

Towards a Chronological Framework for Significant Dialectal Tendencies in Indo-European¹

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This study aims to address two main questions: (1) can there be distinguished significant dialectal tendencies in Indo-European, which allow for its division into sub-groupings?, and, if so, (2) can these linguistic developments be dated in terms of absolute chronology? In answering these questions, our focus will be on the north-Mediterranean peninsulas, from east to west: Anatolia, Greece, Italy, and Iberia, where the different layers are most easily distinguishable. Moreover, tackling the second question in effect boils down to an interdisciplinary undertaking, as it forces us to survey the relevant historical, epigraphical, and archaeological data. Therefore, in order to keep the margin of error to a minimum, we work our way back into time, from the most prolifically recorded historical period into the progressively more lacunary proto- and prehistoric ones. Much to my astonishment, in doing so we will stumble upon an Indo-European substrate in Anatolia of “Old European” type which, unlike IE Anatolian, does not render the PIE laryngeal $*h_2$ by h : very detrimental to the theory of those who see IE Anatolian as the oldest member of the Indo-European language family and for this reason propose Asia Minor as an alternative to the North Pontic and/or North Caspian steppes for the Indo-European homeland.

1. Introduction

The question to be answered in this study is whether dialectal tendencies can be observed among the various members of the Indo-European language family, which would enable us to distinguish developmental phases and, accordingly, subgroupings representative of such phases. If so, the next question to be addressed is whether these phases can

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be approximately arranged into a chronological order.

In the past, efforts to distinguish subgroupings among the Indo-European languages focussed on the *centum-satem* division, based on the different reflexes of the palatovelars as velars on the one hand and affricates or spirants on the other, which seemed to allow for the distinction of a western branch from an eastern one as primarily represented by Indo-Iranian. After the discovery of Tocharian in the Tarim basin, however, which constitutes the most eastern representative of the Indo-European language family and yet bears testimony of a treatment of palatovelars typical of the westerly *centum* branch, doubts have been raised about the validity of the *centum-satem* division as a criterium for dialectal subgrouping. Another feature which played a role in earlier attempts at dialectal subgrouping, with the noted restriction that it is confined to the presumed western *centum*-branch, entails the different reflexes of the labiovelars as velars on the one hand and labials or dentals on the other, sometimes called the “Cymric division” in Celtic, distinguishing, for example, Goidelic (= *q*-Celtic) from Brittonic (= *p*-Celtic) in the British Isles. In the wake of the discovery of the Indo-European languages of Anatolia (= IE Anatolian), Hittite, Luwian, and Palaic, which, amongst others, are characterized by the preservation of laryngeal $*h_2$ — a sound reconstructed only for all the other Indo-European languages on the basis of vowel-coloring — in its original consonantal form as *h*, it furthermore has been suggested that this particular group represents an earlier stage in the development of Indo-European, only distantly related to the rest of the family so that it allows for the overarching designation Indo-Hittite. This latter point of view has come into fashion, again, by the adherents of the theory according to which Anatolia constitutes the ultimate homeland from which speakers of an Indo-European tongue disseminated towards the various locations where they become discernable only at a later time — a process projected back in time by some as far as the 7th or 6th millennium BC in order to connect it with the gradual diffusion of the Neolithic farming culture.

Now, it certainly has to be admitted that the earliest documentary evidence for an Indo-European language or languages has a bearing on IE Anatolian, more specifically Hittite and Luwian, which in the form of names of deities and

persons turn up already as distinct linguistic entities during the Middle Bronze Age (*c.* 2000-1650 BC) in the Old Assyrian cuneiform records from the trading colonies at Kültepe-Kanesh and Acem Höyük (*c.* 1910-1780 BC) and in Luwian hieroglyphic legends on seals and sealings attested for this early period (Gamkrelidze and Ivanov 1995: 757-759; Woudhuizen 2004a: 112-120). As such it predates Indo-Aryan and Mycenaean Greek by as much as about a half of a millennium. With respect to Indo-Aryan, the earliest documentary evidence consists of technical terms in a treatise on horse training by the Mittannian expert Kikkuli as preserved in Hittite in texts dating from the late 15th or early 14th century BC onwards (Starke 1995) as well as, apart from Mittannian royal names as attested from the late 16th century BC onwards, the names of deities invoked as witnesses on the Mittannian side in the treaty between Suppiluliumas I (1344-1322 BC) and Sattiwaza from the late 14th century BC (Beckman 1996: 38-50; esp. 43; 49). Regarding Greek, the earliest documentary evidence comprises Linear B tablets from the palace of Knossos in Crete as preserved owing to the destruction by fire of the site at the transition from Late Minoan IIIA1 to IIIA2 *c.* 1350 BC (Olivier 1994: 166; Woudhuizen 2009: 169-184)² and inscribed stirrup jars pertaining to the same class of writing from the “House of Kadmos” at Thebes destroyed at about the same time (Symeonoglou 1973: 73-74; Woudhuizen 1989: 199-201).

Nevertheless, continuing work on primarily Hittite and Luwian has shown that IE Anatolian, with the proviso of substrate and adstrate influences from indigenous Anatolian Hattic and Near Eastern Hurrian and Semitic, is not more remotely related to Indo-European in general, as the Indo-Hittite theory maintains, but straightforwardly comparable to the other members of this family, and in particular to the group among them typified by what might reasonably be suggested to be archaic features (see further below) like the *centum* reflex of palatovelar **k̑*, and the use of reflexes of the morpheme *-*r*- as a marker of the middle-passive and the pronominal root **k^we-*, **k^wi-* for the relative, which it shares

²Note that the deposit from the Room of the Chariot tablets is generally assigned to an earlier destruction level either at the end of Late Minoan II or sometime during Late Minoan IIIA1, but this is not certain and in the present context of little consequence.

notably with Tocharian, Italic, and, apart from the relative, Celtic (Crossland 1971: 857; Woudhuizen 2004a: 97-103). Note especially that the recently fashionable analysis of Luwian as a *satem*-language disregards the following evidence for a *centum* reflex of palatovelar **k̑*:

- (1) in the form of the onomastic element *Kurunt-* (= stag-god) < Proto-Indo-European (= PIE) **kerh₁-* “horn”, which is rendered in Luwian hieroglyphic by the deer sign, or, as a *pars pro toto*, the deer-head or deer-antler sign, L 102-3,³ and as such already recorded for the name of the original owner of stamp-cylinder seal OA 20.138, *Tarku(ku)runtas*, an 18th or 17th century BC predecessor of the later Arzawan royal house in western Anatolia (Woudhuizen 2006-7);⁴
- (2) in form of the vocabulary word *kutupili-* “fire-offering” as attested for a late 10th or early 9th century BC Luwian hieroglyphic inscription from Karkamis (A11b-c, § 18), the first element of which originates from PIE **keu-* “to burn, set to fire”; and,
- (3) if we add to these Luwian hieroglyphic examples evidence from cuneiform Luwian, a case in point is formed by the vocabulary word *kattawatnalli-* “vindictive, revengeful” < PIE **kat-* “strife, fight”.⁵

Taking this evidence at face value, the uncontested instances of a *satem* reflex of the very same palatovelar sound, namely *aśu(wa)-* “horse” < PIE **ekwo-* and *surna-* “horn” < PIE **kerh₁-*, both already recorded in derivations for Late Bronze Age texts from the reign of Tudḫaliyas IV (1239-1209 BC), and *śuwana-* “dog” < PIE **k̑(u)won-*, the latter only traceable in texts of an Early Iron Age date (Woudhuizen 2004b, indexes,

³Numbering according to Laroche 1960.

⁴The validity of this *centum* analysis of *Kurunt-* is unaffected by the fact that the phonetic development *kuru-* > *kru-* > *ru* in view of the MNs (= man’s names) *Ru-wa-ti-a* and *Ru-ti-a* from the Kültepe/Kanesh texts appears to have been accomplished in the given region already at the beginning of the Middle Bronze Age, see Yakubovich 2008: 268-277. It is interesting to note, therefore, that this development, in view of the Hittite personal name *Ku-ru-un-ta* and related 8th-6th century Phoenician forms like the epiklesis of Ba’al KRNTRYŠ or *Kuruntarias* as recorded for the Karatepe text and the composite personal name ’ŠWLKRTY or ’*Ašulkuru(n)ti* as recorded for an Aramaic inscription from Cilicia (IAC 1, see Casabonne 2004: 65; 241), is not rigorously carried through.

⁵Note that this word is a Luwian formation in adjectival *-alli-*, and therefore unlikely to be disposed of, in line with Kloekhorst 2008: 466, as a Hittite loan.

s.v.), which all pertain to the style of life of elite warriors as introduced in the Near East by Indo-Aryan *maryannu* during the final stage of the Middle Bronze Age (*c.* 1720-1650 BC), preoccupied as it is with chariotry and hunting, are most plausibly to be explained as Indo-Aryan loans. The more so because the same holds good for Hittite hippological technical terms like *assussanni-* “horse trainer” < PIE **ekwo-* and *wasanna-* “driving track (German: Fahrspur)” < PIE **wegʰ-* “to drive” — both these instances presumably being loaned through the medium of Ḫurrian⁶ and Luwian.⁷ These Indo-Aryan loans need to be distinguished from evidence according to which the PIE palatal **[k]* became palatalized into the sonorous *[z]*, as in case of cuneiform Luwian *za-* “this” < PIE **k̑i-* and *ziya-* “to lie” < PIE **k̑ei-* (see Woudhuizen *forthc.* 3). Finally, it deserves our attention that, as hinted at in the above, the IE Anatolians appear to be, in a relative sense, latecomers in a non-Indo-European environment, inhabited by Ḫattians, and bordered to the east by Ḫurrians and Semites, which *a priori* renders the theory of an eastern Anatolian Indo-European homeland with a time-depth of several millennia before the earliest documentary evidence from the beginning of the Middle Bronze Age *c.* 2000 BC (Renfrew 1987; Drews 2001) highly suspect.⁸

For the determination of subgrouping or subgroupings among the Indo-European language family, it is of prime importance to focus on shared innovations as this particular phenomenon, when observed, may indicate that the participating proto-languages were still in a linguistic continuum, whereas the ones not affected were for whatever reasons outside the geographical confines of this linguistic continuum. Preferably, such shared innovations should entail

⁶Note the suffix *-n(n)i-* for the indication of professions in the first mentioned form, also traceable in the aforesaid *maryannu* < Indo-Aryan *marya-* “young warrior, hero”, see Wegner 2000: 49; Mayrhofer 1966: 17.

⁷On account of the adjectival *-assi-* or *-asa-* in the first mentioned form, again, the presence of which is further emphasized by hieroglyphic *asusa-* “horseman, charioteer”, see Starke 1995: 116; 65. For a similar formation as *assussanni-*, cf. *tarupsani-* “charioteer (i.e. the driver, not the fighter)”, possibly the phonetic rendering of the Luwian hieroglyphic honorific title L 289 *auriga*, < Hittite *tarupp-* “gather, assemble (hippological technical term for a specific forward motion [either trot or gallop] of the horse)”.

⁸For the possible presence of an earlier Indo-European stratum in Anatolia and the Levant, see section 7 below.

features of some consequence, like a realignment in the grammatical structure, rather than more trivial matters such as the sharing of particular items of vocabulary or in a specific phonetic change, which might be subject to incidents or occur independently in various locations at distinct periods of time. Now, an innovation affecting the grammatical structure has indeed been detected in the form of the application of the augment, originating from PIE $*h_1é$ “once” (Meier-Brügger 2000: 156), in the formation of the past tense, which phenomenon is, as commonly acknowledged, shared by Indo-Iranian, Greek (Mycenaean *a-pe-do-ke*, PYFr 1184;⁹ *a-pe-e-ke*, PY An 724) and Armenian (e.g. Watkins 1995: 171). A number of observant scholars rightly add to this group Phrygian on the basis of *edaes* “he dedicated” (M-01a/b, etc.)¹⁰ < PIE $*d^hē-$ as attested for Old Phrygian dedicatory inscriptions dating from the late 8th century BC onwards (Porzig 1954: 87; Gamkrelidze and Ivanov 1995: 340-341; Fortson 2004: 91). Other members to be included are Thracian, considering the fact that the earliest surviving inscription in this language from Kjölmén, datable to the late 7th or early 6th century BC, is characterized by the verbal form *edakat* “(s)he dedicated”¹¹ the root of which is obviously related to that of New Phrygian *addaket* (= Greek *ποσπούησει*) and Old Phrygian *dakhet* “(s)he puts” (W-01, variously dated to the 7th or 6th century BC)¹² < PIE $*d^hek-$ (Woudhuizen 2000-1), and Illyrian as represented by Albanian (*hē-ngra* “I have eaten”, Gamkrelidze and Ivanov 1995: 806) and possibly its southern Italian offshoot Messapic in view of forms like *ebugei* (Ruvo, PID II 368^{bis}) and *eipeigraves* (Diso, PID II 556), the latter recalling Greek *ἀπέγραφε* (cf. Krahe 1955: 36; 33).¹³

⁹PY = Pylos; for the system of abbreviation and numbering of the Linear B texts, see Ventris and Chadwick 1973.

¹⁰M = Midas City; for the system of abbreviation and numbering of Old Phrygian texts, see Brixhe and Lejeune 1984.

¹¹Note that the augment is distinguished here as a separate entity by punctuation in the form of three vertical strokes, recalling the similar distinction of reduplication in archaic Latin-Faliscan inscriptions from about the same chronological horizon, cf. *fe:faked*, *pe:parai*.

¹²W = West Phrygia.

¹³In my conversation with Václav Blažek in Leiden sometime during the Summer of 2007, it turned out that he had independently traced the augment in Messapic, which in my opinion enhances the validity of this particular observation.

The distinction between languages characterized by the augment in their verbal conjugation and those lacking this phenomenon is quite sharp, and therefore it may reasonably be inferred that IE Anatolian, Tocharian, Italic, Celtic, Germanic, and Balto-Slavic were *outside* the linguistic continuum in which it developed. Having established this, it subsequently becomes conspicuous that, as duly noted in previous attempts at subgrouping (though mostly, as emanating from the given references — to which should be added Meid 1975 — in various combinations of one or two of the following characteristics, not in their aggregate), the augmenting group of languages is further typified by subsidiarily shared features, like the preference of pronominal **yo-* for the relative, the marking of the middle voice by the “here and now” particle **-i* originating from the conjugation of the active, and the negative adverb **mē*. In these latter cases, however, the division between the group of languages sharing in the development and the ones excluded from it is less sharply defined than in connection with the augment, so that we should rather consider them as tendencies instead of defining criteria. Thus, the preference of the relative **yo-*, which typifies Indo-Aryan, Greek, and Phrygian among the augmenting subgroup (Porzig 1954: 24; 173; Gamkrelidze and Ivanov 1995: 339; 445; Watkins 1998: 66), also affected Celtic (Fortson 2004: 130; for Celtiberian: Meid 1993: 96) and Slavic (Gamkrelidze and Ivanov 1995: 339), though, in the words of Porzig (1954: 173), “offenbar hat die Neuerung [**yo-*] das Baltische nicht mehr erreicht” considering Latvian *kas* and Old Prussian *ka-* “which” (Fortson 2004: 385; 387). Similarly, the preference of marking the middle voice by the particle **-i*, which characterizes the verbal conjugation not only in Indo-Aryan and Greek (Gamkrelidze and Ivanov 1995: 341-342; Fortson 2004: 86), but, in view of the verbal forms *t-edatoy* and *t-anegertoy* recorded for the Old Phrygian inscription W-01 (cf. Woudhuizen 1993a: 5-7), also in Phrygian and Illyrian as represented by Albanian (Fortson 2004: 396-397) among the augmenting group of languages, can outside this subgroup be traced for Germanic and Balto-Slavic (Gamkrelidze and Ivanov 1995: 342; cf. Porzig 1954: 84; 170). Finally, the preference of the negative adverb **mē*, which is a feature shared by Indo-Iranian, Greek, Armenian (Meillet 1984: 23; Watkins 1995: 171) as well as Phrygian (Haas 1966: 236), and Illyrian as

represented by Messapic (Krahe 1955: 31) and Albanian (Gamkrelidze and Ivanov 1995: 806) among the augmenting subgroup, can outside this subgroup be observed in Tocharian (Fortson 2004: 360-361). Obviously, therefore, these subsidiarily shared tendencies traceable among the subgroup of languages characterized by the use of the augment have been radiated to languages situated outside this linguistic continuum, which hence still must be assumed to have maintained some form of contact, but the salient point is that this happened in isolation, one tendency diffusing to some particular member of the out-group and another to yet another member of this out-group, so that it may reasonably be inferred that the radiation of the distinct tendencies *varied per case in direction*. Conversely, it needs to be stipulated that the subsidiary tendencies did not affect all the members of the in-group in the same manner, the preference for the relative *yo- in particular being deficient in Armenian and Illyrian, which in this respect are rather in line with the members of the out-group for their preference of a reflex of *k^wo-, *k^wi- as exemplified by Armenian *o-* or *i-* (Schmitt 1981: 124), and Messapic *kos* (Krahe 1955: 32) and Albanian *qi* “who” and *kë* “whom” (Fortson 2004: 397; 393), respectively. For completeness sake, it finally must be frankly admitted that the position of Thracian in connection with the tendencies subsidiarily shared by the other members of the augmenting subgroup cannot be determined for the lack of evidence.

