phonetically similar words meaning 'wine', 'grape' among various linguistic groups of the Near East at a great time depth allows us to regard them as migratory words for 'grape' and 'wine'. The fact that there are etymological links between the 'wine' and 'grape' words within each of the language groups (Indo-European, Semitic, Kartvelian) indicates the extreme antiquity of the migratory term, which must have passed from one language to another at a protolanguage level, i.e. prior to the breakup of each protolanguage into separate dialects.

The formal characteristics of the Proto-Indo-European word for wine, with its regular ablaut grades **(e) : *o : *Ø*, allow us to regard this word, built according to the rules of ancient Indo-European word formation, as a native element of the Indo-European system; we can therefore give it an etymology within Indo-European. The most natural etymology appears to be the connection, long since proposed, of the Proto-Indo-European word for wine with the root ***wei-/*wi-** 'weave, plait, twist' (Walde 1910; cf. Georgiev 1954:62, Merlingen 1968:411): Skt. *váyati* 'weaves, plaits', Vedic *vyáyati* 'turns', *vyāna-* 'turn'; Lat. *uieō* 'tie, plait, weave', Lith. *vejù* 'weave, plait', Slavic *viti* id., etc.

The Indo-European root meaning 'weave, plait' forms numerous archaic derivatives in the Indo-European daughter dialects referring to twining, flexible plants, branches, twigs, and grapevines:

Derivatives in ***-tʰi-**: PIE ***w(e)i-tʰi-**: Lat. *uītis* 'grapevine'; Avest. *vaēiti-*

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61. It is interesting that the second half of the Hattic word coincides with Akkad. *karānu* 'grapevine; wine'. The possibility is not to be excluded that the Hattic word is a compound resulting from combination of the native Hattic word with a Hatticized Akkadian term for 'wine; grape'.

62. There is striking phonetic similarity between the Kartvelian word **wenaq-* 'vineyard' and the Indo-European form ***wein-ǎk'-** reflected in Slavic *vinjaga* 'grapevine'. For the connection among terms for wine in Indo-European, Semitic, and Kartvelian see also Cereteli 1947:18ff.

'willow; willow withes', Lith. *vytìs* 'willow withes', cf. *žìl-vìtis* 'brittle willow; vine', Slav. *vitĭ* 'wicker work' (Serbo-Cr. *pãvît* 'grapevine'); OIr. *féith* 'fibers', Welsh *gwden* 'string, lace'; OIcel. *víðir* 'willow', OE *wīðig* 'willow'.

Derivatives in *-tʰu-: PIE *w(e/o)i-tʰu-: Gk. *ítus*, Aeol. *witus* 'willow; rim of wheel', Lat. *uitus* 'rim of wheel';[63] Gk. *oísuon* (from *woituo-) 'willow sp.', OPruss. *witwan* 'willow', *apewitwo* 'pussywillow', OCS *větvĭ* 'branch', etc.

Derivatives in *-n-: PIE *woi-n-: OCS *věnĭcĭ* 'wreath', Serbo-Cr. *vijènac*, Cz. *věnec*, *vínek*, Lith. *vainìkas* 'garland, wreath'.

Athematic and thematic derivatives in *-o-, *-ā: PIE *w(e/o)i-o-/-ā: Gk. *huiḗn · ámpelon* 'grapevine', cf. *euiádes · ámpeloi* 'grapevines' (Hesychius), Skt. *vayā́* 'branch', OCS *věja* 'branch'; Latv. *vija* 'wicker fence'; MIr. *fé* 'withes' (cf. Welsh *gwïal-en* 'twig').

The semantics of these derivatives of *wei-/*wi-, as well as the very meaning of the root 'weave, plait, twist', renders entirely plausible the claim that the Indo-European term for 'grape' and 'wine' is a formation from the same root *wei- in its various vowel grades — 'fruit of twining plant'. The term could have been differentiated by grammatical gender (evidently first by active vs. inactive class) even in early Indo-European. The form in *-s would have designated the plant, the grapevine, while the form in *-m designated its fruit, grapes, and wine.

