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# Electron: Greek Etymology and Baltic Mythology

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## Electron: Greek Etymology and Baltic Mythology

One of the several problems associated with the ancient Greek word *electron* is: to which of the following does it originally refer? The fossilized mineral amber or the alloy of gold and silver? Both uses of the word are found in our earliest Greek texts. Because the so-called Mycenaean Greeks, the first Greek-speaking inhabitants of the Greek mainland, were a metal producing culture and since amber was not indigenous to this area, one might assume that the Greek word *electron* first referred to the metal alloy, but this is by no means certain. How, for example, did this same word then come to be used for the substance amber? A second problem is the precise etymology of the word. The difficulty of the problem is reflected in the fact that in several of our earliest instances of its use in the Greek writers, Hesiod and Homer, either meaning could apply (Homer, Book 15.460, Book 18.206; Hesiod, 150.24, *Shield of Heracles* 142); further, that the eminent linguists/etymologists Pierre Chantraine and Julius Pokorny (Chantraine 323, 331) hesitate to make any definitive statements as to its origins. More recently, Messrs, DeRoy and Halleux (DeRoy & Halleux, 36-52) have offered a novel derivation from the Greek verb “ $\square$ λέγω,” which means literally “to heed or respect.” They conclude that the noun “*ηλεκτρον*” derived from this verb referred to a form of currency, “*moyen de compte*”, or a medium of exchange (DeRoy & Halleux 47). Indeed, the archaeologist, J. Briard, independently has suggested that the medium of exchange in Bronze Age trade may very well have been amber (Briard 121).

Despite the difficulty of the etymological evidence which receives a rather comprehensive treatment in J. M. Riddle's article, “Amber, An Historical-Etymological Problem” (Riddle 110-120), it is worth reconsidering the older view Liddell and Scott presented in their *Greek- English Lexicon* (Liddell & Scott), that the word is related to an epithet

“ἠλεκτρον” of Hyperion, a son of the Greek solar deity, Helios, in Hesiod's "Hymn to Apollo" I. 368. And that a clue to its meaning may be found in its intimate association with sky divinities both Greek and Indo-European.

Thus a close examination shall be made of the Greek material in association with those contexts in the Baltic Dainas, which appear to preserve vestiges of pre-Christian solar mythology (particularly myths concerning the sun goddess), and certain Vedic texts relating to the Sanskrit word “arka.” The culture and archeology of the Balts interests us particularly because it is their reputed homeland which supplies much of the amber found at Greek Mycenaean archeological sites. (Gimbutas *Bronze Age Cultures* 47)

Although the antiquity of the Dainas is fairly widely accepted (Gimbutas *The Balts* 180), a precise or even approximate dating of specific elements or themes in the Dainas has been advanced only in two recent studies. The first, S.K. Chatterji's work "Balts and Aryans," relates elements common to the Dainas and to the Indian Vedas. The latter texts, first written down circa the 10th century B.C.E., have behind them a much older oral tradition (Chatterji 68). A similar hypothesis underlies Donald Ward's book, "The Divine Twins: Indo-European Myth in the Germanic Tradition"(Ward 10). This latter work seeks parallels between the myths concerning the Greek "Dioskouroi" (lit. "Sons of Zeus"), the Latvian "Dieva Deli", "Sons of Dievs", and the Vedic "Asvins", "Sons of Dyaus."(Ward 10) The parallels, which Ward offers are both striking and convincing. Thus, the path which Ward and Chatterji have initiated in comparing pagan strata in the Dainas with other Indo-European mythologies is one which this paper also explores. I will attempt to resolve semantic and etymological problems which surround the Greek noun “ἠλεκτρον” by comparing occurrences of that word and related words in our earliest Greek

literature with selected Dainas and with Vedic texts where the Vedic word, "arka" (skt. light-ray; divine fire) may provide an important clue.