If the foregoing argument in favor of the distinction of a subgroup among the Indo-European languages be considered valid, the subsidiarily shared tendencies, of which the development and distribution are more complex than that of the clearly delineated shared innovation of the augment, are, on the analogy of the latter development, likely to be considered as innovations as well, which were either not productive at all or only incidentally so and then in isolation in languages outside the given linguistic continuum. *Mutatis mutandis*, it naturally follows from this inference that the contrasting features of the languages in a marginal position to the aforesaid linguistic continuum are likely to be identified as archaisms or retentions characteristic of an earlier phase in the development of the Indo-European language family. In the following, the two separate phases distinguished in the development of Proto-Indo-European, the one represented by

a subgroup formed on the basis of a number of shared innovations will for convenience sake be labelled group B, and the other represented by the languages along the margins of the innovatory continuum characterized by the conservation of more ancient traits, will for convenience sake be grouped together under the label of group A. Note that the incidental evidence of retention of traits typifying the conservative group A among the representatives of the innovative group B as exemplified, for instance, by the variant relative *kos* and the originally passive formations *abberetor* and *addaketor* attested for New Phrygian (= NPhr) (Diakonoff and Neroznak 1985: 118; for the passive forms, see *ibid.*, index *s.v.* **ber-* and **di-*; Gamkrelidze and Ivanov 1995: 343; 345),¹⁴ and the originally passive formations *berēr* “he carried” and *beriw̄r* “he was carried” attested for Armenian (Porzig 1954: 84; cf. Haas 1966: 247) is, though interesting in itself and underlining that Phrygian and Armenian are more conservative than Indo-Aryan and Greek in these respects (or, to put it differently, split off earlier from the remaining core), inconsequential for our present argument.

The foregoing analysis can be summarized as follows:

Conservative features	Innovating tendencies
1. no augment	1. augment
2. relative * <i>k^wi-</i> , * <i>k^wo-</i>	2. relative * <i>yo-</i>
3. middle-passive * <i>-r-</i>	3. middle * <i>-i</i>
4. negative * <i>ne</i>	4. negative * <i>mē</i>
Group A	Group B
1. IĒ Anatolian	1. Indo-Iranian
2. Tocharian	2. Greek
3. Celtic	3. Phrygian
4. Italic	4. Thracian
5. Germanic	5. Armenian
6. Balto-Slavic	6. Illyrian

From here, we can even take the analysis one step further if we realize that the innovative group of languages (group B) can be subdivided on the basis of the *centum-satem* division. Thus a *satem* subgroup is formed by Indo-Iranian

¹⁴To these examples should be added the 3rd person plural forms of the present of the middle-passive *enstarna* (NPhr-48) and *dakaren* (NPhr-98), see Woudhuizen 2008-9.

(Sanskrit *śatám* “hundred” < PIE **k̑mtóm-*) and Armenian, whereas the remainder, in line with the undisputed case of Greek (*hekatón* “hundred” < PIE **k̑mtóm-*), should rather be classified as *centum*. Thus Phrygian *-agta-* in *lavagtaei* “leader of the host” (D sg.) < PIE **h₂eǵ-* “to lead”, *dekmouta-* “tithe” < PIE **dék̑mt-*, *Akmonia* (place name) < PIE **h₂eǵmen-*, *kuno-* “dog” < PIE **k̑(u)won-*, **ki-* “to lie” < PIE **k̑ei-*, *nekro-* “to kill” < PIE **nek̑ro-*, *meka-* “great” < PIE **meǵ(h₂)-*, **tik-* “to show, accuse” < PIE **deik̑-*, *vekro-* “father-in-law” < PIE **sweǵuro-*, *verktevo-* “work, contraction” < PIE **werǵ-* (Woudhuizen 2008-9); Thracian *ekoa* “mare” < PIE **ek̑wo-* (Woudhuizen 2000-1), *Goaksis* (personal name) < PIE **g^wow-* “ox” + **h₂eǵ-* “to lead” (cf. Best 1989: 137-138), *ka(i)-* “to dedicate” < **keu-* “to burn, set to fire” (Brixhe 2006); and Messapic *argorian* “silver” < PIE **h₂erǵ-* (Krahe 1955: 32, esp. note 70). However, sometimes these languages may have been subject to secondary *satem*-influences: Phrygian **sei-* “to lie” < PIE **k̑ei-*, *Semélē* (divine name = “Mother Earth”) and *zemel-* “mortal, earthling” < PIE **d^heǵ^hóm-* (Woudhuizen 2008-9); and Thracian *Rhēsos* (royal name) < PIE **rēǵ-*, *esh-* (onomastic element) < PIE **ek̑wo-*, *-zen-* (onomastic element) < PIE **ǵen-* (Katičić 1976: 143). Note that the secondary nature of these *satem*-influences is particularly clear in the case of Phrygian, where the reflex of PIE **k̑ei-* “to lie” happens to be of *centum*-type, viz. **ki-*, in Old Phrygian (G-02)¹⁵ and only shows *satem*-type **sei-* in the much younger New Phrygian texts (esp. NPhr-99). In like manner *satem*-influences can also be shown to have radiated to some members of the conservative group of languages, like Balto-Slavic, which is substantially affected, and, as we have already noted in the above, IE Anatolian, where the effects are much more superficial or even incidental, the secondary nature of these influences particularly in these latter cases being indicated, again, by the fact that *satem* reflexes of, for example, palatovelar **k̑* appear alongside the original *centum* ones (for Luwian and Hittite, see above; cf. Lithuanian *ašva* “horse” < PIE **ek̑wo-* alongside *akmuō* “stone” < PIE **h₂eǵmen-*, see Fortson 2004: 380; 365).

Accordingly, we arrive at the following subdivision of the innovative group of languages (group B):

¹⁵G = Gordion.

Group B1: <i>centum</i>	Group B2: <i>satem</i>
1. Greek	1. Indic
2. Phrygian	2. Iranian
3. Thracian	3. Armenian
4. Illyrian	

As it seems, then, linguistics enables us to establish a relative chronology for the development of the Indo-European language family as follows:

- (1) phase I: characterized by what in the context may be classified as conservative features originally (as we may assume on the basis of fossilized remains traceable among the representatives of the innovatory group B) having a bearing on all members of the family and hence dating back to a period of former unity; which is followed by
- (2) phase II: typified by innovative tendencies primarily affecting only a particular group among the members of the entire family and therefore presumably dating to a period in which some amount of dispersal had already taken place; which in turn is followed by
- (3) phase III: marked by the *satem*-development which appears to be originally restricted to some of the members of the innovatory group B and to have only secondarily radiated to some of the other members of this group as well as some of the members of the conservative group A, and as such may safely be assumed to signal a further stage in the process of breaking-up.

Now, it must be admitted that linguistic reconstruction all by itself is, even with the aid of glottochronology as recently improved by the Czech linguist Václav Blažek (2007: 4), not capable of fixing the relative sequence of phases I-III arrived at in the above into the framework of an absolute chronology: for such purposes it depends entirely on evidence provided by historical sources, actual texts in the languages under consideration which have come to light through archaeological excavations or have otherwise been preserved, and, by relating historical linguistic reconstructions to the material record (= palaeolinguistics), archaeological (including archaeozoological) data more in general. In other words: the translation of a linguistically reconstructed relative sequence

of phases in the development of a language or language group into absolute chronological terms is an interdisciplinary undertaking (cf. Meid 1989: esp. 13, note 12). If, then, we want to establish a dating in terms of absolute chronology for our aforesaid relative sequence of phases in the development of the Indo-European language family, a survey of the relevant historical, epigraphical, and archaeological evidence is expedient, which, in order to generate the most reliable results, preferably should proceed from the more prolifically documented regions and periods to the ones that are progressively lacunary in this respect.

To facilitate such a survey, it might first of all be instructive to very schematically set out the language groups so far distinguished according to their geographical distribution. If allowance be made for the historically related origin of the Phrygians and the Armenians (the latter being stipulated as *ápoikoi* of the former by Herodotos, *Histories* VII, 73) in the southern Balkans, we are confronted with the following pattern:

A	B	A	B	A
Balto-Slavic	Greek	Hittite	Iranian	Tocharian
Germanic	Phrygian	Luwian	Indic	
Celtic	Thracian	Palaic		
Italic	Armenian			
	Illyrian			

This pattern of distribution, characterized by intrusion of members of the innovatory group (group B) in between those of the conservative group (group A), is incompatible with the gradual dispersal by means of demic diffusion or a wave of advance as observed for the Near Eastern and/or Anatolian Neolithic agriculturalists from about the middle of the 7th millennium BC onwards. To a certain extent, this is duly acknowledged by Colin Renfrew, who from the very start integrated the dominant explanatory model, developed by Otto Schrader (1911) and elaborated by, amongst others, Marija Gimbutas (most recently 1992 and 1994 [= translation into German of 1991]), J. P. Mallory (1989), and David Anthony (2007), for the distribution of the Indo-European languages by means of long-distance migrations of North Pontic and/or North Caspian steppe-based pastoralists from

about the late 4th millennium BC onwards into his alternative Neolithic model, so that in fact the majority view goes unchallenged for the eastern side of the problem, the origins of the Indo-Iranians and Tocharians in one way or the other being traced back to the North Pontic and/or North Caspian steppe based pastoralists by all (Renfrew 1987: 178-197; Renfrew 2001).

2. Radiation of the labiovelar development, c. 1200-700 BC

Having reduced the extent of the controversy in this manner to the middle and western sections of the distribution area, it subsequently deserves our attention that of the phonetic developments referred to in the above the varying treatment of the labiovelars as exemplified by the Brittonic division in Celtic can be accurately dated on account of the development of Mycenaean Greek *i-qa* into Homeric ἴππος to the period of the Dark Age (c. 1200-800 BC). Furthermore, the radiation of the labiovelar shift to labials or dentals from Greece and the Aegean to western Anatolia is meticulously traceable in the epichoric texts, Luwian hieroglyphic up to c. 700 BC still preserving original *hw* in, for example, the relative *hwa-*, whereas its western offshoots Lycian and Lydian as mainly attested for the 5th and 4th centuries BC bear testimony of the innovatory shift, Lycian siding with Attic-Ionic for its preference of the dental reflex in the relative *ti-* but Lydian rather with Lesbian for its preference of the labial reflex when before front vowels as in the relative forms *pe-* or *pi-* (Woudhuizen 1984-5; cf. Woudhuizen 2005: 119-147). The *terminus post quem* of c. 700 BC for this labiovelar development in Luwian can be further substantiated by the fact that the related Etruscan, introduced in central Italy by Luwian speaking population groups from western Anatolia from the late 8th century BC onwards, is, in view of relative forms like *cui-* and *cva-* or *χva-*, or, delabialized, *χi-*, still unaffected by it (Woudhuizen 1998: 189-203; cf. Woudhuizen 2006a: 79-87; 135-140; Woudhuizen 2008: 348). The given Greek and Luwian evidence for the shift of the labiovelars into labials and dentals is satisfactorily explicable in terms of the wave model as developed by Johannes Schmidt; at any rate, the possibility of its introduction by invading “*p-* or *t-*Greeks” and “*p-* or *t-*Luwians” can be positively discarded in the face of the evidence for overall linguistic continuity in the regions in

question.

Nevertheless, the idea that the migrations at the end of the Bronze Age which resulted in the collapse of the Mycenaean palatial civilization and the Hittite empire had something to do with the diffusion of this linguistic development might fruitfully be entertained, as among the Sea Peoples there was a group addressed as *Weshesh* who may reasonably be identified as bearers of the central European Urnfield culture in archaeological terms¹⁶ and as *Ausones* or *Osci* (< PIE **av-* or **au-* “source, stream”) in linguistic terms.¹⁷ The Ausones or Oscans, namely, together with the Umbrians (and, if rightly distinguished as a separate entity, the intermediary Sabellians) represent the branch of *p*-Italici, which, in view of the distribution pattern, leaving relatively small areas of *q*-Italici that are not in particular set off from their surroundings by geographical barriers in southeastern Tuscany (Faliscan), around the Alban hills (Latin), and at the head of the Adriatic (Venetic), unaffected, in the Italian context is more likely to be explained in terms of a distinct immigration by proto-speakers than diffusion according to the wave model. (Note that Messapic considering the dental reflex in the enclitic conjunction *-θi* < PIE **-kʷe* rather sides with Greek.) If this is correct, it necessarily follows that the origins of the labiovelar development may be traced back to the ultimate central Europe homeland, in particular Oltenia and the Banat along the middle Danube, of those groups among the bearers of the proto-Villanovan culture which were ancestral to the later speakers of Oscan and Umbrian, and chronologically situated in the final stage of the Bronze Age (Woudhuizen 2006a; for handmade barbarian ware at North

¹⁶Of which a concentration settled down at Hamath in North Syria, as indicated by the simultaneous introduction of three of its diagnostic features in the region, Urnfield cremation cemeteries and Naue type II swords at Hamath itself, and handmade barbarian ware at the coastal sites of Ras al-Bassit/Posidonia, Ras Shamra/Ugarit, and Tell Kazel/Simyra (but see note 18 below).

¹⁷Note that the suggested penetration by the *Weshesh* into the eastern Mediterranean receives welcome linguistic confirmation by the Osco-Umbrian nature of an Eteo-Cretan inscription from Praisos, a new foundation c. 1200 BC, as determined as such by de Ligt 2008-9. On the various forms of the name of the ethnic group in question, and the fact that Greek *Opici* originates from **Opisci*, see Woudhuizen 2006a: 115.