The Indo-European derivatives meaning 'grape, wine' subsequently spread to adjacent languages and became a typical migratory term, penetrating as far as ancient Egyptian in the form *wnš* 'fruit; grape; wine' (evidently reflecting the Indo-European zero-grade form with the ending *-s). The Indo-European form was borrowed into Semitic in its *o*-grade form (Semitic *wayn-), while it entered Hattic (*windu-) and Proto-Kartvelian (*γwino-) as a zero-grade form.[64]

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63. The exact coincidence of form and meaning in Greek and Latin suggests the possibility of a Latin borrowing from Greek (cf. Pokorny 1959:1122); however, in view of the regularity of phonetic correspondences, there is no need to assume borrowing.

64. The opposite direction of borrowing, from Egyptian or Semitic into Indo-European, is less likely on cultural-historical grounds (the grapevine is not found in early Semitic/Egyptian territories). An Indo-European borrowing of the term for wine from Kartvelian (which would be reasonable on the grounds of culture history and the ancient center of dispersion of the grapevine, discussed below) would require a reshaping of the borrowed word in Indo-European, leading to its reanalysis as a derivative of the native Indo-European root *wei- 'twist, plait'. On the other hand, the antiquity within Kartvelian of *γwino- cannot be established with certainty, nor can it be proven cognate to formations such as *wenaq- 'vineyard', which has a clearly borrowed character. Note that borrowing of specialized cultural terms does not necessarily presuppose that the culture borrowing the terms lacked the objects or concepts they designate; the Slavic and Eastern Iranian (Ossetic) terms for horsebreeding are borrowed, but these cultures preserve earlier equivalents to the borrowed terms, displaced by the subsequent borrowings: see II.3.1.1.13 above. Given the considerable development of viticulture and wine-making in the ancient Transcaucasus, ancient, native Kartvelian terms for the relevant basic concepts could have been displaced by loans. Further such foreign loans, in addition to *γwino- 'wine' and *wenaq- 'vineyard', are Geo. *q'urʒen-* 'grape' (cf. Urart. ᴳᴵˢ*uldini* 'vineyard', see Melikišvili 1960:411) and possibly Geo. *vaz-* 'grapevine' (cf. Arm. *vaz* 'grapevine', of unclear etymology, and Iranian *raz-: Pehl. *raz*, Pers. *raz* 'grapevine', etc.).

If we posit borrowing of the Indo-European term for 'grape' and 'wine' into the ancient Near Eastern languages at such an early date, we must assume linguistic contacts between Indo-European and the other languages at that early date in the Near East, and we must further assume that the ancient Indo-Europeans were familiar with viticulture and wine-making by the time of these contacts, which, to judge by the Semitic, Egyptian, and Hattic data, must have been no later than the third millennium B.C.

4.2.1.4. The ancient Near Eastern center of viticulture

The earliest center of cultivation and domestication of grapes (*Vitis vinifera*) is usually placed in southwestern Asia, with a distinct Transcaucasian area where new varieties of cultivated grape developed and where there was a wide variety of cultivated and wild grapes and a number of transitional types (see Vavilov 1959-1965:II.371, V.145, 160, 166). In the Transcaucasus, traces of viticulture are observed by the time of the Kura-Araxes culture of the fifth to fourth millennia B.C. (Kušnareva and Čubinišvili 1970:170).

4.2.1.5. Grape and wine in the early Indo-European traditions

In §§101ff. of the Old Hittite Laws, considerable space is given to laws concerning indemnification for theft, grazing, or other damage to vineyards, grapes, and vines, which shows that viticulture and wine-making were well established by the time of the Old Hittite Kingdom. This is in agreement with the statistical data furnished by Hittite deeds, which show that fairly large amounts of land were planted in grapevines (see Riemschneider 1958).

From the eastern Mediterranean we have data on grape cultivation in the Bronze Age (Clark 1952:116 [1953:122]). Wine-making played an important role in Mycenean Greece, where extensive stores of wine were discovered in a palace at Pylos (Blavatskaja 1966:77). In Homer there are descriptions of large grapevines (*alóē*), weighted down by 'bunches of black grapes' (*mélanes bótrues*), and of the grape harvest, where youths and girls carry woven baskets to collect the 'honey-sweet fruit' (*meliēdéa karpón*), Iliad 18.561-68.