Hesiod, according to Greek tradition, lived in the 8th century B.C.E. (Herodotus 2.53) and like Homer preserves a much older oral poetic tradition, which has its probable genesis in the late Bronze Age culture of the Mycenaean Greeks (Webster 1). The noted authority on Greek religion, Martin Nilsson, among others, demonstrated that we can find in Mycenaean civilization the origins of the Greek religion of the historical period (Nilsson 38). According to the archaeological record this very period of the Mycenaean Greeks, beginning certainly by the mid-second millennium B.C.E., coincides with an extensive importation into Greece of Baltic amber (Gimbutas *Bronze Age Cultures* 47). Amber beads and pendants occur frequently in Mycenaean burials (Hughes-Brock 257-266). Furthermore, there appears to have been a second period of trade in Baltic amber in the 8th century B.C.E. (Wells 268). Significantly, the latter date coincides with the legendary date of Hesiod. To conclude, at two very important moments in the formation of Greek mythology, mainland Greece was engaged in an extensive trade in Baltic amber.

But, this is not the only reason why the Greek poet Hesiod is an appropriate focus for the present study. Much of the Hesiodic corpus takes the form of songs of praise or hymns which contain a wealth of religious material as do the ancient Vedas. Chatterji suggests that the Vedic word "dhena," meaning "hymn of praise," is cognate with Latvian "daina" (Chatterji 70). Furthermore, Hesiod's poem "The Theogony", and certainly the Homeric Hymns present many features in common with the Vedic text with which the paper concerns itself, the Brhanayankara Upanishad. Like the Greek poem the Vedic text is also a cosmogonical poem and treats first the divine origins of the universe and then the source of the "arka fire," which this paper maintains is

the Sanskrit cognate related to the Greek “ἤλεκτρον.” We might even conclude that these similarities are all indications of a related, if not common, origin.

In addition to etymological problems connected with our focal word we find in early Greek literature that we are not always sure whether our text refers to the metal alloy or the mineral substance.

The first occurrence of the word “electron,” which I would like to discuss clearly refers to the substance amber. This text, a rather mutilated piece of papyrus known as fragment 150 (Oxyrhynchus 1358) of Hesiod, has been extensively restored by the editors but still contains several lacunae which make it impossible to reconstruct a connected passage. However, several elements occur which suggest a Baltic association. In line 21 of the fragment, the sons of the North Wind, Boreas, are said to have pursued the Harpies into the lands of the “well-horsed Hyperboreans.” Modern scholarship in archaeology has suggested that south-western Russia (Rowling, et al. 2009.) offers some very early (6000 B.C.E.) examples of the domestication of the horse. The Hyperboreans, according to Herodotus, the Greek historian of the 5th century B.C.E. (Histories 4.33), were a far northern people living beyond the Scythians who, even in his day, still sent offerings by way of intermediaries or relays to the shrine of the Greek solar god, Apollo, at Delos. What precisely these offerings were Herodotus does not reveal (Herodotus 3.115), only that they arrived wrapped in wheat-straw. Some scholars would like to see amber as the offerings; some have even suggested that the offerings were similar to the so-called “Tiryns wheel”(21). The Harpies, on the other hand, according to Theogony 265 are the daughters of the sea deities, Thaumas and Electra, and, as such, are siblings of Iris, the rainbow, clearly a sky divinity.

A second possibly Baltic element in fragment 150 is the reference to the Hyperboreans as located by the tumbling streams of the river Eridanus. Although some ancient sources locate the Eridanus at the mouth of the river Po in northeastern Italy, the weight of evidence suggests a more northerly origin. A short gap of a few letters in our text is followed by the phrase "of amber". Thus we find in Greek tradition the association of amber, the river Eridanus, by some located in the far north, with Hyperboreans, a far northern people who worship a solar deity as Herodotus tells us. (Hesiod 199)

But this is not the end of the possible Baltic connections. On the narrative level, these sons of the North Wind who pursue the Harpies from Africa to the land of the Hyperboreans are remarkably similar to the sons of Dievs who in the Dainas act hostilely to the Latvian sun-goddess, Saule.

Michel Jonval in his collection of the mythological Dainas based on K. Barons' first and second editions of the Latvian Dainas, provides several instructive examples. In Jonval's numbers 372 and 373 = Barons' 34020 and 34017 Saule disputes with Dievs because the sons of Dievs have stolen her daughter's rings, and in another, they have overturned her daughter's sleigh. Although this comparison with Hesiod may seem far-fetched, let us be aware that according to Hesiod's Theogony 266 the Harpies are the daughters of the sea divinity Electra, whose name also occurs in Hesiod frag. 169 as one of the Pleiades and there she is clearly a sky divinity (see below). Furthermore, her name has an obvious connection both with the substance "electron" and with the epithet of Hyperion, ἠλέκτωρ, who also is a solar divinity as his parentage suggests.