Syrian coastal sites, see Badre 2006: 82 ff.; 92).¹⁸

In line with our findings in the Italian context, the diffusion of *p*-Celtic, which dialectal variant no doubt resulted from contacts of Celtic population groups with speakers of *p*-Italic in their original central European habitat (note that an early source, Herodotos, *Histories* II, 33, locates Celtic population groups in the region of the upper limits of the Danube in southern Germany, see Fischer 1986), across the channel may also be attributed to migrations of in this respect already distinct proto-speakers, especially in view of the geographical distribution according to which the remnants of the previous *q*-Celtic inhabitants are confined to the western margins. For the purposes of dating in absolute chronological terms, it is instructive to turn to the evidence from the Iberian peninsula, where the arrival of *q*-Celtic speaking tribes, *in casu* the Celtiberians (Meid 1996: 16 **equeisos* < PIE **ekwo-* “horse”; 30-31 indefinite *kuekue-* “whosoever” < PIE **k^we-*; Meid 2000: 11 enclitic conjunction *-kue* “and” < PIE **-k^we*; cf. Meid 2000: 3; 12), is convincingly argued to be reflected in the archaeological record by the extension of the European Urnfield culture into this region which process entailed two distinct phases, one restricted to the region of the mouth of the Ebro in Catalonia, dated *c.* 1200-900 BC, and the other penetrating deep into the Spanish heartland, dated *c.* 800-650 BC (Bosch-Gimpera 1939: Maps I-II). The first phase can be linked up with Celtic place-names in *-dunum*, attested for the region of Catalonia only,¹⁹ whereas the second rather ties in with Celtic place-names in *-briga*, a concentration of which is detectable for the Spanish heartland, but which are further distributed over the entire western part of the peninsula and even include the distribution zone of southwestern Iberian inscriptions which in their turn provide us with the earliest epichoric evidence for the Celtiberian language dating from the 6th or 5th century BC (Rix 1954: abb. 1-2; cf. Woudhuizen

¹⁸As the excavator of Ras al-Bassit/Posidonia, Lione du Pied, kindly informed me, this ware is in actual fact not found at Ras Shamra/Ugarit and its harbor, Ras Ibn Hani, since the reported finds from these sites have a bearing on a different class of pottery, so-called “céramique à la steatite”.

¹⁹But note *Arialdunum* in the realm of Tartessos along the lower course of the Guadalquivir as reported by Schulten 1950: 125 and *Esttledunum* in this same area as well as *Caladunum* in northwest Iberia as catalogued by Sims-Williams 2006: 308; 329, Map 12.2.

2004-5; for southwest Iberian, see Woudhuizen 1998-9).²⁰ If we realize, then, that the distribution of the Celtic place-names in *-dunum* also includes the British isles, whereas that of the ones in *-briga* does not,²¹ it may reasonably be deduced that the *q*-Celtic migrations of the first phase distinguished within the Iberian context extended to the regions across the channel, whereas those of the second did not. Evidently, therefore, the presence of *q*-Celtic population groups in Britain dates back to at least *c.* 1200-900 BC. Note, finally, that the influence of *p*-Celtic in Iberia, though recorded, is only of a marginal nature and no doubt to be assigned to a later date (Pokorny 1940: 154-156; Tovar 1973: 165).

3. The dispersal of chariot-warfare, *c.* 1720-1650 BC

If we work our way back in time, the next significant linguistic dialectal tendency which can be dated in absolute terms with the help of the interdisciplinary method is the *satem*-development of palatovelars, which in the above we have defined as the latest stage in the development of the Indo-European language family, our phase III. Now, on the basis of the earliest documentary evidence on Indo-Iranian as provided by Mittannian divine names, royal names, and hippological technical terms of Indo-Aryan type dating from the late 15th and 14th century BC, the dissemination of *satem*-phase Indo-European is inextricably linked up with the advance of the chariot and chariot-warfare during the final stage of the Middle Bronze Age (*c.* 1720-1650 BC). This event marked a cultural landslide: rulers and their aristocratic following in the Near East and Egypt became prone to be specialists in hippological affairs where formerly it was considered indecent for them to ride on horseback, and much of the palatial economy became subservient to the purpose of maintaining as large a chariot force as possible.

For a proper understanding of this particular period in

²⁰Note that according to Rix 1954 the introduction of the TNs (= town names) in *-briga* precedes that of the ones in *-dunum*. If so, it necessarily follows that the distribution of the TNs in *-briga* is not linked up with the extension of the Urnfield culture into the Spanish heartland, but has to be attributed to earlier Indo-European incursions, in which case, as we will see below, only those of the "proto-Celtic" Lusitanians presumably sometime during the Iberian Middle Bronze Age come into consideration.

²¹But note the two instances of a toponym in *-briga* in Sims-Williams 2006: 328, Map 12.1.

history, it is of prime importance to observe that the origins of the chariot can be traced back to the North Pontic and/or North Caspian steppe, to be more specific Sintashta and Krivoe Ozero in Kazakhstan, where the earliest evidence for this type of vehicle, distinguished as such by the innovatory spoked wheels, is discovered in burials datable from the late 21st century BC onwards (Anthony and Vinogradov 1995). However, it is not only the development of the spoked-wheeled two-wheeler, facilitating the substitution of the speedy but more fragile horse for the ox as a means of traction, but also the improvement in the manner of control of the horses as evidenced by the bone *cheek-pieces* found in direct association with the remains of a span of horses among the grave gifts in the Krivoe Ozero burial, indicating the use of soft mouthed *bits*, that are really fundamental to the innovatory process (detail neglected by Littauer and Crowel 1996).²²

This becomes clear if we compare the steppe-evidence for the development of chariotry with that of Anatolia, where a similar technological advance in the realm of wheeled vehicles can be discerned on the basis of pictorial designs on seals or sealings from the Kültepe-Kanesh period (*c.* 1910-1780 BC), with the noted difference that the horses of the chariots happen to be invariably controlled here by a *nose-ring* instead of a bit (even though it must be admitted that the horses are badly drawn, probably owing to the artist's unfamiliarity with this animal, there can, contrary to the opinion of Bley-Jones (2006: 185), be no doubt that horses are intended, especially in the case of Littauer and Crowel (1979: fig. 29), where the traction animals are depicted with hooves and manes). Taking Frank Starke's analysis of the Kikkuli texts on horse training, which is based on his own equestrian experience as a competitor in the military, to heart, one wonders how effective a weapon this type of chariotry could have been, not to mention the amount of slit noses which it no doubt entailed. At any rate, it is absolutely clear that horses controlled by a nose-ring could not possibly have successfully

²²Note that, as observed by Jones-Bley (2006: 188), the donkeys drawing the battle car with four solid wheels as depicted on the standard of Ur, dated to *c.* 2500 BC, appear to be bitted, so that the idea of the bit may well be assumed to originate from Mesopotamia, but its adaption to the *horse* in that case still remains a steppe innovation.

been submitted to the sophisticated training program of Kikkuli, with its intricate “Hufschlagfiguren” in the form of “s-bows” and “figures-of-eight”, so that it becomes fully understandable to us why Indo-Aryan expertise in the field as reflected in the technical terms had such a great impact on the cultures to which what we might aptly call the proper way of chariotry was disseminated (cf. Starke 1995).

Furthermore, it is conspicuous that the proper form of chariotry allowed for the use of the composite bow, the lance for thrusting, and javelins as weapons (cf. Anthony 2007: 400; 403), whereas the charioteers of the Kültepe-Kanesh seals or sealings, if armed at all, are only shown brandishing a battle-ax, so that the military significance of the chariot is obviously substantially enhanced by the steppe-based improvement in horse-control (compare Littauer and Crouwel 1979: fig. 36 from North Syria and stamp-cylinder seal Louvre AO 20.138 from western Anatolia, both dating to the late 18th or 17th century BC, to Littauer and Crouwel 1979: fig. 29 from Kültepe-Kanesh, period II).

The reality of the latter inference certainly appealed to the ancients, if we take into consideration the sheer rapidity with which the military innovation is introduced and the mere geographical extension of its diffusion. Moreover, in the majority of the cases it is possible to detect an Indo-European, specifically Indo-Iranian, role in the process of diffusion and transmission of chariot-warfare. This is most evident in the case of the ultimate colonization of the Punjab region in eastern Pakistan and northwestern India by the Indian branch of the Indo-European family. But, to a lesser extent, the same verdict also applies to the case of the Kassite conquest of Babylonia following the Hittite king Mursilis I's successful raid on its capital of 1595 BC, and the, admittedly only temporary, establishment of Hyksos' rule in the southern Levant (*i.e.* the province of Sharuhen)²³ and Egypt (where, although centred in the northeast at Avaris, it even extended as far south as Buhen as indicated by a horse burial bearing testimony of bit wear, dated to *c.* 1675 BC, see Burleigh 1986: esp. 234, table 2,

²³Note especially the horse burials discovered at Gaza, dated to *c.* 1650-1550 BC, and the bronze bit from nearby Tel Haror, dated to *c.* 1500 BC, see Burleigh 1986: esp. 234, table 2, and Oren 1997: 269, fig. 8.17 or Drews 2004: 88, fig. 4.7.

and cf. Drews 1988: 103, note 76;)²⁴ in view of the Indo-Aryan component in Kassite and Levantine onomastics and the fact that chariot warriors in Egypt were still addressed as *maryannu* < Indo-Aryan *marya-* “young warrior, hero” at the end of the Bronze Age (Mayrhofer 1966: 18, note 4; 26-27; 29-30; Kammenhuber 1968: 47-60;²⁵ Mayrhofer 1974). It must be admitted, though, that in the latter two cases the identification of the Indo-Aryan contribution is much more complicated because the Kassites preferred to adopt the indigenous Akkadian language for their administrative records and the Hyksos, as far as the preserved royal names inform us about their ethnic affiliations, had thoroughly intermingled with the local population of Semitic and Hurrian descent.

It is even possible to attribute the introduction of chariot-warfare in Greece to foreign immigrants of Hyksos background or some similar group coming from Egypt or the Levant, with an ultimately steppe-based Indo-European nucleus as indicated by the funerary practice of the shaft graves at Mycenae (in which were found four [= two pairs according to Hiller 1991: 211] bone cheek-pieces for bridle bits of the Krivoe Ozerotype referred to in the above, see Crouwel 2005: 39 and pl. IVa, correcting Littauer and Crouwel 1973) with its stelai decorated with scenes of chariotry in military action against pedestrian enemies, dating to the transitional period from Middle Helladic to Late Helladic I, *c.* 1600 BC, and the ethnonym of the *Danaoi* after their founding father *Danaos*, a reflex of PIE **dānu-* “river” as traceable in Old European and North Pontic river names like *Danube*, *Don*, *Dnieper*, and

²⁴Note that evidence for horse-keeping among the Hyksos is further provided by two horse teeth from Tell el-Dab'a/Avaris and horse remains more in general from Tell el-Maskhuta, both dating from the early phase of Hyksos rule, *c.* 1700-1600 BC, see Wapnish (1997: 355-356). The earliest Egyptian textual references to the chariot and chariotry come from the side of the indigenous opponents of the Hyksos and founders of the 18th dynasty, namely the inscription on the Kamose stele, though admittedly with a bearing on the hostile Hyksos' camp in wording, *ti-nt-htry*, rooted in agricultural ox-traction and, given the absence of the expected ideogram E 6 for horse, unequivocal, and the autobiography of a participant in the siege of Avaris by Ahmose, this time unambiguously by means of the newly devised chariot-sign T 17 *wrrt*, see Schulman 1980: 112-113 and Lichtheim 1976: 12 (numbering of the Egyptian hieroglyphic signs according to Gardiner 1994).

²⁵Refers to *Abirattas* as a Kassite royal name of possibly Indo-Aryan background from as early as the late 17th century BC, which, if correctly analyzed as such, would predate the Mittannian material.

Dniester. Now, given the fact that Danaos is related in literary tradition to have arrived in Greece from Egypt, it may well be significant in this context that the related form of *Tanayu* is used by the Egyptians (from the reign of Tuthmosis III onwards) as their regular Late Bronze Age form of address of the Greeks (cf. Drews 1988).

At any rate, it so happens that in like manner as it is the case with the Hyksos this Indo-European nucleus of immigrants is obviously augmented by members of other ethnic entities encountered en route during their peregrinations, like Semites from the Levant, again, and Luwians from Crete, the former being memorized in the myth of Kadmos and his Phoenicians settling at Thebes in Boeotia, which event is archaeologically reflected in the foundation of the “House of Kadmos”, and the latter being traditionally staged as Cretan merchants taking possession of Krisa in Phocis and founding the cult of Apollo Delphinios in the region.²⁶ Both these events likely correlate to the Minoanization discernable in the archaeological record of the sites in question in the chronological horizon from which the Mycenaean shaft graves stem and receiving emphasis from linguistics in the form of traces of respectively Semitic (*Kádmos* < *qdm* “east”,²⁷ *Eurṓpē* < ‘*rb* “west”, *Kábeiroi* < *kbr* “great”) and Luwian (*Parnāssós* < *parna-* “house, temple”, *Kastalíā* < *ḥasta-* “bone”, cf. Gindin as referred to in Katičić 1976: 93) in the local lore.

With a view to the ethno-linguistic diversity among the Hyksos-like immigrants introducing the chariot and the Near Eastern type of palace-bound economy to sustain it in mainland Greece,²⁸ however, it seems unlikely that this event,

²⁶Note that the earliest evidence for the divine name Apollo comes from a Knossian Linear B text, KN E 842.3 [*a*]-*pe-ro-ne*, as first observed by Ruijgh 1967: 274, § 237 and duly notified by Watkins 1995: 149; cf. also the seal of a priest with the dolphin as his badge from the throne room in the palace of Knossos as depicted in Evans 1935: 414, fig. 343b.

²⁷In actual fact, the name *Kádmos* may be a reference to a person originating from the region *Qedem* in the hinterland of Byblos, see Woudhuizen 2007: 726, note 9.

²⁸Note in this connection that, as far as the evidence goes, the chariot forces of the individual Mycenaean palatial sites numbered into the hundreds: Mycenae at least 100 as in the Hittite account of the sea-borne expedition of the “man of *Aḥḥiyā*”, or Akhaian, Attarissiyas-Atreus to Alasiya-Cyprus during the first half of the 14th century BC, Knossos more than 400 as recorded in Linear B tablets dating to c. 1350 BC, and Pylos at least about 200 as indicated by the

culturally important as it may be, had significant linguistic consequences in the sense that an entirely new language was introduced and widely dispersed among the local Middle Helladic population. Especially so if we realize that the numbers of the immigrants appear to have been limited and that the indigenous inhabitants are in the main either straightforwardly identified in or at least positively identifiable on the basis of the relevant onomastic and toponymic evidence provided by the literary sources as *Phrygians* and *Thracians* (often grouped together under the blanket-term Pelasgians), who, as we have seen in the above, spoke Indo-European languages of the same, in the relative sense, innovative type as Greek (our group B).

Although in the long run independent Phrygian and Thracian tribes were either subdued or driven out of their original habitat, the latest surviving ones being recorded for the region of Orkhomenos in the hinterland of Thebes (Odrysians, cf. Linear B *o-du-ru-wi-jo* as attested for an inscribed stirrup jar of Cretan manufacture from the “House of Kadmos” in Thebes, viz. TH Z 839) up till the beginning of Late Helladic IIIA2, c. 1350 BC, and for various regions in western and northern Thessaly even after this date, a significant number of them can be shown to have stayed and acculturated to the Near Eastern type of civilization introduced by the newcomers. What is more, they even appear to have contributed substantially to the Mycenaean culture, either

- (1) in the form of the newcomers’ local allies, as represented by the royal houses of Pylos (Neleus) in Triphylia and subsequently Messenia, Athens²⁹ in Attica, and Iolkos (Kretheus, Pelias) in Thessaly, and, after c. 1350 BC, Orkhomenos (Minyas) in western Boeotia, variously designated as Pelasgian, Minyan, or merely autochthonous, or

Linear B tablets dating c. 1200 BC. Note also that on the Linear B tablets from Knossos bits of either bone or bronze are in a number of instances explicitly specified as forming part of the equipment of the chariots, viz. *ke-ra-ja-pi o-pi-i-ja-pi* “with horn (*kéras*) bits” and *ka-ke-ja-pi o-pi-i-ja-pi* “with bronze (*khalkós*) bits”, see Littauer and Crouwel 1973: 213.

²⁹Note that Erekhtheus or Erikhthonios is being reported by Vergilius, *Georgics* III, 113 to have subdued the Thracians headed by Eumolpos located at nearby Eleusis while driving a quadriga, the doubling of the horses drawing the chariot being said to be his own invention.