4.2.1.6. The Indo-European term for 'sacrificial libation of wine'

The ritual and cultic significance of wine in the Indo-European tradition has its roots in the distant past. In the traditions of the individual Indo-European dialects, not only the general character of wine-sacrifice rituals, but in fact the

very structure of the ritual formulas enacting them, coincides. An example is Homeric Greek *oînon spéndō* 'pour out wine', 'sprinkle (an animal sacrificed to Zeus) with wine': *spéndōn aíthopa oînon ep' aithoménois hieroîsin* 'sprinkling with dark wine the steaming parts of the sacrifice' (sc. a bull), Iliad 11.775, and Hittite *wiyanit šipant-* 'sprinkle with wine' (an animal sacrificed to the supreme deity): ᴰUTU-*i* 1 UDU GEŠTIN-*it ši-pa-an-ti* (KUB XXXV II 10) 'sprinkles with wine one sheep (sacrificed) to the sun god' (cf. ᴳᴵˢGEŠTIN *išpanduzzi-* 'vessel for sacrificial wine'). A further trace of this usage of the term for sacrificial wine in combination with the Indo-European verb *sphent'- 'perform a libation; sprinkle' can be seen in Lat. *spondeō* in its later figurative meaning 'promise on oath' (of any ritual pledge, see Ernout and Meillet 1967:643); for the meaning cf. Gk. *spéndō* 'promise', middle 'make a treaty', *spondaí* (pl.) 'peace; union; treaty'. In Homer the latter also occurs with the word for wine to designate the libation of wine upon concluding a treaty, e.g. *spondaí t' ákrētoi* 'libation of undiluted (wine)', Iliad 2.341, Iliad 4.159 (undiluted wine was used for sacrifice, while people usually drank diluted wine: *aíthopa oînon ... kérōntai* 'they dilute the sparkling wine', Iliad 4.259-60).

In the early Indo-European traditions, the wine cult is associated with the supreme deity — in Greek myth with Zeus the Savior (*Zeùs Sōtḗr*) (see Frejdenberg 1936:82 on the 'god of Wine'), in Latin myth with Jupiter. In ancient Rome there was a special ceremony, the *Vināalia*, when wine was sacrificed to Jupiter (Dumézil 1966:188-89). This recalls the Hittite libation of wine poured onto the animal sacrificed to the sun god.

4.2.1.7. The absence of the Indo-European term for wine and grape from Indo-Iranian and the cult of the 'godly' drink soma/haoma

The Indo-European character of the Near Eastern migratory term for wine and its etymological connection to a native Indo-European root raises the question of why cognate words for wine and grape are missing from a number of early Indo-European dialects such as Indo-Iranian[65] and Tocharian. It may be assumed that the place of wine as a cultic and everyday beverage was taken in the Indo-Iranian tradition by other intoxicating beverages, made from plants other than grapes, which replaced grapes in the new ecological conditions where the early Indo-Iranians lived. One such new cultic beverage, dedicated to the supreme deity, may have been soma: Skt. *sóma-* 'soma' (in the Rigveda, the drink of the thunder-hurling god Indra; cf. wine as the drink of Zeus and Jupiter respectively in Greek and Roman mythology). In the Rigveda, over a hundred hymns are dedicated to the apotheosized beverage Soma (Avest.

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65. The possibility that terms such as Pamirian Yazgulami *wiδg'-* 'grape' are relics is not to be excluded.

haoma-); they praise 'the sweetest, most intoxicating beverage, pressed for Indra to drink': *svā́diṣṭhayā mādiṣṭhayā ... índrāya pā́tave sutáḥ* (IX, 1, 1).

Soma was a narcotic beverage prepared by pressing the juice out of plants with stone presses. The horsetail (*Ephedra*) is used in this way in later Indo-Iranian traditions; this plant is found in desert regions of Central Asia and Afghanistan, and the names for it in Iranian languages are derivatives of Iranian **hauma-*.[66]

Another intoxicating beverage among the early Indo-Iranians was Skt. *súrā* (mentioned twice in the Rigveda), in the Sanskrit tradition a crude intoxicating drink used by the lower caste *śūdrá-*; cf. Avest. *hurā-* 'kumyss', Pehl. *hur*, Avest. *xᵛarəθō.bairya-*, Parth. *ḥwrybr* 'wine steward', Diakonoff and Livšic 1960:63.