In the following example the parallels with the Dainas are even more striking. Fragment 311 (West & Merkelbach 311) of Hesiod, preserved in the 2nd century C.E. Latin writer

Hyginus, tells us that Hesiod, in a work now lost to us, told the story of Phaethon, son of the Greek solar divinity, Helios and the nymph Clymene who is described elsewhere as being the sister of the aforementioned Electra (Hesiod, *Thegony* 350 ff.); for the purposes of this paper, an interesting family tree.

For those of us who are unfamiliar with the myth of Phaethon, I offer a brief synopsis of this story, for the most part based on Ovid's *Metamorphoses* books I and II and the *Fabulae* based on Hesiod by the 1<sup>st</sup> century C.E. Latin mythographer, Hyginus.

*Phaethon exacted a promise from the sun god, Helios, whom he supposed to be his father to let him drive the latter's chariot for one day. While riding the chariot through the sky, he lost control of the horses, who, now uncontrolled, threatened to scorch the earth. Zeus, according to a commentator on Hesiod, struck Phaethon down with a thunder bolt. His sisters, the Heliades (lit. daughters of Helios) in sorrow were turned into trees; their tears, hardened by the sun into amber, fell into the river Eridanus.*

With this brief synopsis of the myth of Phaethon in mind let us examine in greater detail Hyginus' *fabulae* based on a lost work of Hesiod in which the myth of Phaethon is discussed. Hyginus says (*fabula* 152 b, frag. 199 Rzach), "Phaethon fell into the river Eridanus...him, Jupiter (the Roman equivalent of the Greek sky-god-Zeus) had struck with a lightning bolt...but the sisters of Phaethon, because they had yoked the horses to the chariot without their father's permission, were turned into poplar trees (*Hyginus fabula* 154). Their tears as Hesiod indicates were hardened into amber. They are called the Heliades (lit., *the daughters of Helios*). Their names are Merope, Helie, Aegle, Lampetie, Phoebe, Aetherie (and) Dioxippe."

Of special importance for this paper is the fact that Phaethon falls into the Eridanus, a river as we have seen already associated with amber, and in some traditions with the far North. In this fragment the connections with the Baltic Dainas become more apparent. We note that one of the sisters of Phaethon is called Helie, a feminine form of Helios, the sun god, her father and

three of the other sisters' names contain the ideas of "shining". (Phoebe, Lampetie and Aegle, cf. Phoibos,"bright"; Lampros, "shining" and Aegle, "gleaming.")

The famed tragic poet Euripides seems to be familiar with the same tradition we find preserved in Hyginus, for he refers in a lyric section of the *Hippolytus* to the amber gleaming eyes of the Phaethonides: τῶν λειτροφαεῶν ἀγᾶς (E. Hipp. 741).

When we turn our attention to Baltic mythology several of the Dainas in Jonval's collection speak of the tears of Saule and of other sky gods in a way, which seems to evoke the Phaethon myth.

In Barons collection #33967 = Jonval # 399 we find "Saules Meita was crossing the sea with her shoes of gold. The son of Dievs cries bitterly as he stands on the bank. He was shaking his cross of gold so that she may not sink to the bottom (of the sea)."

In another song, Barons #33847 = Jonval #336, Menesis, the moon god, "cries because Saule's daughter has been drowned while washing her golden pitcher. In another, Saule herself cries because her daughter has left to be married."

Barons #33782 = Jonval #368: "Because she has sent her daughter beyond the water to Germany, Saule cries bitterly on the shore of the Daugava."

Is this perhaps a transformed reference to the transmittal of amber by relays from the far North through intermediaries to the Greeks as is suggested by the tradition quoted by Herodotus above? At this point an objection might be raised that none of the Dainas cited mention amber, an apparently inexplicable omission since amber was, and still is, so plentiful in the Baltic regions. However, as has been pointed out by V. Vikis-Freibergs in an article in the *Journal of Baltic studies* concerning the great preponderance of songs about gold and silver over those about amber "the effects of the conquest of Latvian tribes by the knights of the Teutonic order

cannot be overestimated” (Vikis-Freibergs 334). The amber law of 1260, according to Vikis-Freibergs, required the peasants “to turn over all amber to the order on pain of death” (Vikis-Freibergs 332). Such a harsh code and other later restrictions could have had the effect of replacing amber with gold and silver in many folksong variants.