- (2) as members of the ruling elite at the centers of the immigrants themselves through intermarriage, like in the case of the Mycenaean king *Atréús*, a son of the Phrygian mythical charioteer *Pélops* and bearer of a Phrygian-type name (Woudhuizen 2006a: 59-67).³⁰

Finally, in case the newcomers had indeed introduced their language, we would, in the light of the foregoing evidence on the disseminators of chariot-warfare in the Near East, have expected it to be of Indo-Aryan type (our group B2). However, even though Indo-Aryan influences can be shown on the basis of royal names which, after the Mittannian pattern of Tushratta, are characterized by the onomastic element *ratha-* “chariot”, like *Tarhun(d)aradus*, *Piyamaradus*, and *Rhadámanthus*, or alternatively testify to a reflex of *maryannu*, like *Mēriónēs*, to have radiated to nearby western Anatolia (note also in this connection the later Etruscan *ratu-* “chariot”, see Woudhuizen 1998: 79-80) and Crete,³¹ no trace of it can be found in our sources with a bearing on the Greek mainland. Alternatively, the invaders of Greece might have constituted a separate group, linguistically distinct from their Indo-Aryan fellow travelers, branching off to the northwest.

However this may be, it may plausibly be assumed that the linguistic influence of the newcomers at least entailed some sound changes like, for example, the shift of voiced velars (*Bríges* > Φρύγες, *glouros* > χλωρός “gold”), labials (*brater-* > φράτηρ “brother”), and dentals (*edaes* > ἔθηκε “(s)he

³⁰Note that the expected pattern of male descent is already disrupted in the reconstructed genealogies of the royal houses of both Mycenae and Thebes in the first generation after the founding fathers Danaos and Kadmos (the latter being stipulated to have married Harmonia, the daughter of the Thracian war-god Ares), and that particularly in the Mycenaean case diagnostic Thracian- and Phrygian-type names subsequently seep in, as exemplified by *Ábas*, *Proĩtos*, and *Akrísios*, whereas at Thebes the Dionysiac Pentheus appears to be a religiously motivated interloper, cf. Schachermeyr 1983: 98; 102; 120. It seems not farfetched to connect this apparent Phrygianization of the Mycenaean royal house with the shift in ethnonym from Danaoi to *Akhaioi*, derived from an alternative PIE indication of the watery element also traceable in the river name *Akhelōios* as recorded for the northerly province of Phthia and the Phrygian noun *akkalos* “water”, cf. Katičić 1976: 58; see Haas 1966: 66-67; 84-85 for the Phrygian word in question.

³¹For the earliest Cretan pictorial evidence of the chariot on seals or sealings from the transition of Middle Minoan IIIB to Late Minoan IA, c. 1600 BC, onwards, see Hančar 1955: fig. XXVIIId and Crouwel 2005: fig. IVf.

dedicated”) into aspirated ones, which distinguish Greek from its closest cognates Macedonian, Illyrian, and Phrygian (cf. Katičić 1976: 58 ff.).

Note in this connection that the argument of William Wyatt which holds that the Indo-European words relating to chariotry must have been introduced in mainland Greece by the immigrating charioteers in combination with its material aspects, so that by means of deduction these latter may reasonably be held responsible for the introduction of the Greek language, is seriously undermined, as he stipulates himself, by the fact that the indigenous Middle Helladic population happens to be already of Indo-European stock and, for instance, as we will elaborate below, already familiar with the domesticated horse. This might help us to explain the fact that the inherited *centum* designation *i-go* (> ἵππος) is preserved in defiance of the tendency observed in, for example, the IE Anatolian context to substitute it for the innovatory Indo-Aryan *satem*-form *aśva-* (cf. Wyatt 1970). In line with these considerations, Peter Raulwing’s criticism of David Anthony’s thesis that Indo-European words with a bearing on chariotry were disseminated with the new style of warfare based on it is valid, as the technical terms are, as exemplified by, for instance, Mycenaean Greek and Kassite, in the main dialectally distinct (German “Einzelsprachlich”), but, as I hope to have shown in the above, this does not allow for his denial of the crucial role rightly attributed by Anthony to Indo-Aryans from the North Pontic and/or North Caspian steppe in this process altogether as instigated by Mary Littauer and Joost Crouwel’s ill-founded bias in favor of a Near Eastern origin of the chariot and, by implication, the proper way of chariotry (Raulwing 2000; Anthony 1995).³²

4. Northern immigrants in Greece c. 2300-2000 BC

When we proceed with our investigation further backwards in time, it should be realized that we transgress the barrier of c. 2000 BC set to Indo-European literacy as well as, with the exception of only the scantiest of reference, to

³²For an earlier stage in the development of chariotry, note especially the cart with two *solid* wheels already propelled by horses but of which the means of control is unclear as depicted on a cylinder seal from level IIIB of Tepe Hissar, located near the southeastern edge of the Caspian sea, dated c. 3000-2250 BC, see Ghirshman 1977: 15, fig. 3.

contemporary evidence of Indo-Europeans in the historical record, which necessarily implies an increase in the level of speculation of our reconstruction of the relevant events. If we turn, then, to the final stage of the Early Bronze Age, it first of all deserves our attention that the archaeological record of the Greek mainland is characterized by discontinuity in culture, likely to be explained in terms of the arrival of new population groups from the northern Balkans and/or the North Pontic steppe. The type site for the transition from Early Helladic II to Early Helladic III, *c.* 2300 BC, is Lerna in the Argolid, expertly excavated by the Americans under the leadership of John Caskey. Here the so-called “House of the Tiles” went up in flames and was covered by a tumulus (apparently rather for monumental purposes than funereal ones), new house forms were introduced, characterized by apsidal ends, a new pottery style was developed, first hand-made only, which is baptized Minyan ware, and a new type of burial came into fashion, namely individual burials in cist graves. Furthermore, in the following transition from Early Helladic III to Middle Helladic, *c.* 2000 BC, the new features characteristic of Lerna and some other sites are also introduced at places that remained untouched in the previous transitional period, sometimes, as at Eutresis in Boeotia, after a violent conflagration. Although related cultural traits were introduced at both periods, what distinguishes the transition at *c.* 2000 BC from the previous one at *c.* 2300 BC is the presence at some sites of Matt-painted ware, originating from the Cycladic islands, and a little imported or locally imitated Middle Minoan IA ware. It is worth noting in this connection that at Lerna in a context to be dated after the destruction of the “House of the Tiles” bones have been found, first, in the Early Helladic III period, of a horse-like animal and later, in the Middle Helladic period, of a true horse (Caskey 1973).

Now, the closest parallels for Minyan ware, cist graves with individual burials and apsidal houses are, as convincingly shown by Jan Best, traceable in the northern Balkans, and, what’s more, during a period which is either simultaneous or anterior to that of their introduction into Greece (Best 1973; cf. Hiller 1986: 27, abb. 1, who adds clay anchors and stone hammer-axes to the diagnostic archaeological features of the newly introduced material culture).³³ If new population groups did

³³My thanks are due to professor Hiller for kindly sending me a xerox-copy of

indeed arrive, as a majority among the archaeologists is inclined to believe, then they evidently came from the north! The northern affiliations of the bearers of the Minyan culture of Middle Helladic Greece can even be further underlined by the burial tumuli found by Spyridon Marinatos in the western part of the Marathon plain, the most prominent one of which, Tumulus I, consisted of a central stone-built chamber in an inner stone circle, datable on the basis of the pottery found in it to the final stage of the Middle Helladic period, and an, in this particular case, outer stone circle of slightly later date, with secondary burials added in the tumulus heaped up over the entire monument. One of these secondary burials was reserved for a horse of the Przewalski type (Marinatos 1973) — the latter evidence having been subsequently questioned by later archaeologists (Papadimitriou 2001, with reference to the opinion of Themelis) disregarding the fact that the phenomenon of single horse burial is paralleled at Lapithos along the northern coast of Cyprus in about the same period of time (see below).³⁴ Leaving the question of the horse burial aside for a moment, the salient point for our argument is that this type of elite burial is most closely paralleled for Albania, in particular at Vodhinë and Pazhok, dating from the latest stage of the Early Bronze Age, *c.* 2300 BC onwards (Hammond 1972; Hammond 1973: esp. Pls. 28-30; cf. Čović 1986 on Illyrian prehistory more in general), and can be traced back to the Usatovo culture in eastern Romania of the latter half of the 4th millennium BC (Mallory and Adams 1997: 652 with figs.)³⁵

this contribution.

³⁴For the related burial tradition of stone circles under tumulus at Nidhri on Levkas in the northwest of Greece dating to the preceding Early Helladic II (Hammond 1972: 106-107; Gimbutas 1994: 96-97, abb. 37, 1), see below. I am aware of the fact that Forsén 1992 redated the introduction of a number of the given diagnostic features in southern and central Greece (*in casu*: apsidal houses, tumuli, and clay anchors) to Early Helladic II, but, if we broaden our view and place the developments in southern and central Greece in a wider eastern Mediterranean context, it cannot be denied that the transition from Early Bronze II to Early Bronze III of *c.* 2300 BC confronts us with a serious disruption most likely to be attributed to the arrival of a substantial number of immigrants, see our table I below. The earlier infiltration of diagnostic features may accordingly be explained in terms of contacts with the target area preceding actual migration.

³⁵Cf. also the tumulus with stone-built central burial chamber from Taŭrna near Vraca in northwest Bulgaria as depicted in Gimbutas 1994: 51, abb. 12, which is dated by Coles and Harding 1979: 136 to the Early Bronze Age, *i.e.*

and that of the North Pontic steppe along its eastern confines, where it is attested for cemeteries near Ternopol and Kherson in the Ukraine (Gimbutas 1965: 460, fig. 301; 486, fig. 322), and at Novyi Arshti in the northeastern Caucasus, the latter assigned to *c.* 2200 BC, *i.e.* the latest stage of the Early Bronze Age (Gimbutas 1973: pl. 24). For an exhaustive overview of the distribution of Early Bronze Age tumuli, see Primas 1996: 126 (= Kilian-Dirlmeier 2005: 8, abb. 79) and Kilian-Dirlmeier 2005: 165 (list); 84, abb. 78.

In attempting to relate these archaeological data to linguistics, it is of relevance to note that, as we have already hinted at in the above, the indigenous Middle Helladic population groups encountered by the invading chariot-gang of Hyksos-like background at the transition from Middle Helladic to Late Helladic I, *c.* 1600 BC, are in the main positively identifiable as southern offshoots of Phrygian and Thracian tribes.

As first observed by Stanley Casson and later elaborated by Best, the memory to a one time Thracian presence in central Greece is preserved in the myth of *Tereús* ruling at Daulis in Phokis and the epiklesis of Apollo *Sitáalkas* at Delphi — two typical Odrysian royal names, whose role in the local history can be dated back to at least the early stage of the Late Bronze Age on account of the fact that the ethnic adjective *o-du-ru-wi-jo* “Odrysian” is attested for a stirrup jar of Cretan manufacture inscribed with a Linear B legend from the destruction layer of the “House of Kadmos” at Thebes, *c.* 1350 BC. This belonged to a larger shipment of some 120 vases presumably, in view of the find of inscribed stirrup jars of similar type at Orkhomenos, Kreusis, and Gla, destined for the Theban hinterland (Farnoux and Driessen 1991: 89). This evidence is supplemented by that for Thracians more in general among the original population groups of central and southern Greece as handed down in the tradition about the war waged by the Athenian Erekhtheus or Erikhthonios against *Eúmolpos* (= Greek translation of a cultic title) and his Thracians at nearby Eleusis, which for the use of the chariot by the aggressor obviously postdates the introduction of this weapon *c.* 1600 BC and in the course of which Eumolpos and his son *Ímaros* or *Immárados* are reported to have taken refuge

either synchronous with or anterior to the introduction of this type of grave in southern Greece.

to the court of their Thracian kinsman *Tegúrios* at Tegyra near Orkhomenos in Boeotia, as well as in the form of the gens of the *Thrakides* recorded for Delphi. Other Thracian tribes attested for the Greek mainland worth noting here are the *Ábantes* inhabiting Euboia at the time of the Trojan war, c. 1280 BC, according to Homer but probably originating from or also at home in the mainland in view of their association with *Ábai* in Phokis, which name is obviously related to that of *Ábas*, the interloper of indigenous background from the kinglist of Mycenae (see above) and in fact constitutes a southern dialectal variant, characterized by Greek *s* > *h*, of the Thracian tribal name *Sápai* or *Sapaĩoi* as attested for the inhabitants of the Aegean coast of Thrace opposite the island of Thasos, also recorded in shorthand variant *Sáoi* (< heros eponym *Sáos*) for the Thracian population of Samothrace.³⁶

However, as rightly stipulated by Casson, there is also evidence of Phrygians among the earliest recorded inhabitants of Greece. Most famous in this respect is, of course, the case of *Pélops*, also associated with the chariot in the Olympian myth of his race against Oinomaos for the hand of the latter's daughter Hippodameia, after whom the *Pelopónnēsos* (= "island of Pelops") is named. But equally revealing appears the fact that Attica according to literary tradition was once called *Mopsopíā* after *Mópsos* or *Mópsopos* (< **Mopsops*), a name of the same type as Pelops and recalling *Phaĩnops* as reported by Homer amongst the leaders of the Phrygian allies of Troy in its war against the Akhaians of c. 1280 BC. We have from the same source *Mérops* of Perkote, the father of the leaders of the Trojan contingent from the district of Adrèsteia, Pityeia, and Tèreia — place-names of distinct Phrygian (royal name *Ádrāstos*, see below) and Thracian (gloss *πιτύη* "treasure" and Odrysian royal name *Têrēs*) type — in this particular war, not to mention the apparent derivation of *Attikē* itself from the Phrygian divine name *Áttis*.

As we have already observed in the above, a Phrygian presence among the indigenous Middle Helladic population groups of southern Greece can also be detected by means of

³⁶For the *Kaíkōnes*, possibly related to the *Kíkones* (< heros eponym *Kíkōn*) inhabiting the Aegean coast of Thrace between the Bistonian lake and the mouth of the Hebros in the historical period, see further below.

their influence on the Mycenaean ruling families as founded by the leaders of the invading charioteers of Hyksos-like background like Danaos at Mycenae in the Argolid and Kadmos at Thebes in Boeotia, through intermarriage. Thus one of the sons of Pelops who ascended to the throne at Mycenae, *Atréús*, bears an ethnically diagnostic name in this respect for its correspondence to Phrygian *Otreús*, one of the commanders of the Phrygian troops mustered along the banks of the Sangarios in order to fight the Amazons at a time the Trojan king Priamos was still young enough to personally join them in battle as an ally. Another legendary Mycenaean king with a Phrygian type name is *Ádrāstos*, the ruler of Argos who headed the expedition of the Seven against Thebes sometime in the early 14th century BC (note that the destruction of the “House of Kadmos” at Thebes *c.* 1350 BC, reflected in literary tradition by the more successful assault of the *epígonoi*, serves as a *terminus ante quem*), whose name is identical to that of the ill-fated Phrygian prince *Ádrāstos*, son of king Gordias, who according to Herodotos had taken refuge in the court of Kroisos (559-546 BC) in Lydia because of fratricide. In this particular case the Phrygian connection receives further emphasis from the fact that Adrastos is stipulated to have escaped ignominiously from battle on one of his chariot horses, Arion. This is paralleled by his namesake in the Trojan War, *Ádrēstos*, one of the sons of Merops, the leader of the Trojan contingent from the district of Adrēsteia, Apaisos, Pityeia, and Tēreia along the northeastern coastal zone of the Troad, who likewise fled in utter dismay upon the breakdown of his chariot. This latter, moreover, is credited with the foundation of a cult in the plain of Adrasteia called *Némesis Adrāsteia*, in like manner as his mainland counterpart is reported to have founded the *Nemean games* in the place after which these are named situated along the road connecting the isthmus of Sikyon and Corinth with Mycenae. As a matter of fact, the region of Nemea is further characterized by toponymic correspondences with the aforesaid part of the Troad (river *Asōpós*, *Apaisantian* mountain, spring *Adrāsteia*, resembling the Trojan river name *Aisēpos* and the earlier mentioned place-names *Apaisós* and *Ádrēsteia*), and presumably the cult of a Kybela-type of mountain-goddess associated with lions and Phrygian male escorts (*Phoronis* frgm. 2 Ki) in like manner as the goddess Adrasteia or Adrēsteia venerated at mount Tēreia.