The names of both drinks are formed from the Indo-European root **seu-/*su-*, originally 'wring, squeeze out (liquid)', 'press (juice)', 'chase out': Skt. *sunóti* 'squeezes out, presses (juice)', Avest. *hunaoiti*; Skt. *sutá-* 'pressed, squeezed out', OIr. *suth* 'juice; milk', OHG *sou*, OE *sēaw* 'juice'.[67]

The complete replacement of wine by soma in Indo-Iranian culture, in both ritual and everyday functions, was due primarily to new ecological surroundings, and also to the intoxicating properties of the beverage obtained from the plants in the new environment.[68] The ancient derivatives from PIE **wei-* 'twist, plait', the source of the words for grape and wine in Indo-European, are used in Indo-Iranian only for various species of vines and trailing plants, with no obvious connection to wine and grapes. Similar conditions must have caused the loss of the inherited word for 'wine' and 'grape' in Tocharian.

4.2.1.8. Traces of ancient viticultural terms in Iranian. The term for 'vine'

In addition to the above terms, Iranian (or in any event the western Iranian dialects) partly preserves an ancient dialectal terminology pertaining to viticul-

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66. Many investigators believe that Indian soma and Iranian haoma were originally made from a particular variety of amanita mushroom (*Amanita muscaria*): Wasson 1968, Elizarenkova 1972:300-301, Steblin-Kamenskij 1974:138-39. On the Greek tradition see Ruck 1976:238ff. On mushrooms in the myth and ritual of various Indo-European folk traditions see also Toporov 1979.

67. The same root yields derivatives in a labial: Skt. *sū́pa-* 'soup', OIcel. *súpa*, OE *sūpan*, OHG *sūfan* 'drink; drink noisily' (Ger. *saufen*), *sūf* 'soup'.

The very technology for preparing soma as described in the Rigveda (the juice was pressed out with pressing stones — *grā́van-* — and poured into vessels, where the soma was diluted with water) is overall highly reminiscent of the ancient technique of winemaking practiced by the early Indo-Europeans (in traditions such as the ancient Greek one, herbs were added to the wine to give it strength, since the beverages the ancient Greeks obtained from grapes alone were fairly weak: see Ruck 1976:241-42).

68. In India, where the Indo-Aryans migrated, the grapevine is entirely absent (Vavilov 1959-1965:I.356).

4.2.2.2. The earliest range of barley

Barley (*Hordeum* L.) is one of the oldest cultivated grains. It was first domesticated in the Near East and North Africa,[74] precisely where wild barley (*Hordeum spontaneum*) is found (see Vavilov 1959-1965:V.32-36 [fig. 3], 112, Harlan 1976:92, Lisicyna 1978:102ff.). Traces of barley cultivation are attested in all ancient agricultural cultures of the Near East since the Neolithic revolution (i.e. going back to the tenth millennium B.C.): in Jericho and Beidha, Palestine, of the tenth to eighth millennia B.C. (two-row barley), in ancient western Iran, in Çatal Hüyük of the sixth millennium B.C. (six-row barley without hulls), Helbaek 1964, Semenov 1974:22, 31ff., 44, Renfrew 1969, Haudricourt and Hédin 1943:115-25.

Barley is found in Europe only from the end of the Neolithic, and it becomes a dominant cultivated plant in the Bronze Age (fourth to first millennia B.C.: Clark 1952:108 [1953:115]). In Mycenean Greece barley was eaten by people and served as winter fodder for cattle (Blavatskaja 1966:76).

4.2.3. Wheat

4.2.3.1. The Indo-European term for wheat

The cultivation of wheat (*Triticum* L.) is as old as that of barley. There are three ancient varieties: diploid (with seven pairs of chromosomes), with a center of domestication in southeastern Turkey, and two tetraploid types (with fourteen pairs of chromosomes), one of which is traced to Palestine and/or southeastern Turkey and the other (*Triticum timopheevi*) to the territory of modern Georgia (Harlan 1976:91, Lisicyna 1978:99ff.). The area where wheat was first domesticated partially coincides with the ancient range of barley.