In Barons #33870 = Jonval #247, Saule's tears stream over the forest trees; in another, Barons #33871 = Jonval #248 a herder finds two tears of Saule. But perhaps one of the most interesting examples is Barons #33738 = Jonval #249 where it is said, “behind the Daugava there are dark forests with red berries. These are not the berries of the earth they are the tears of Saule.”

We should perhaps see here a resemblance to the myth of Phaethon mentioned earlier and imagine that an earlier version might have had amber in place of berries. The connection becomes more obvious when we remember that in Ovid's version of the myth and in traditions associated by later writers with Hesiod the amber, which drips from the branches of the poplars are the tears of the now transformed sisters.

In the next series of correspondences between the Dainas and Greco-Roman myth, we must turn to the Roman poet Ovid who in his work, the *Metamorphoses*, also treats the myth of Phaethon. Although Ovid is much later than the Greek poet Hesiod (by about 800 years) several ancient commentators on the *Metamorphoses*, among them, Hyginus, have made allusions to Hesiod's lost work in which the myth of Phaethon was also treated (cf. Hesiod fragment 199, ed. Rzach). Perhaps Ovid's own work may have had a Hesiodic source since Roman authors frequently made direct allusions to their Greek predecessors. But whatever his sources, Ovid offers some striking parallels to the Dainas. Like Hesiod, he too has Phaethon's sisters transformed into trees and their tears turned to amber. (Ovid *Meta.* II 332 L.C.) But Ovid

presents another element which we can only suppose was a feature of the now lost Hesiodic poem: that of Phaethon's mother, the grieving Clymene, who wanders the world searching for her son's body which has been struck by lightning. Finally Clymene, weeping, finds the body, which had fallen burning into the river Eridanus on whose shores the Hesperiae, nymphs of the West, have buried him. There over his tomb, for four days and nights, his mother and sisters weep for him, and there on the shores of the Eridanus his sisters are turned into trees and their tears, which drop continuously from their branches and hardened by the sun and fall into the Eridanus.

The Baltic parallels with this Ovidian version of the myth are striking. In Barons #34047 = Jonval #128, the son of Dievs saddles up his black horse and goes forth to find a bride. As he goes out he shatters the golden oak. For three years Saule wanders, crying as she gathers up the broken branches, in much the same way that Phaethon's mother searches for his lightning-struck body.

In another song, Barons #33802 = Jonval #359, Perkons, the Baltic thunder god, as he leaves the wedding procession of Saule's daughter, shatters the golden oak. "For five years Saule (variant 1) wandered as she wept gathering the golden branches. She plants them. She waters them. They did not grow. They did not blossom. (lit. *turn green*)."

In these two songs the parallels with Greco-Roman myth are apparent. In both, a sky god, in one case, the son of Dievs, in the other, the thunder god, Perkons, one of whose attributes is lightning, shatters the golden oak whose destruction sends Saule weeping to search for the branches in much the same way that Clymene searched for her dead son's body.

From even this brief survey it seems evident that Greek mythology has much in common with the pre-Christian mythology of the ancient Balts as preserved in the Dainas. Furthermore,

Greek myth of the historical period, as represented in Hesiod, has its origins in the Mycenaean period when trade with the Baltic flourished as grave finds suggest and reveals further confirmation of a relationship between the two mythologies. A second period of commercial contact with the Balts occurs in the 8th century B.C.E., a period directly contemporary with Hesiod. It seems reasonable to suppose that, since amber is not indigenous to Greece, myths relating to its origins might have been transmitted to the Greeks along with the material itself. In addition, the absence of amber as a thematic element in those Dainas which show other correspondences with Greek amber myths may be accounted for by the oppressiveness of the 13th century amber laws when the pagan culture of the Balts as preserved in the Dainas first came in contact with the very alien culture of the Christian Teutonic knights. Their ruthless monopoly of the amber trade may have induced the Balts to censor mentions of amber from the Dainas. Thus as Vikis-Freibergs suggests amber was replaced in the Dainas by gold and silver. Further, Greek myths concerning amber, a substance not found in Greece except as an item of trade from the Baltic area, may have their source, like the substance itself, in “the land of amber.”