To these examples might be added the personal names *Akrísios*, *Arkás*, *Azán*, *Azeús*, *Kelainós*, *Khlōrís*, *Phórkūs*, *Phríxos*, *Proĩtos*, and *Teútamos*, the divine form of address *Khárītes*, and the place-names *Azanía*, *Midéā*, *Olumpíā*, *Phríkion*, *Phríxa*, *Phríxos*, and *Phrugíā*, corresponding to Phrygian *agaritōi* “ungracious (D sg.)”, *Akrísias* (divine name), *Arkiaevais* (patronymic), *Azanoi* (ethnonym), *Brīges* or *Brúgoi* (ethnonym), *Mídās* (royal name), *glouros* “gold” (gloss), *Kelainái* (place-name), *Olumpōs* (mountain name), *Phórkūs* (personal name), *proitavos* (titular expression), and *teutous* “people”.

Just as in the case of the Thracian ethnic adjective *o-du-ru-wi-jo* “Odryian”, the ancient nature of this Phrygian layer discernable in the earliest history of Greece can be substantiated by the attestation of related forms of some of the given examples in Linear B, like *a-da-ra-te-ja* or *a-da-ra-ti-jo*, *a-te-re-wi-ja*, *ke-ra-no*, *mo-go-so*, *te-u-ta-ko-ro* or *te-u-to*, and *u-ru-pi-ja* (Casson 1968: 102-103; Best 1973; Best 1989; Woudhuizen 1989; Woudhuizen 1993a; Woudhuizen 1993b; Woudhuizen 2006a: 60; 99; 2006b: 146).

Even though Minyan cultural influence on Crete is negligible, a migration of Pelasgians from the Greek mainland to Crete under the leadership of *Teútamos* is reported by the literary sources, which, in view of the fact that the Teutamos in question is staged as the father of Asterios (< PIE **h*₂*ster*-“star”), who in turn begot Minos, Rhadamanthys, and Sarpedon, the first of whom epitomizes the era of Minoan thalassocracy, *c.* 1600-1450 BC, and the second, as we have noted above, cannot be dissociated from the introduction of the chariot, *c.* 1600 BC, not to mention the fact that the third is linked with the foundation of the Minoan colony at Miletos, also *c.* 1600 BC, may reasonably be assigned to the Middle Helladic period. Considering the fact that the closely related personal name *Teutamías* is recorded for a likewise Pelasgian king of Larisa in Thessaly at the time of Akrisios’ deposition by Perseus, it may perhaps be suggested that the latter relationship coincides with the correspondence in name between the mythical ruler from the “Minyische Schicht” in the royal house of Iolkos, Kretheus, who is the father of Pelias and Neleus and hence may be dated back to a generation before *c.* 1600 BC, to that of the Cretan king whose daughter Teutamos is said to have married, also called Kretheus, in

which case cultural contacts eventually resulting in intermarriage between Crete and Thessaly during the Middle Bronze Age would be indicated (cf. Linear B *ke-re-te-u*, PY Ea 59).

However this may be, what primarily concerns us here is that Pelasgian, or more specifically Phrygian, presence in Minoan Crete is confirmed by epigraphic evidence from Minoan Linear A and the intrusive Mycenaean Linear B of Knossos. Thus Linear A votive inscriptions on a stone ladle from a peak-sanctuary at Kythera, dated *c.* 1600 BC, and two double-axes of gold and silver from a deposit in the cave of Arkalokhori in the eastern part of the Mesara valley, presumably postdating the Santorini-eruption of *c.* 1450 BC for the palace-style decoration of some of the other double-axes associated with this find, reading *da-ma-te* and *i-da-ma-te*, respectively, bear testimony of a divine name characterized by a reflex of the PIE root **méh₂tēr-* “mother”. As this kinship term is definitely lacking in the otherwise discernable Luwian (see below) and, also in view of the fact that Linear B *ma-ka* “Mother Earth” clearly points to $\gamma\hat{a}$ or $\gamma\hat{\eta}$ as the Greek reflex of **gda-*, the divine name first mentioned can hardly be explained in Greek terms either, it may reasonably be suggested that the given Linear A evidence on PIE **méh₂tēr-* should rather be attributed to Phrygian with its marked predilection for a *matar*-cult, the central deity of which is actually also known as *Ída hē máter* “the Idaian Mother”. If so, then with the noted restriction that the phonetic development **gda- > da-* “earth”, on account of the Anatolian Phrygian place-name *Gdanmaa*, only applies to the Pelasgian environment of its most southwesterly speakers (Woudhuizen 2006a: 143-146; Woudhuizen 2006b: 52-53).³⁷ Typically Phrygian as well are the personal names *mi-da* “Midas” and *ka-nu-ti* “Kanutie-”³⁸ as recorded for Linear A tablets from the

³⁷Note that the identification of Pelasgian *da-* as “earth” receives welcome confirmation from the variants of Poseidon’s (Linear B *po-se-da-o-ne* (KN V 52 [D sg.]) < **potēi-dās* “Lord of the Earth”) traditional epithet $\acute{\epsilon}\nu\nu\sigma\acute{\iota}\delta\alpha\varsigma$ < Linear B *e-ne-si-da-o-ne* (KN Gg 717 [D sg.]), $\acute{\epsilon}\nu\sigma\acute{\iota}\chi\theta\omega\nu$, $\acute{\epsilon}\nu\nu\sigma\acute{\iota}\gamma\alpha\iota\omicron\varsigma$ “earth-shaker”, cf. Janda 2000: 257. KN = Knossos.

³⁸Cf. the patronymic *Kanutieivais* in P-03 (P = Pteria); its occurrence in form of *Kanuties* (G sg.) in an Oscan inscription (Vetter 1953: no. 126) may plausibly be ascribed to Phrygian adstrate influences detectable among the surge of west-Anatolian settlers responsible for the development of the Etruscan culture, cf. names like Adrastos (Etruscan *atresθe*), Ascanius, Marsyas,

modest archives of the annex to the palace of Phaistos at Hagia Triada (viz. HT 41.4 and 97a.3),³⁹ presumably dating to the same period as the major Linear B ones of the palace at Knossos of c. 1350 BC.

In these latter, then, we come across personal names like *mo-go-so* “Mopsos”⁴⁰ and, possibly, *te-u-to* “Teutos”, and the color indication *ke-ra-no* “dark”, which, as we have seen in the foregoing, are intimately linked up with the Phrygian deep-layer in the history of Greece (but note that the onomastic element *Teuta-* or *Teuto-* < PIE **teutā-* “society, folk, people” had a much wider distribution in view of its occurrence in, for example, Thracian [*Tautomedes*, etc.] and Illyrian [*Teutiaplos*, see Krahe 1955: 63] personal names as well, which, of course, diminishes its diagnostic value in the present context). Furthermore, it deserves our attention in the present connection that the Knossian Linear B texts also bear witness of the social organization *du-ma*, from which the composite titles for cult officials *me-ri-du-ma-te* and *po-ro-du-ma-te* as attested for the Pylos tablets are derived, and which in the field of onomastics generated the related personal name *Dūmas*, attributed by Homer (*Odyssey* VI, 22) in the Cretan context to a Phaiakian of Skheria (= the ancient name of modern Hagia Triada, see Woudhuizen 1992: 42-47). This attention is worthwhile because, as convincingly demonstrated by Wolfgang Fauth (1989; cf. Lubotsky 1997), Linear B *du-ma* cannot be dissociated from Phrygian *duma-* (B-01)⁴¹ or *doum(e)* (D sg.) denoting some sort of official organization which in later times evolved to a religious association of women and

and Sergestus (< Phrygian *Surgastoy* [D sg.] as per Beekes 2002: 214).

³⁹HT = Hagia Triada; numbering of the Linear A texts according to Brice 1961.

⁴⁰Note that in the Luwian hieroglyphic inscription from Çineköy, the royal name *Muksas* appears in combination with that of *Awarkus*, whose name has been analyzed by Forlanini 1996 as a reflex of Cretan (*W*)*rhākios*, in turn related to the Phrygian ethnonym *vrekun-*. Interestingly, as duly noted by Jasink and Marino 2008: 408-409, this latter personal name is already attested in variant form characterized by *a/o*-vowel change as *wo-ro-ko-jo* for a Linear B inscription from Pylos (PY Sa 763). If we are right, then, in our analysis of the ethnonym *Akhaioi* as derived from Phrygian *akkalos* “water” (see in the above), it so happens that with the royal names *Muksas* and *Awarkus* and the ethnonym *Hiāwa* we are confronted in the Çineköy text with a high concentration of Greek onomastics, indeed, but of ultimate Phrygian background.

⁴¹B = Bithynia.

which, in view of the mention by Homer (*Iliad* XVI, 718), again, of a Phrygian king *Dúmas* from the region along the banks of the Sangarios, can likewise be shown here to have a reflex in the realm of onomastics. Next, it might reasonably be argued that the place-name *da-wo*, which likely refers to the sanctuary of modern Hagia Triada as distinct from its civil quarters which we have already seen to be identical with Skheria,⁴² is related to Phrygian *davo-* “god” (M-06), probably a variant-reflex of PIE **diyēw-* otherwise represented by *devo-* or *deo-* (cf. Woudhuizen 1993a: 14; Woudhuizen 2008-9). Yet another Phrygian type of place-name encountered in the Mesara valley is *Górtūs* or *Górtūn* or *Gortyns*, already known from Linear B in form of *ko-tu-we* (D sg.) at Pylos (Hiller 1996: 81-82) and, possibly, *ku-ta-to* (< **Gurtanthos* on the analogy of *Tīruns* < Linear B *ti-ri-to* = **Tirunthos*) at Knossos, which corresponds to Thessalian *Gurtónē* and Phrygian *Górdion* and as such likewise constitutes a reflex of PIE **g^hord^h-* “town”.

Finally, it is worthy of note here that Apollonios Rhodios, *Argonautica* III, 168-169, preserves the memory to *Ádrāsteia* who is reported to have nursed Zeus after his birth in the Idaian cave — no doubt a reminiscence of a former local cult of the Phrygian Kybela-type of mountain-goddess we already came across in the region of Nemea in the Argolid and mount Tēreia in the northeastern part of the Troad.

It should be realized, however, that the Linear A texts from Hagia Triada and their Linear B counterparts from Knossos, as rightly pointed out by Best (1989), incidentally also provide evidence of Thracian personal names, as exemplified by *pi-ta-ka-se* “Pittakas” (HT 21a.1) or *pi-ta-ke-si* “Pittakēs” (HT 87.2) and *go-wa-ke-se-u* “Goakseus” (KN As 602), which, though, in line with the ethnic adjective *o-du-ru-wi-jo* “Odryasian”, are rather to be explained in the frame of reciprocal contacts with the Greek mainland (or even with the southern parts of Thrace in the north Aegean itself, see below) than as the result of some otherwise unrecorded immigration of more substantial nature as we have just argued to be viable in the Phrygian case (but the possibility that these migrants consisted of a mixture of Phrygian and Thracian

⁴²Woudhuizen 1992: 42-47, with reference to the analogy provided by the distinction of the Knossian sanctuary *da-pu₂-ri-to-* “Labyrinth” from the town *ko-no-so* “Knossos” in the Knossos tablets; note also, with Hiller 1982: 56-58, the occurrence in Linear B of *i-je-ro iερόν* “shrine” alongside *wa-tu (ϕ)ᾶστν* “city”.

elements can, of course, considering the contiguous nature of their habitats on the continent, not be discarded out of hand).

In contrast to the situation in the Cretan context, which, as we have noted previously, is, admittedly much to our regret, rather uninformative in this respect, the correlation between the later Early and Middle Helladic so-called Minyan culture and population groups of Thraco-Phrygian background as observed for the Greek mainland can be substantially enhanced by the relevant evidence from the Anatolian theatre. As has been duly acknowledged in the past, the pottery of the Trojan civilization in the northwestern corner of Asia Minor, especially from the beginning of Troy VI *c.* 1800 BC onwards, is so closely related to that of Middle Helladic Greece that it is actually called Minyan ware by a number of archaeologists, one among them being one of the illustrious excavators of the site, Carl Blegen (1963: esp. 111). Now, owing to the merit of Leonid Gindin (1999) we are in the position to positively identify the language of the Trojans insofar as this is revealed by Homeric data as of Thraco-Phrygian nature. Particularly instrumental to this purpose are names like the *Skaiaí* gates, *Kebriónēs*, *Laomédōn ho Phrúks* and his wife *Strumō*, *Páris*, the Phrygian descent of Priamos' wife *Hekábē*, and the correspondence of the first element of *Príamos* to that of the place-names *Príāpos*, *Priēnē*, and Phrygian *Prietas*, which is related to Phrygian *prieis* “carae” < PIE **priyá-* “(be)love(d)” (cf. Woudhuizen 2006a: 108, note 520).⁴³ In line with this accomplishment, it deserves our attention that the Trojan cultural influence as deducible from the distribution of its distinctive variant of Minyan can be shown to have radiated to the east at least up till the confines of the

⁴³If Luwian *Pariyamuwas* indeed fits into the latter sequence, as suggested by Calvert Watkins (1986: 54), it must likewise be assumed to show a reflex of the PIE root in question, which, of course, is altogether possible. Note that the southern Balkan affinities of the Trojan royal house as reconstructed in Greek literary tradition, see Pauly-Wissowa Realencyclopädie, s.v. *Dardanidae*, are further stressed by names like *Dárdanos* (hence the ethnonym *Dardanians*, recorded in Egyptian in form of *Drdny* as among the Hittite allies at the battle of Kadesh, 1274 BC) and *Erikhthónios* (cf. Phrygian *kton* “earth” as recorded alongside the regular voiced variant *gdan* of the same root [usually assumed to originate from PIE **d^heǵ^hóm-* by metathesis] mentioned earlier, see Brixhe and Drew-Bear 1997) with cognates among Illyrian ethnonyms, see Detschew 1976, s.v. *Dárdanoi*, and personal names of rulers of the indigenous Middle Helladic population of Attica, respectively.

Sangarios river already during the Middle and Late Bronze Age (see map by James Mellaart as reproduced in Palmer 1965: 326, fig. 46). Contrary to the opinion of Leonard Palmer, who used this argument in defence of his Luwian theory as to the identity of the pre-Greek population groups, this distribution pattern of the Trojan type of Minyan ware, if related to that of Luwian hieroglyphic inscriptions from about the same chronological horizon, for their being mutual exclusive rather than showing any overlap, seriously indicates that the northwest Anatolian culture is *distinct* from its Luwian, or, more in general, IE Anatolian counterpart (cf. Ruijgh and Houwink ten Cate 1962: 286). This inference coincides with the fact that according to the same source on which the Thraco-Phrygian nature of the Trojan language can be based, viz. Homer, the hinterland of Troy up till the confines of the Sangarios river is already inhabited, alongside and/or in close association with their Thracian kinsmen, by Phrygian population groups at least from the time of about a generation before the Trojan war of *c.* 1280 BC, *i.e.* the late 14th century BC, onwards, when Priamos is reported to have come in person to the aid of his Phrygian allies Otreus and Mygdon who had mustered their forces along the banks of the Sangarios in order to ward off the threat by the Amazons (Homer, *Iliad* III, 184-187).