A Proto-Indo-European stem with the original meaning 'wheat' can be reconstructed as **pʰūr-*: Gk. *pūrós* 'grain of wheat; wheat', Hom. *puroí* 'wheat',[75] *púrnon* 'bread', cf. Skt. *pūra-* 'type of pastry';[76] Lith. *pūraī* (pl.) 'winter wheat', Latv. *pūŗi* id., OPruss. *pure* 'bromegrass' (a weed that grows in

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(*Drevnetjurkskij slovar'* 1969:53); cf. Vasmer 1921:16ff.

74. The great number of terms for 'barley' in ancient Egyptian is notable; they evidently denoted different varieties: *it*, *ᶜnḫ.t*, *šmᶜj*, *šr.t*, *k3m.wt.t* (Erman and Grapow 1955:VI.64). A word for 'barley' is also reconstructed for Proto-Semitic: **śuᶜār-(at-)*, Fronzaroli 1969:VI.296-97.

75. In Homer, *puroí* 'wheat' is enumerated together with *zeiaí* 'spelt' and *krĩ leukón* 'white barley' as 'grains of the open fields' (*pedíoio euréos*, sg.), Odyssey 4.603-4. In another passage in the Odyssey (9.110), wheat (*puroí*) appears together with *krithaí* 'barley' and *ámpeloi* 'grapevine'.

76. In Sanskrit the word is preserved only in the figurative sense 'baked from wheat flour'; cf. Gk. *púrnon* 'bread', with the original meaning 'wheat' lost.

grain fields); RChSl. *pyro* 'spelt; millet', Serbo-Cr. *pïr* 'spelt', Slovene *pîr* 'spelt', Russ. *pyrej*; OE *fyrs* 'couch grass'.

In Germanic and Old Prussian, and partially in Slavic, there is a semantic shift whereby the word comes to denote weeds that grow together with wheat, and the meaning 'wheat' is conveyed by neologisms. In Germanic a new word connected with the white color of wheat appears: Goth. *hvaiteis*, OE *hwǣte* (Engl. *wheat*), OHG *weizzi* (Ger. *Weizen*), OIcel. *hveiti*. In Slavic and Old Prussian the new term is a derivative of a verb meaning 'pound', 'grind': OCS *pšenica*, Russ. *pšenica* beside OPruss. *sompisinis* 'bread made of coarse-ground flour', Skt. *piṣṭám* 'flour', *piṣṭá-* 'pounded'; cf. also Lat. *trīticum* 'wheat' beside *terō* 'pound; mill, grind'.

4.2.3.2. The original range of wheat. The Proto-Indo-European and Eurasian terms for wheat

The Near East, where wild species of wheat are found, is usually recognized as the earliest center of wheat cultivation. The Transcaucasus is distinguished by its great variety of wheat species, the result of coexistence of numerous Mediterranean and western Asiatic species and strains since ancient times (Vavilov 1959-1965:III.371-72, V.20-32). This early Near Eastern area was the center from which wheat spread and penetrated into Europe (specifically, into the Balkans from Asia Minor: Timov 1966:26, 27, 36, Renfrew 1969:152, Zohary 1969:59), where traces of several species are found as early as the Neolithic (Clark 1952:108 [1953:115]). The terms for the cultivated plant spread together with the plant itself. This explains the appearance of terms for wheat phonetically similar to PIE *pʰūr- in a number of non-Indo-European languages of Central Asia, particularly Turkic and Mongolian: OTurk. *buydaj* 'wheat', Uzb. *bugdoj*, Chuv. *pări* 'spelt', Class. Mong. *buydaj*, Mong. *buudai* 'wheat'. The word can therefore be regarded as a migratory term which spread to a wide range of languages of the Near East and Central Asia.

4.2.4. Millet, rye, and oats

4.2.4.1. Dialect terms for millet, rye, and oats

The terms for millet, rye, and oats are dialect words restricted to a narrow dialect area. They must be seen as innovations which arose relatively late after the dialect break-up.

Despite its restricted dialect range, the word for 'millet' is archaic in form and related to the original Indo-European root *mel- 'grind; grate': Gk. *melínē*