But we have not yet resolved the question of the etymology of the Greek word for amber. The neuter noun factitive “τρον” is found already in Mycenaean Greek (Lejeune 202). Lejeune with reservations notes that the factitive suffix- (myc. toro) is related to noun suffixes such as the “anthroponyme”-τωρ or τηρ “noms de métiers” (craft names). Interestingly enough Vedic provides a cognate for Greek- τρον. According to Emile Benveniste, Mitra - has two genders, masculine as the name of the god and neuter in the sense of ‘friendship, contract,’ (Benveniste 80). In addition, with reference to Mycenaean Greek indicates that there are clear indications in a few instances of –τρον as a factitive (Lejeune 204-205) in addition, its presence in toponyms

such as λευτρον (Lejeune 204). Examples from later Greek include πληκτρον, from πλησσω, *to strike*; κεντρον, from κεντεω, *to goad*; and σκηπτρον, from σκηπτω, *to prop up, as a staff does*.

The related agent feminine forms mentioned by Lejeune (Lejeune 204)- τειρα, τρα and –τρις are suggestive in that they provide the noun suffix for various feminine divinities whose names are based on the “elek” root. For example ἠλεκτρις, epithet of the Moon, Orphic Hymn 9.6. We also note various feminine divinities mentioned by Hesiod are at times each a sky goddess, ἠλεκτρα, one of the Pleiades and daughter of Atlas (Frag. 275 ed. Rzach) and at other times she is a sea divinity, daughter of Ocean and Tethys (Theog. 266, 349; hymn to Demeter, 418) and bride to Thaumias, another sea divinity (Theog. 237). From this union of two sea divinities, one offspring, Iris, (Theog. 266) is certainly a sky divinity, and the Harpies (other offspring of Electra) we have already found to be associated with a possible amber region (see above pp. 4-5, discussion of Oxy. Pap. 1358 Fr. 2, Col. 1).

No Mycenaean root for “elek” has yet been found. Pokorny postulated, however as “unwahrscheinlich,” the Indo-European root “ulek,” “ulk,” meaning “to shine”; cf. old Sanskrit, “ulka,” “meteor”; Tocharian “lek,” “appearance” (Pokorny 1178). More recent scholarship rejects this etymology thus confirming Pokorny’s tentative “unwahrscheinlich.”

Martin Huld in an as yet unpublished paper has suggested a possible PIE root in the reconstructed form: Ale’gh where the Greek ἠλεκτρον is represented in Proto-Greek as a reduplicated form \* Ae-Al’K-ter-.

From this etymology the root meaning of “elektron” should be “that which shines and keeps shining.” Further, the use of the root in the form of “elektor” both as an epithet of a solar deity, Hyperion, and as a name for female sky and sea divinities are associated with the neuter noun “elektron” to describe a shiny alloy of gold and silver and a shiny substance amber. This

association may seem perfectly obvious and natural since the metal alloy, which preserves the same appearance as silver does not tarnish as that latter metal does. But the evidence presented thus far of the presence of amber in both Greek and Baltic solar myths suggests a more complex explanation and one that has to do with the history of contacts between the Mycenaean Greeks and the amber-gatherers of the north. It is possible to conjecture that the association of amber and solar deities had cultic significance among the Balts, who were not originally a metal-producing culture. The Greeks may already have associated the metal alloy with solar deities, as the epithet "elektor" and the noun "elektron" suggests (Hesiod 368). As a result, however, of contact with the Balts the Greeks even before their entrance into the Balkans may have extended the use of their word "electron" to amber a new substance for them, seeing the association it already had for the indigenous Balts with solar deities and water.

Thus the use of root elektr- for both sky and sea divinities suggests that the word may have an essentially qualitative meaning by which it can refer both to light gleaming in the sky and to light glancing off water. (32) Similarly, since the substance amber shines just as the metal alloy and thus receives the same name, elektron and vice versa. (Cf. E. Irwin, *Color Terms In Greek Poetry*; Toronto: 1974. p. 201.)