The underlying assumption that Homer's recollection of the ethnic situation in northwestern Anatolia constitutes a genuine reflection of Late Bronze Age realities can to some extent be supported by contemporary sources, like the mention of the Phrygian personal name *Muksas* in the so-called "Indictment of Madduwattas" from the reign of the Hittite great kings Tudḫaliyas II (1390-1370 BC) and Arnuwandas I (1370-1355 BC) in the early 14th century BC, which, as must be admitted, occurs in a badly mutilated context, but, given the fact that this text is preoccupied with the political situation in western Anatolia, may plausibly be inferred to have a bearing on the latter region (Götze 1928: 36-37, Vs 75). To this comes the attestation of the likewise Phrygian personal name *Dáskulos* in the form of *Taskuwalis* on a Luwian hieroglyphic seal of unfortunately unspecified findspot (but compare the related Kaskan place-name *Taskuliya*), assigned to the 13th century BC for stylistic reasons

(Mora 1987: group VIb 1.22).⁴⁴

More revealing in this connection, however, is the fact that the infiltration of Phrygians originating from the European continent into the hinterland of Troy up till the confines of the Sangarios already during the Late Bronze Age forms part and parcel of a much wider pattern of similar population movements affecting the entire Pontic northern coastal zone of Anatolia from the aforesaid hinterland of Troy in the west to Kolkhis in the east. For the regions of Paphlagonia, the coastal zone east of the mouth of the Halys, and the Hittite province Azzi-Ḫayasa to the northeast of Boğazköy/Ḫattusa, this process can be neatly followed in the Anatolian documentary evidence. Thus, it so happens that in the period of the Assyrian trading colonies and the Old Hittite kingdom the sphere of influence of rulers like Anittas (19th century BC) and Ḫattusilis I (1650-1620 BC) definitely includes the Pontic coastal zone as demonstrated by the prominent role of Zalpa or Zalpuwa, identified with either Sinope or İviztepe, but certainly situated along the north-Anatolian coast, in the records pertaining to the respective reigns of these monarchs. But after the Old Hittite period, *i.e.*

⁴⁴Note that even if this seal, like the one from Troy discovered in a layer of period VIIb2 dated to the late 12th century BC, see Latacz 2001: 68, could be shown to originate from northwest Anatolia where this name, in view of its prominence among the members of the royal house of the Mariandynians in Bithynia, appears to be particularly at home, this would not undermine the validity of our distinction between a Luwian or, more generally, IE Anatolian cultural zone on the one hand and a Trojan one on the other, as the distinct population groups of these respective cultural regions are stipulated in the contemporary sources to have been in contact with each other by means of war, alliance, dynastic marriage, etc., to which palette no doubt trade must be added. In line with this observation, it is worth noting that there can be found nuclei of Luwian population groups in the Troad, like the Lycian followers of Pandaros from the region of Zeleia along the Aisopos and the branch of the Trojan royal house represented by Ankhises and Aeneas, being particularly associated with the territory of the Leleges and/or Kilikes in the plain of Adramytion, where these inhabited places like Thebe, Lyrnessos, and Pedasos. Conversely, the southern extension of Trojan Minyan ware along the coast of Mysia and Lydia may be linked up with the infiltration of Pelasgians from the Greek mainland who, in view of personal names like *Píasos* and *Nánas*, were not numerous enough to cause a language shift and went over to the indigenous Luwian, while, as indicated by the Lydian divine names *Leús* and *Lamêtruś*, radiating in the sphere of religion only their cult of Zeus (considering the typical Anatolian *d/l*-change in form of **Deu-*) and Demeter, see Woudhuizen 2006a: 93; 99-100; 143.

from c. 1500 BC onwards, the region of Zalpa was permanently lost to the Kaska, who, on the basis of onomastic (*Ashalapas*, *Kuriyallis*, *Taskuwalis*, *Pittaggatallis*, *Pittaparas*, *Pendumlis*, *Huhazalmas*) and toponymic (*Midduwa*, *Duma* or *Tuma*, *Kurtalisa*, *Pargalla*, *Zidaparha*, *Taskuliya*, *Zagapura*, *Aripsa*, *Kappuppuwa*, *Kapperi*) evidence, can positively be identified as Phrygians (cf. the onomastic elements *aska-*, *kuriya-*, *dasku-*, *mid-*, *duma-*, *gord-*, and *briga-*) and Thracians (cf. the onomastic elements *pitta-*, *-para-*, *bend-*, *-pori-*, and *-zalmi-*, and the place name *Arısbē*) of Aegean background (cf. the Cretan variant of the Luwian divine name Kupapa, **Kapupu*, and the *Kábeiroi* or “Great Gods” of ultimately Theban antecedents), having intermingled with the local IE Anatolian population (onomastic elements *zida-* or *ziti-*, *huha-*, *-ali-*, and *-talli-*) (von Schuler 1965; Woudhuizen 1993b; Woudhuizen *forthc.* 1). Similarly, it is generally acknowledged that the Palaic language as once spoken by the IE Anatolian population of Paphlagonia had already ceased to be a living speech at the time of the earliest texts recording it from the 16th century BC (Carruba 1970: 1-4; Melchert 1994: 10), which fact may well receive meaningful explanation within the frame of the progressive infiltration of Paphlagonia by new settlers possibly of Thracophrygian background. At any rate, the attestation of the Phrygian royal name *par excellence*, Midas, for a disloyal vassal of the Hittites in the region of the northeastern province of Azzi-Hayasa in a text from the reigns of Tudhaliyas II (1390-1370 BC) and Arnuwandas I (1370-1355 BC), *Mita of Pahhuwa*, may reasonably be assumed to indicate Phrygian penetration in this particular part of the north-Anatolian Pontic coastal zone as well.

This latter inference, finally, receives further emphasis from the fact that the Armenian colonization of Kolkhis, which, as we have already noted earlier, is specified by Herodotos as an *apoikia* of the Phrygians, is generally acknowledged to be reflected in the myths about Phrixos and the golden fleece and the Argonauts. Insofar as its initial stage is concerned this event can at least be dated back to the earlier phase of the Late Bronze Age on the basis of the chronological background of the saga of the Argonauts, which not only has been shown to preserve the memory of typical Hittite (*i.e.* Late Bronze Age) rites concerning the legitimization of royal power (Haas 1978) and to be

onomastically firmly rooted in the Mycenaean period (Hiller 1991), but also happens to be intricately linked up with the “Minyische Schicht” in the royal house of Iolkos in Thessaly as represented by Pelias, who as a brother of Neleus can safely be assigned to the period of *c.* 1600-1400 BC (cf. Casson 1968: 104 based on Strabo, *Geography* 11.14.12).⁴⁵

Within the frame of our previous reconstruction of the Bronze Age history of Greece, it lies at hand to assume that the noted tendency of Phrygian and Thracian population groups from the southern Balkans to migrate to the Pontic coastal zone of northern Anatolia was set into motion by the arrival of the chariot fighters of Hyksos-like background in southern Greece *c.* 1600 BC and the resulting displacement of the indigenous Middle Helladic Phrygian and Thracian tribes. At any rate, it is worth noting that Bronze Age contacts between the Aegean on the one hand and the Pontic region on the other are otherwise manifested in:

- (1) the distribution area of Cretan Linear A inscriptions, which runs from Samothrace (SA Wc 1, dated to the 18th century BC; cf. Facchetti 2002: 138),⁴⁶ Drama (DRA Zg 1 from a Late Helladic IIIB/C deposit, but perhaps to be assigned to the earlier date of the 15th or 14th century BC, see Fol and Schmitt 2000), and Troy (TRO Zg 1-2, dated *c.* 1800 or 1700 BC, see Godart 1994; cf. Faure 1996 for two more inscriptions, assigned to about the 16th to 14th century BC) in the north Aegean all the way to Eski Samsun or Amisos (without proper find-context, see Bossert 1942: abb. 6, also included in Brice 1961: pl. XXIX, V3) at about the middle of the Pontic coast of north Anatolia; and
- (2) Linear B forms from the Knossos and Pylos tablets related to place-names in the north Aegean (*i-mi-ri-jo*

⁴⁵Note also the *Scholium* to Apollonios Rhodios, *Argonautica* I, 1024 which traces the origin of the Armenian tribe of the *Mákrōnes* back to Pelasgians from Euboia and hence further underlines the Pelasgian, *i.e.* Thracio-Phrygian, nature of the colonization of Armenia.

⁴⁶Note that Minoan influence in the north-Aegean region is underlined by the tradition according to which Rhadamanthys gave Maroneia, situated on the Thracian coast opposite Samothrace, to Euanthes, the father of Maron (*Fragmente der griechischen Historiker* B3, 468, fr. 79), see Tiverios 2008: 124, note 657 (my thanks are due to my friend and colleague Frits Waanders for kindly presenting me with a copy of the book in which this contribution appeared).

“Imbrian”, *ra-mi-ni-jo* “Lemnios” and *ra-mi-ni-ja* “Lemnians [F]”), Troad (*si-mi-te-u* “Smintheus”, *to-ro* “Tros” and *to-ro-ja* “Trojan [F]”), Thracian Khersonesos (*ku-pa-si-ja* “Kupasian [F]”),⁴⁷ Hellespont (*ra-pa-sa-ko* “Lampsakians” and *ra-pa-sa-ko-jo* “of Lampsakos [G sg.]”), Propontis (*pe-ri-te-u* “Perintheus”), and southern Pontic region (*pa-pa-ra-ko* “Paphlagon”, *ko-ki-da* “Kolchidas” and *ko-ki-de-ja* “Kolchideios”).⁴⁸

In addition, these contacts are also reflected in the archaeological record in the form of, for instance, imitations of Mycenaean and Trojan pottery reported for Georgia (Latacz 1988). (Note that as one of the consequences of the Balkan origin of the Armenians the *satem*-nature of their language must be considered as a secondary development resulting from longstanding and close contacts with the Iranians in their new habitat.)

It goes without saying, of course, that the earliest Phrygian and Thracian immigrants along the northern coastal strip of Anatolia as discussed in the foregoing were substantially reinforced by kinsmen from the European continent during the period of the upheavals of the Sea Peoples at the end of the Bronze Age, *c.* 1200 BC, as indicated in particular by the introduction of the so-called “Buckel Keramik” characteristic of Troy VIIb1-2, radiating at least to the later Phrygian capital Gordion, and the forward thrust of large numbers of Muski and Kaska into the east-Anatolian border zone with Assyria documented in the annals of Tiglathpileser I (1115-1077 BC).

As an interim conclusion of our discussion of the events at the transition from Early Helladic II to Early Helladic III, *c.* 2300 BC, it may safely be inferred that the newcomers in southern Greece from the northern Balkans and/or North Pontic steppe were, insofar as the evidence allows us to determine, Phrygians and Thracians, which means representatives of our innovatory group B among the Indo-

⁴⁷F = feminine.

⁴⁸Ventris and Chadwick 1973: glossary, s.v.; cf. Parker 1999: 496; Palaima 1991: 280; 307; Plath 1994: 403; Hiller 1991: 214; for *Qulha* “Kolchis” as a reference to the region east of Trabzon near Batum in an Urartian text of Sarduri II (756-*c.* 730 BC), see Salvini 1995: 66-67; cf. maps 1-2 of pp. 242-245; cf. Woudhuizen 2009: section III.2.

European language family, characteristic of phase II in the latter's development, *i.e.* before the shift of palatovelars to affricates or spirants typical of Indo-Aryan. This same verdict also applies, as we have just seen, to the bearers of the Minyan culture in northwest Anatolia, while in the Albanian context the introduction of the North Pontic steppe burials within stone circles under tumuli comparable to the ones found in Middle Helladic southern Greece may likewise be attributed to speakers of our group B, namely the Illyrians.

5. Northern immigrants in Anatolia and the Levant *c.* 2300 BC

If we turn our attention from the Greek mainland to Anatolia, it so happens that the transition from Early Bronze Age II to Early Bronze Age III *c.* 2300 BC here also is marked by (for the adherents of the Anatolian homeland theory ominous) signs of discontinuity in the cultural development, be it — apart from the evidence for destruction this usually entails — of a different kind from the ones noted in the Greek context thus far. Of relevance in this connection is first of all the fact that the famous royal tombs of Alaca Höyük in the heartland of the later Hittite kingdom, dated to *c.* 2300-2100 BC, have recently been convincingly shown by Nathalie Tschora to be diagnostic of immigrants from the Kura-Araxes and/or Maïkop-Kuban region of, respectively, the southern and northern Caucasus to the east. This is indicated by:

- (1) the type of grave, usually designated as shaft graves but in actual fact chamber or house tombs with a stone floor and wooden roof, which is most closely paralleled for the likewise royal burial at Maïkop on the steppe side of the Caucasus mountain range during the immediately preceding period (*c.* 2500 BC), the latter certainly under a tumulus as plausibly suggested for its counterparts at Alaca Höyük;
- (2) the inventory, characterized by symbolic weapons (hammer-axes and daggers) of gold and bronze and the well-known bronze (sometimes in combination with gold, silver or electrum) standards topped by solar discs with figurines of bulls and stags inside or alternatively by bulls and stags all by themselves perhaps once forming part of the accoutrements of entirely disintegrated four-wheeled wooden funereal wagons, which recall similar weapons from the Russian steppe region and, more specifically, the

- bull and stag protomes and bronze standard with wheel-formed pendant from Maïkop, again, and Tsarskaya and other Kuban burials, as well as bronze figurines of bulls and stags from the inventory of graves at Lenkorân and Agha-Evlar in the southern part of the Kura-Araxes region dating from the late 4th or early 3rd millennium BC; and
- (3) the burial rites typified by the use of ocre and sacrificial animals (pairs of bovids, probably the ones who drew the funereal wagon) of which only the head and hoofs are deposited, which customs, just like the type of grave with its wooden roof and tumulus and the hammer-axes and particularly the representations of stags among the inventory, are definitely of North Pontic and/or North Caspian steppe antecedents (Tschora 2004).