Or, on the other hand, its use for both sea and sky divinities may represent a division into two separate divinities what was earlier once subsumed under a single divine personage, namely a solar god or more probably goddess. But, since amber was also found on beach and stream shores the amber name, Elektra, became confused with a water goddess in addition to its attachment to a sky god or goddess. There is some confirmation for this conclusion to be found in Vedic texts. In the opening portion of the Brhadaranyaka Upanishad (1.1.1; 1.2.3 and 1.2.7) Arka fire has its origins at the very inception of the universe in the water, which was produced as

Prajapati meditated on himself and so began to create the world. “He moved about worshipping. As he was worshipping, water was produced, therefore Arka is so called.” (1.1.1) A later section (1.2.3) states “Water is Arka...When that (the earth) was produced (from the froth on water) he was tired. While he was tired...his essence or lustre came forth. This was fire.” The appended commentary by Sankara on this section offers the following interpretation: “Water, that accessory of worship is Arka being the cause of fire. For, it is said, fire rests on water.” The closing portion (1.2.7) of this section firmly associates the Arka fire with the horse sacrifice whose practice is sanctified by Prajapati himself as the supreme sacrifice: “He who shines yonder is the horse sacrifice; his body is the year. This fire is Arka; its limbs are these worlds. So these two (fire and sun) are Arka and the horse sacrifice.”

In fact, the very opening of the Brhadaranyaka Upanishad expresses the complete centrality of the horse to Indic religion. For, in this section (1.1.1) we find: “The head of the sacrificial horse is the dawn, its eye the sun, its vital force the air. Its back is heaven, its belly the sky, its hoof the earth, etc.” Sankara's commentary further associates the horse with Prajapati himself: “In other words it will be deified into Prajapati if the ideas of time, worlds and deities be superimposed on it, for Prajapati comprises these.” (page 9 of commentary to 1.1.1). Thus the later association of Arka fire with the horse sacrifice, the Asvamedha, (1.2.7) confirms its primal importance to Indic theology.

Whatever the precise interpretation of all these sections from the opening portions of the Brhadaranyaka Upanishad may be, the association of Arka fire with the sacrifice of the world – Horse who is also Prajapati according to Sankara’s comment, must represent a very old stratum of Indic religion. We note from these texts the bivalent aspect of ‘arka’ fire as both a sky and water phenomenon. This duality parallels the use of the elektr- root in Greek divine names and

epithets which refer to divinities who have in varying degrees associations with the sky, the sun and the seas , and in the case of Hyperion, the sun god's offspring, with all of these and horses.

Furthermore, the albeit, faint and transformed reminiscences of these elements in Greek and Baltic mythology in my opinion points to an I.E. source.

One can easily imagine IE invaders coming upon amber in the Baltic regions and locating this phenomenon within the theology of the Indic horse sacrifice because of the fact that similar to Arka fire, amber is found throughout the shores of the Baltic sea. It is also to be mentioned that amber is a fossilized resin which gives off a pleasant smell when burned. According to Pliny (The Natural History 37.11 passim) aside from its uses in jewelry, amber amulets were thought to prevent disease and in other circumstances it was sometimes burned as incense of rare luxury. Thus, the Greeks and the Balts, two western branches of IE peoples, evolved a more complex theology which wove together horses, sun, sky and water divinities, both male and female with amber and in Greek reserved for amber a name, *electron*, whose etymology, if related to Arka preserved all these multiple relations.

## FOOTNOTES· ELECTRON·GREEK ETYMOLOGY &amp; BALTIC MYTHOLOGY

1) All instances of elektron: in Homer and Hesiod:

Homer: Odyssey 15.460; 18.296; (cf. hymn to Apollo 104.) 4.73

Hesiod: Frag. 150.24; Shield of Heracles 142.

2) P. Chantraine, La Formation Des Noms En Grec Ancien : (Klincksieck, Paris: 1932)

Hlektron "Alliage D'or et Argent et Surtout Ambre se Rattache 'A

Hlektwr Quelle que Soit L'etymologie de ce mot. "P. 331.Elsewhere....

Hlektr "Qui.. Ne se Rattache "A Auccune Racine Verbale." p.323.

J. Pokorny, Indogermanisches Etmologisches Worterbuch ; Band I.(Francke Verlag, Bern:

1924) "...Unwarscheinllch Hlektwr," 1178.

3) L. Deroix and R. Haleux, "A Propos du Grec hlektron "Ambre" et "Or Blanc"; in Glotta 52.

1974, pp. 36-52.

4) DeRoy & Haleux, Op. Cit ; p.47.

5) J. Briard, The Bronze Age In Barbarian Europe: (Routledge, Kegan Paul: London 1979),

p.121.

6) J. M. Riddle, "Amber, An Historical Etymological Problem"; in Laudatores Temporis Acti;

Univ. of North Carolina, Chapel Hill; 1965) pp 110-120.

7) Liddell and Scott, Greek-English Lexicon Sub: hlektron

8) M. Gimbutas, The Balts: (Praeger, NewYork: 1963) p.180

9) S.K. Chatterji, Balts and Aryans: (Simla: 1968) p.68

10) D. Ward, The Divine Twins: Indo-European Myth and Germanic Tradition: (Univ. of

California Press, Los Angeles.1968).

11) Ward, Op. Cit. p.10.

- 12) Herodotus. Histories 2.53
- 13) T. B.L. Webster, From Mycenae to Homer; (Methuen, London: 1978) p. 1.
- 14) M. Nilsson. A History of Greets Religion : 2nd Ed. (Norton, New York: 1964) p. 38.
- 15) M. Gimbutas, Bronze Age Cultures In Central and Eastern Europe: (Mouton the Hage: 1965) p. 47 "Amber Beads Occurred In Greece Throughout the Whole Mycenaean Period Late Helladic, I - III."
- 16) H. Hughes-Brock in "Amber and the Mycenaean," Journal of Baltic Studies. XVI, No. 3 pp. 257-266, Presents a Brief But Comprehensive Discussion of Mycenaean Amber Finds.
- 17) On The Revival of Trade, See P. Wells, Journal of Baltic Studies, XVI No. 3, 1985, p. 268.
- 18) Chatterji. Op. Cit. p. 70.
- 19) Papyrus Oxyrhyncus 1358. Fr. 2 Col; I Ed. Grenfell - Hunt.
- 19.1) *Genetics of the Horse* A.T. Rowling et al. 2000
- 20) Herodotus, Histories 3. 115.
- 21) Cited in H. Hughes-Brock, Op. Cit. p. 260 and Note 36
- National Archaeological Museum Greece & Joseph Maran , p. 159-160; Bright as the : Sun: "Appropriation of Amber Objects in Mycenaean Greece" in "Mobility , Meaning and the Transformations of Things." Oxbow Books, [www.oxbowbooks.com](http://www.oxbowbooks.com).*
- 22) According to Hesiod Frag. 199 in A. Rzach, Ed. Hesiodi Carmina (Stuttgart, Teubner: 1965) the Eridanus is the river Po; A river which is frequently mentioned as the southern terminus of the amber trade with the north. Thus, wherever we locate the Eridanus the association of this river amber is still secure. (cf. Pokorny. Op. Cit. p.334, Ered –‘Dampness, Flow’).
- 23) M Jonval Les Chansons Mythologiques Lettones : (Librarie Picart, Paris: 1929)

- 24) M. L. West and R. Merkelbach Edd. *Fragments Hesiodica*, (Clarendon Press, Oxford: 1967)  
Frag. 311.
- 25) V. Vikis-Freibergs, *Journal of Baltic Studies* XVI No. 3, p.334.
- 26) *Ibid.* p. 332.
- 27) M. Lejeune, *Memoires de Philologie Myceniennne*; Deuxieme Serie, Vol. 42. p. 202, Ff. Cf.  
E. Benveniste, *Indo-European Language and Society*: (Univ. of Miami: 1973) p. 80
- 28) Lejeune, *Op. Cit.* pp. 204-205.
- 29) *Ibid.* p. 204, Esp. Note 22.
- 30) Pokorny, *Op. Cit.* 1178
- 31) Hesiod, *Hymn to Apollo*, V. 368.
- 32) E. Irwin, *Color Terms In Greek Poetry*; Toronto: 1974. p. 201.