If we realize, then, that, as commonly believed, the Alaca Höyük standards were cult objects representing deities (cf. Özgüç 1948: 104; Yakar 1985: 249; Börker-Klähn and Krafzik 1986; guide of the *Museum of Anatolian Civilizations* of 2002 ad fig. 82) and that, thanks to Emilia Masson (1991: esp. 232), the ancient Indo-European trifunctional religious ideology as embodied by the sun- (F1), bull- (F2), and stag-god (F3) has been demonstrated to be faithfully preserved by the Hittites and to be even traceable during the intermediate period between that of the Alaca Höyük burials and the Old Hittite kingdom for a text from the Kültepe-Kanesh period featuring the stormgod of Zippalanda, *i.e.* the Middle and Late Bronze Age name of Alaca Höyük according to Maciej Popko (1994: 13), in second position, there can be no doubt that the immigrants from the Caucasus region arriving at Alaca Höyük during the 23rd century BC, as well as their colleagues from related burials at Horoztepe and Mahmatlar dating from the same chronological horizon, were in fact ancestors of the Hittites. This latter inference calls to mind the observation made by Ferdinand Sommer already sixty years ago that the Hittites had preserved the memory of a former habitat in a ritual text from the reign of great king Muwatallis II (1295-1271 BC) according to which the sun rises from the sea, which eminently suits a Caucasian setting of their homeland where the sun indeed comes up from the Caspian sea. Similarly, it goes a long way to help us to explain the fact that the east-Anatolian province of Isuwa (= region of modern Elaziğ east of

the upper Euphrates) with towns like Ḫatrā and Ḫemmuwa was still considered an integral part of the Hittite realm in the earliest phase of the Old Kingdom period, whereas this was of only marginal interest at later times, being located in a border zone which was actually outside the sphere of influence in times of weakness of the regime and drawn into the orbit of the Hittites' eastern neighbors, first Mittanni and later Assyria. Finally, the Caucasian origin of the Hittites puts us in a position to comprehend their former sunoikism with the Manda-people, who according to a law text in the past had, like other formerly privileged groups including the men from Ḫatrā and Ḫemmuwa in the province of Isuwa, been exempt of feudal obligations. They are to some extent historically tangible as they feature under the name of *ummān-manda* "Manda horde" in the so-called "Kuthaeon Legend of Narām-Sin" of Akkad (2291-2255 BC) as northern mountain dwellers bringing down with their raids the latter's illustrious empire and even taking possession of its capital Babylon only to be expelled from it more than a century afterwards by one of Narām-Sin's successors, the king of Uruk Utu-khegal (2120-2114 BC) (Sommer 1947: 1-7; cf. Drews 1988: 226-230; Gadd 1971). Now, the ominous Kuthi or Gutī of this legend, whose homeland in the mountainous lower Zāb region of western Iran in a later text from the time of Hammurabi (1792-1750 BC) was also addressed as Tukri, have on the basis of these two variant names been convincingly identified by Walter B. Henning (1978) as Tocharians, who inhabited the Tarim basin along the western border of China at the time from which the documents in their language stem, *i.e.* from the 5th or 6th century AD onwards, and who designate themselves in these texts as *Kučī* (< Gutī) or whose language is alternatively called *Tocri* by an Uyghur scholiast (cf. Mallory and Mair 2000: 280-282). It deserves our attention in this connection that the validity of the given legendary information from the reign of Narām-Sin of Akkad receives further emphasis from the fact that this king, like his predecessor Sargon I (2371-2316 BC), is also reported to have been in contact with Anatolia apparently already before the arrival of the ancestors of the Hittites in the region of the Halys bend as among the coalition of his Anatolian adversaries consisting of as many as 17 kings is staged the indigenous Ḫattic king Pamba (Sommer 1947: 11; cf. Gurney 1990: 14-15; 149). As it seems, then, the Kura-

Araxes region of the southern Caucasus had been infiltrated by speakers of an Indo-European tongue at least as early as before the 23rd century BC if not actually from the final stage of the 4th millennium BC onwards (see further below), who may plausibly be identified as the ancestors of the Hittites and the Tocharians, *i.e.* representatives of our conservative group A, living together in some form of symbiosis here until the time of their dispersal at the end of the reign of Narâm-Sin of Akkad, when the former group moves to the west into the Halys bend in central Anatolia and the latter goes through Mesopotamia to the east, passing Tochristan in Bactria along the route, where, considering its name in later Greek sources, it may have left some traces, in order to find its final destination in the Tarim basin. This scenario does not allow, however, for the localization of the Indo-European homeland in the Caucasus as advocated by Gamkrelidze and Ivanov (1995: 850-851), because the diagnostic cultural features clearly indicate that these particular speakers of an Indo-European tongue ultimately originated from the North Pontic and/or North Caspian steppes and therefore must be assumed to have split off from the main body of speakers of this language family at least before the 23rd century BC if not actually from say *c.* 3100 BC onwards.

In regard to southern and western Anatolia, there is, as duly stressed by James Mellaart (1971: 406-410), in general large-scale evidence for destruction of settlements from the beginning of Early Bronze Age III onwards (note the destruction by fire in this period of Troy in the northwest, Karaoğlan near Ankara, Karataş-Semayük in Lycia, and Tarsus in Cilicia, see Alkım 1969: 81-128; on Tarsus, see esp. Goldman 1956: 32), but the subsequent lack of evidence for reoccupation, which induced Mellaart to the assumption that the affected regions became the grazing grounds for nomads, is not particularly helpful in identifying the perpetrators by positive criteria. Nevertheless, at those sites where reoccupation is indeed recorded, as at Tarsus in Cilicia, the new era is marked by the distribution of the Trojan *depas amphikupellon* up to the confines of Gedikli in the border zone between Cilicia and North Syria (Alkım 1969: 96-97; 113), which suggests maritime contacts directed from the northwest to the southeast. This suggestion coincides with the impression one gets by a glance at the synchronous

distribution of catacomb graves, which are of definite North Pontic steppe antecedents in view of the parallels from the lower Don and Manych areas confidently assigned to the period of *c.* 2450-2250 BC on the basis of calibrated radiocarbon dates (Gimbutas 1970; Gimbutas 1973), in the eastern Mediterranean all along the outer margins of the Anatolian subcontinent, covering various regions in eastern Greece, Crete, Cyprus, Lebanon (Byblos),⁴⁹ and present-day Israel in the southern Levant. Especially the latter case appears to be instructive, since the 177 catacomb graves from the period of *c.* 2300-2000 BC dug up at Jericho by Kathleen Kenyon (1960; *eadem* 1965), which she rightly attributes to Indo-European settlers from the North Pontic steppes, may plausibly be ascribed to the Biblical Hittites as reported for nearby Hebron in the story of Abraham's burial of his wife Sarah in *Genesis* 23:1-20. Even though it must be admitted that the names of the sons of Heth are without exception of Semitic background, which can, of course, easily be accounted for in terms of their merging with the much more numerous local population, it deserves our attention in this connection that the presence of speakers of an Indo-European tongue in the region in question is further underlined by linguistics in the form of the river name *Jordan*, the second element of which shows a reflex of PIE **dānu-* as attested for Old European and North Pontic river names referred to earlier, and the name of Abraham's wife *Sarah*, which cannot be dissociated from PIE **sor-* as traceable, for example, in IE Anatolian female formations in *sara-* like *ḫassusara* "queen" and *iḫasara* "mistress" recorded already for the Kültepe-Kanesh texts from the first centuries of the 2nd millennium BC.

The relationship between catacomb graves on the one

⁴⁹Note that Byblos and Ugarit are included in the list of places characterized by a destruction layer *c.* 2300 BC, and subsequently characterized by cultural traits attributed by Claude Schaeffer to the "torque-bearers", specialists in metal working presumably responsible for the introduction of tin-bronze, originating from the region of Bohemia in central Europe and likely to be identified as proto-Celts, see Woudhuizen 2006b: 144-145. Moreover, the Middle Bronze Age royal tombs at Byblos are, notwithstanding the Semitic nature of the names of the kings buried in them, decidedly of the catacomb type. Against this backdrop, it deserves our attention that the local Phoenician dialect as preserved in the Byblos script shows some remarkable Indo-European substrate influences, see Woudhuizen 2007: 734, note 11.

hand and speakers of an IE Anatolian tongue on the other established in this manner appears to be valid in the context of the insular cultures of Cyprus and Crete as well. To start with Cyprus, it so happens that catacomb graves — one even being a twin catacomb-grave — dating from the Early Cypriote period, which according to Hans-Günter Buchholz begins *c.* 2300 BC (de Jesus 1976: 226), have been discovered at Vounos on the northern coast (Steel 2004: 140). In this particular case the North Pontic origin of the immigrants responsible for their introduction appears to be emphasized to a great deal by the single horse burial of Middle Bronze Age date found at nearby Lapithos (Gjerstad 1926: 81; Herscher 1978: 793), which in fact suggests a special bond between the owner and the animal, since the horse is abundantly represented by bone material in the former region already during the preceding period of the Early Bronze Age and likely to have been domesticated here and used for riding and drawing light vehicles like the chariot. The use of the horse for chariot locomotion, as we have seen in the above, is ascertained for *c.* 2000 BC by the Krivoje Ozero find in Kazakhstan, whereas its use for riding (however deficient this may have been, on which see further below) seems to be at least strongly suggested by the phenomenon of single horse burial we are presently confronted with and have already noted to be paralleled for the North Pontic type of burial at Marathon in Greece from about the same chronological horizon (cf. Bökönyi 1978; Lichardus and Lichardus-Itten 1998). In any case, the language of the Cyprian population as documented by texts in the Cypro-Minoan script dating from the final stage of the Bronze Age, say *c.* 1200-1180 BC, can be positively identified as a Luwian dialect most closely related to Luwian hieroglyphic and Lycian (Woudhuizen 1992; Woudhuizen 1994), a verdict which also applies to the later Eteo-Cyprian as represented by a bilingual inscription with Greek in the Cypriote Syllabic script from Amathus dated to the final decade of the 4th century BC (see Woudhuizen *forthc.* 4), so that the foreigners of North Pontic origins responsible for the introduction of the catacomb graves in the island, with some reservations due the time-gap of about a millennium,⁵⁰ here

⁵⁰The given time-gap can now be diminished by half a millennium if we bring into play seals with a local Cyprian form of Luwian hieroglyphic dating from the late 18th century BC onwards, see Woudhuizen 2009: appendix III.

again may well come into consideration as ancestral speakers of IE Anatolian.

Similarly, the archaeological record of the island of Crete bears testimony of some measure of discontinuity at the end of the corresponding Early Minoan II period, *c.* 2300 BC, as the flourishing settlements at Vasiliki near the bay of Mirabello and Myrtos (Fournou Korifi) along the south coast were destroyed by fire and the ruins of the first covered by simple hovels and that of the second by a peak-sanctuary — a completely new phenomenon for the island, paralleled for the same period at Petsophas along the eastern coast (Branigan 1988: 103) and, at a later date and outside the context of the island, for Anatolia (as, for example, in case of the local cult of Tarsos on “Mount Ishara”, see Haider 2006) and Palestine (think in this connection of the Biblical Moses climbing up the mountain to have a conversation with God). In line with these observations, and against the background of the aforesaid developments in Cyprus and the Levant at the time, it seems not farfetched to assume that the catacomb grave reported for Mavro Spelio, a cemetery in the neighborhood of Knossos, which unfortunately lacks a proper dating, should be assigned to Early Minoan III — perhaps as a *terminus ante quem* (Zanotti and Rhine 1974: 341, fig. 10). In like manner, the earliest evidence for the horse, if rightly identified as such, as presented by an Early Minoan seal may plausibly be chronologically finetuned as belonging to Early Minoan III (Hood 1971: 129, plate 106), whereas welcome additional evidence for the horse during this early period is provided by an ivory seal from Arkhanes found in a stone-built chamber tomb dated to the transitional period from Early Minoan III to Middle Minoan I, *c.* 2000 BC (Sakellarakis 1997: 326-330).⁵¹ If this is correct, it naturally follows that the Old Indo-European river names like *Iárdanos*, *Mesápios* (*Geographi Graeci Minores* I, p. 43), and **Amnis* as exemplified by the related place-name

⁵¹The seal in question (CHIC # 315), which in my opinion can best be described as an Anatolian stamp-cylinder seal adapted to the local Cretan glyptic tradition, alongside the images of horses also bears testimony of yet another instance of the Cretan hieroglyphic libation-formula *a-sa-sa-ra-me* “oh Asherah”, already known from other seals found in the same location and stemming from the same chronological horizon, and no doubt had belonged to a top ranking official, if not the king himself, during the latter’s lifetime, in this manner stressing the elite nature of the rare evidence for horse keeping in the eastern Mediterranean region at the time.

Amnisos are also presumably introduced in this particular period, though an earlier date cannot be excluded beforehand (see further below). Whatever the merits of these latter suggestions, fact is that as soon as the Cretans become literate with the introduction of the hieroglyphic script (of which the main body of the signary is derived from contemporary Middle Bronze Age Luwian hieroglyphic, see Woudhuizen 2009: section I.1) from *c.* 2000 BC onwards and the subsequent development of Linear A from *c.* 1730 BC onwards, their primary language as most prolifically documented for the longer hieroglyphic texts like that of the Phaistos disc and the double-axe of Arkalokhori from the early 14th century BC and as to be carefully distinguished from their simultaneous use of Semitic for initially religious and later also administrative as well as other purposes, turns out to be a Luwian dialect which, just like its Cyprian counterpart, is most closely related to Luwian hieroglyphic and Lycian (Woudhuizen 2006b; Woudhuizen 2009: esp. 50-51; 150-157). This latter observation is in conformity with the onomastic evidence as provided by the documents in the aforesaid two indigenous Minoan classes of writing as well as that from the intrusive Mycenaean Linear B (insofar as it has a bearing on the Minoan population of Crete, of course) according to which patent Luwian names are by far more prolific than Semitic or Pelasgian ones or the ones from any other distinguishable ethnic entity (cf. Billigmeier 1970; see Woudhuizen 2009: section I.4).

Against the backdrop of the identification of the North Pontic immigrants responsible for the introduction of the catacomb graves with speakers of IE Anatolian in the Levantine, Cyprian, and Cretan contexts discussed in the above, then, it seems permissible to suggest that the catacomb graves reported for Athens, Corinth, and Zygouries in the mainland of Greece as well as Manika on Euboia — the latter positively assigned to Early Helladic III (Zanotti and Rhine 1974: 350; esp. 339, fig. 7) — may well be attributed to what are presumably to be regarded as representatives of IE Anatolian or, to be more specific, Luwian among the earliest recorded population groups in Greece, namely the Carians and Leleges. In any case, these latter are likely to be held responsible for the introduction of place-names in *-ss-* and *-nth-* in southern Greece, which, if we realize that *-nth-* is the Greek

reflex of Anatolian *-nd-*, more in general are typical of the regions inhabited by speakers of the Luwian language, further entailing the Cyclades, Crete, Cyprus, and the entire region of western and southern Anatolia, to the inclusion of the territory of the Leleges and/or Kilikes in the southern Troad (Woudhuizen 1989: 194, fig. 2).

SITE	EH II/III	EH III	EH III/MH I
southern and central Greece			
1. Lerna	x		
2. Tiryns	x		
3. Berbati			x
4. Asine	x		
5. Tsoungiza	x		
6. Korakou		x	
7. Perachora	x		
8. Teichos Dymaion			x
9. Strephi	x		
10. Ayios Dhimitrios	x		
11. Asea		x	
12. Ayios Kosmas	x		
13. Kolonna			x
14. Thebes	x		
15. Eutresis			x
16. Kirrha	x		
Crete			
17. Vasiliki	x		
18. Myrtos	x		
Anatolia			
19. Troy	x		
20. Karataş-Semayük	x		
21. Tarsus	x		
Levant			
22. Ugarit	x		
23. Byblos	x		

Table I. Destructures in the eastern Mediterranean between *c.* 2300-2000 BC (Greece after Forsén 1992).

In retrospect, we appear to be confronted with at least two distinct immigrations by Indo-European population groups

into Anatolia at the transition from Early Bronze Age II to Early Bronze Age III, *c.* 2300 BC, one over land by the ancestors of the Hittites from the Caucasus region in the east of the Anatolian heartland inside the Halys bend, and the other of predominantly maritime nature by what in the main turns out to be the ancestors of the Luwians, apparently ultimately from the lower Don and Manych region in the Ukraine, crossing the Hellespont and through the Aegean all the way to the coastal regions of southwest Anatolia, North Syria, and even the southern Levant.⁵² This bipartite reconstruction, which corresponds to the model already developed by Gimbutas in the 60s of the former century (Gimbutas 1965: 22, Map I), coincides with Vjačeslav Ivanov's (2001) purely linguistic analysis of Hittite and Luwian as originally distinct languages developing their common characteristics by convergent tendencies in the Anatolian setting. Such an analysis, which may be corroborated by data from toponymy (Hittite, notwithstanding the exceptional case of Zippalanda, like Palaic being outside the distribution area of the typical Luwian place-names in *-ss-* and *-nd-*), should, however, not be stretched beyond the limits of the basic fact

⁵²In like manner as the ancestors of the Hittites may have had a temporary abode in the Caucasus, to the east of the Black Sea, those of the Luwians may have had such an abode in the Balkans, to the west of the Black Sea. This view may be underlined by the fact that the place-names in *-bria* (cf. Detschew 1976, s.v.), covering the region from Zagreb (< *Zagabria*) in Croatia to Nesseber (< *Mesambria*) along the Bulgarian Black Sea coast, probably originate from PIE **b^hǵ^h(i)-* in like manner as the Celtic place-names in *-briga* and, if so, show the loss of the voiced velar **[ǵ^h]* in exactly the same way as this is typical for Luwian already from the times of the Kültepe-Kanesh period as evidenced by personal names like *Wa-wa-lá* or *Wa-wa-li* and *Mu-a-na-ni*, bearing testimony of the onomastic elements *wawa-* "ox" < PIE **ǵ^wow-* and *nana-* "brother" < PIE **ǵ^hen_h₁-*, respectively, see Yakubovich 2008: 268-277. Further evidence for the loss of voiced velars, moreover, may be provided by the Thracian MN *Immárados*, if based on a reflex of PIE **ǵ^him-*. Finally, it is worth noting in this connection that *Odessós* and *Édessa* along the western Black Sea coast are toponyms showing the PIE root **wód-* or **wéd-* "water" (Detschew 1976, s.v. *Edessa*) in combination with the suffix in *-ss-* of well-known Luwian type. Along this line of reasoning, then, the proto-Luwians may be suggested to have been pushed out of their temporary abode by speakers of our innovatory group B, but subsequently kept in contact with this region (no doubt for the acquisition of precious metal ores) as witnessed by the distribution zone of the *depas amphikupellon*, which includes central Bulgaria, see Leshtakov 2002 and cf. Alkım 1969: 96-97; 113 and Podzuweit 1979: 152-153.

that Hittite and Luwian both belong to the conservative group (= our group A) as distinguished in the above among the various members of the Indo-European language family, which, as we have been able to validate archaeologically in the case of Hittite and Tocharian, had already split off from the linguistic continuum at the time of the development of the innovatory tendencies. Accordingly, it is of relevance for the estimation of the validity of our scenario to note that the immigratory Indo-European population groups infiltrating through the southern Balkans, which we have been able to identify as representatives of our innovatory group B, are, thanks to their burials in tumuli with a circular stone frame, archaeologically distinct from their Anatolian kinsmen with a noted predilection for catacomb graves, so that we are in the position to explain the events *c.* 2300 BC on the close analogy provided by the historical ousting of the Kimmerians, whose language, in view of the fact that the ethnic constitutes a reflex of PIE *ǵ^h*im-*, is likely to be analyzed as of *centum*-type (cf. Puhvel, *HED*, s.v. *gim(ma)ra-*), by the Iranian (= *satem*)-speaking Skythians in terms of the involvement of peripheral (our phase I) alongside more centrally situated (our phase II) inhabitants of the North Pontic and/or North Caspian steppe zone.

6. The horse in the Mediterranean *c.* 2300-1720 BC: Prominent in religion, marginal in real life

Now, as we have seen, both types of steppe dwellers, the peripheral ancestors of the Hittites and Luwians and the central ancestors of the Phrygians, Thracians, and Illyrians, are obviously responsible for the introduction of the horse in their respective target areas of the eastern Mediterranean region, the ancestors of the Thracians and Phrygians in Greece as exemplified by the single horse burial at Marathon and the initially horse-like but later definite horse bones from Lerna, and the ancestors of the Hittites and Luwians in Anatolia, Crete, and Cyprus as particularly evidenced by the single horse burial at Lapithos and, to a lesser extent, the depiction of horses on Early Minoan III or Middle Minoan I seals from Crete. In order to complete the evidence, it should be added that the introduction of the horse in the Near East — where, as ascertained by documentary and zoological data, it had been

previously absent (Postgate 1986; Burleigh 1986)⁵³ — at the time is testified by statuettes from Tel Sweyhat in North Syria and Tell Thaya in northern Iraq (Drews 2004: 37, fig. 3.5; Bökönyi 1994: 120, abb. 3), whereas familiarity with the horse in Anatolia is documented by the depiction of riders and of the horse-god *Pirwa* on seals from the Kültepe-Kanesh period (Collon 1987: no. 737; Haas 1994a: abb. 72)⁵⁴ as well as by the personal names *Peruwas* of a son of Anittas related to that of the horse-god *Pirwa* and, possibly, *Akuwas*, if indeed a reflex of PIE **ekwo-*, from texts dated to or with a bearing on this same period (Gurney 1990: 16; Ivanov 2001: 133).⁵⁵

In combination with the earlier noted high percentage of horse bones among the faunal remains recorded for sites in the North Pontic and/or North Caspian steppe, there can be no doubt that the inhabitants of this region were familiar with the horse. However, since the redating of the Dereivka “head and hoofs” horse burial, with its teeth showing bit wear and its direct association with what is commonly identified as an antler cheek-piece, from *c.* 4000-3500 BC to *c.* 700-200 BC on the basis of radiocarbon dating serious doubts have been raised about the early use of the horse for riding if not its domesticated nature altogether (Drews 2004: 15; cf. Mallory 1981: 206). The tendency to skepticism about the domestic nature of the horse in the Early Bronze Age obviously goes too far, as it seems to collide with the sheer numbers associated with habitation sites and the special bond between the owner and the animal as suggested by the phenomenon of single horse burial. But the question of horse-control, and hence the conditions for its use for riding by the average person who is not endowed with the physical qualities of a circus artist (cf. Meid 1989), is a legitimate one, as we have seen in the foregoing discussion on the dissemination of chariot-warfare that in Anatolia during the Kültepe-Kanesh period in the early

⁵³Note that the bones from Palestine Early Bronze Age II contexts are according to Davis 1976 not of *equus caballus*.

⁵⁴Note that the equid on which *Pirwa* is standing is probably a donkey which in this early period also elsewhere in the Near East functions as a common substitute for the rare and expensive horse.

⁵⁵Yet another IE Anatolian word for horse may perhaps be traceable in the Hittite indication *damassara* of some, in view of its second element *-sara-* < PIE **sor-* “woman” no doubt female, animal demons, if Haas’ (1994b: 85) identification of the first element of this word with Etruscan *damnos* “horse” as preserved in a gloss (TLE 827) applies.

2nd millennium BC the teams of horses were inadequately controlled by nose-rings, and logic prevents us to stage the Indo-European immigrants in Anatolia *c.* 2300 BC as specialists in horse riding who soon after settlement in their new habitat forget all about their advance knowledge of horse control — except, of course, in the case that the introduction of the horse in their new homelands turned out to be abortive for the lack of fresh supplies or the shortcomings of local breeding programs. Moreover, the earliest depictions of riders from the period of *c.* 2300 to 2000 BC show no means of horse control other than the whip (Anthony 2007: 415, fig. 16.3). In view of this, the early evidence of bit wear from late 4th millennium BC Kazakhstan and Armenia referred to by Anthony, Brown and George 2006: 138; 148, if correct, may be incidental rather than the norm. Therefore, it seems reasonable to assume for the time being that the holes in the mouth area of the horse statuettes from Tel Sweyat and Tell Thaya suggested to facilitate a bit, are either merely accidental or of little consequence because of the subsequent loss of the skill in horse control as a result of a dearth of fresh supplies. In similar vein, the identification of certain types of antler- and bone-objects from this early period as cheek-pieces should be considered insecure as long as definite proof by direct association with the remains of a horse as in case of the Krivoie Ozero cheek-pieces and formerly provided by the Dereivka horse burial for an earlier period (Mallory 1981: 206) is lacking.

Whatever the specifics of its actual use, it is clear that the horse was special to the Indo-Europeans of the steppe and in particular to their ruling elite. This is borne out of its role in the ritual legitimation of kingship already before the dissemination of chariot-warfare of which the sacred marriage between the horse-god Pirwa and a goddess variously identified as Ishtar or Ḫassusara “Queen” recorded for the Kültepe-Kanesh period, calling to mind the Aśvamedha ritual of the Aryans in India and the Irish Celts, and the later Luwian sacrifice of a horse by burning exclusively for the king (Haas 1994a: 416-418) bear testimony.⁵⁶ In Greece, such a sacred

⁵⁶Note in this connection that, as duly observed by Watkins 1995: 266, sexual intercourse of humans with horses, or their substitutes donkeys, is explicitly exempted from punishment otherwise set for bestiality in the Hittite law code.

marriage is paralleled for the mating between Poseidon Hippios and Demeter in horse shape as reported for the cult of Thelpusa in Arcadia, which is stated to have resulted in the birth of a daughter mystery practice forbade to be specified by name but otherwise known as *Déspoina* “the Mistress” and the mythical horse Areion on whose back the Argive king Adrastos ignominiously fled from battle after the failure of his expedition against Thebes. In connection with this myth, it has been duly observed that the mistress in question can be no other than the Eleusinian Persephone or Kore, whose original horse shaped character is memorized by Pindar’s (*Olympian Odes* 6, 95) use of *λεύκιππος* as her epithet. The ancient nature of this cult is indicated by its Bronze Age reflections in the Linear B texts from Pylos, where on the one hand Poseidon is directly associated with Demeter and Persephone as addressed by their cultic title “the Two Queens” (PY Fr 1219: *wa-na-so-i po-se-da-o-ne* “to the Two Queens [and] Poseidon”) and on the other hand we are confronted with *po-ti-ni-ja i-qe-ja* “for the Horse Mistress” (PY An 1281). Moreover, its Indo-European background has recently been established by Michael Janda’s (2000) identification, on the basis of Hubert Petersmann’s (1986) path-breaking discovery that the onomastic element *perse-* is an earlier reflex of Greek *πέρρα* “sun”, of Eleusian Persephone (= Linear B *pe-re-swa*, PY Un 1189)⁵⁷ as a reflex of the sun-maiden or Aurora, the daughter of the sun-god traditionally assisted by the divine twins or *Ásvins* also addressed in Greek lore as *λεύκιπποι* or *λευκόπωλοι*.

But we can go even further than this, since we have already observed in the preceding the Pelasgian, more specifically Middle Bronze Age Phrygian background of Demeter and Poseidon, the latter obviously in his original role as storm-god mating with the earth goddess to which his traditional attribute, the trident, which is in fact the Anatolian symbol of lightning with a lengthened grip (Schachermeyr 1950: 164-166; Pötscher 1990: 35), preserves the memory. This Pelasgian or more specifically Middle Bronze Age Phrygian entourage is further enhanced by the association of

⁵⁷Note that Persephone occurs here together with Poseidon and, like the latter in PY Un 6, receives *suovetaurilia* recalling the Eleusinian *τρίττοα βούαρχος* or, in regard to Poseidon, the Homeric, *Odyssey* XI, 130 ff., *τριπτύες*, cf. Weilhartner 2005: 226.

Areion with Adraostos, whose name, as we have seen, is Phrygian and whose association with Amphiaraos reminds one of that of his Trojan counterpart Adrèstos with Amphiaraos' shorthand reflex Amphion, suggestive of an original twin relationship as otherwise abundantly attested in literary tradition among representatives of the pre-Greek population groups (Amphion and Zethos, the Aloadai Otos and Ephialtes, the Moliones), and having a continued history among the Phrygians in the form of the cult figures of the Kabeiroi Tottes and Onnes or Korybantes or Idaian Daktyloi or Kouretes. Similarly, the name of the stand-in for Demeter in the myth of Poseidon's conception of the winged-horse Pegasos, *Médousa*, the daughter of the Phrygian named Phorkus, who is reported to have given birth at the time of her beheading by the founder of Mycenae, Perseus, may likewise be considered as a reflex of the Ásvamedha ritual ultimately rooted in Middle Helladic religious practice. Whatever the merits of these latter suggestions, it seems no mere coincidence that the Greek word for horse, represented by Mycenaean *i-ḡo*, which we have argued to be of Middle Helladic antecedents, is most closely paralleled among the Indo-European languages by *q*-Celtic *Íccona*, the Lusitanian (= actually "proto-Celtic", on which see below) variant of the Gaulish horse-goddess Epona, since only the Thracio-Phrygian deep-layer in Greek literary tradition bears witness of direct contacts with Celtic population groups as further exemplified by, for instance, the shared roots *nem-*, *brig-*, *mid-*, and *teuta-*. On the basis of the Anatolian and Middle Helladic evidence, then, it may safely be concluded that the Ásvamedha ritual is rooted in Early Bronze Age Indo-European religious practice and only secondarily associated with the chariot as in case of the Indian and the Roman traditions (cf. Mallory 1981: 216-217).

7. Northern immigrants in the Mediterranean c. 3100-2300 BC

In his lucid and concise discussion of Hans Kuhn's "Nordwestblock" of 1986, Wolfgang Meid formulated a number of criteria for the distinction of speakers of an Indo-European tongue in northwestern Europe (*in casu*: the Netherlands, Belgium, and the adjacent parts of Germany) which is neither Celtic (because it preserves *p*-initial) nor Germanic (because it remains unaffected by the diagnostic "Lautverschiebung"). Among these criteria feature, apart from the aforesaid

- (1) preservation of *p*-initial;
- (2) toponyms characterized by the suffix *-st* (like Dutch and German *Soest*);
- (3) river names characterized by the final element in *-apa* (< **ap-* “water, rivulet”), the root of which is well-known from its prominence among Hans Krahe’s Old European river names;
- (4) ethnonyms characterized by the suffix *-k*; and
- (5) recurrent ethnics (Meid 1986).

As it seems, then, we are dealing here with an ancient Indo-European dialect, most adequately defined as “Old Indo-European” or “proto-Celtic” — of which designations the latter one will, for the sake of convenience, be maintained here.

Now, in his informative book on the Indo-Europeans of 1995, Bernard Sergent draws our attention to the presence of Celtic dialects in the Mediterranean region which, in like manner as Hans Kuhn’s “Nordwestblock”, show the preservation of *p*-initial. In this context, then, he mentions Lusitanian in Iberia, which originally may have had a wider distribution than in the region between the Durios and Tagos of present day Portugal up to and including Asturia and the territory of the Vettones and Vaccaei, and Ligurian in Italy, which, apart from the region of Genoa up to the Rhône, originally appears to have been spoken on the islands of Corsica and Sardinia, on the continent up to Latium, and as far south as on the island of Sicily as well (Sergent 1995: 76-77). If we combine this information with the evidence presented by Sergent in 1988 on the earliest Celts in Anatolia, one of his most significant examples is formed by a tribal name based on the same root as Greek *ποιμήν* (Linear B *po-me*) “herdsman”, which occurs in the “Nordwestblock” in the form of the Belgic ethnic *Paemani*, in the Iberian context in the form of the epiklesis *Poemana* of a goddess, and in the Anatolian context in the form of the name of the locality *Poimanēnos* and the tribal name *Poemaneni*. Taking this example at face value, it seems likely that we have to reckon with “proto-Celtic” not only in the Iberian and Italian peninsulas, but also in northwest Anatolia. As far as dating is concerned, such a “proto-Celtic” dialect in Anatolia cannot possibly be situated in the context of the dispersal of the Urnfield culture during the Early Iron Age, as Sergent (1988: 358) does, but, as we will try to show in the following, leads us back into the earliest stage

of the Early Bronze Age and to the assumption of an Indo-European substrate prior to the arrival of the speakers of IE Anatolian!

As the argument for an “Old Indo-European” or “proto-Celtic” substrate in Anatolia provided by the tribal name *Poemaneni* and the locality *Poimanēnos* originates from late sources, it stands to reason to have a look at those from the Bronze Age. In doing so, a first case in point may be provided by the ethnic *Nuwā’um* with which the indigenous Anatolians are addressed by the Assyrian colonists in the Kültepe-Kanesh texts. This has been explained by Onofrio Carruba (1992: 256) as a reference to the Luwians, for which he needs to assume the substitution of [n] for [l] — an assumption in which he is followed by Petra Goedegebuure (2008: 174).⁵⁸ However, if we realize that in our Late Bronze Age texts, especially those by the Hittites on the Kaska (see von Schuler 1965: 105) but also others, toponyms characterized by the final element *-nuwa* are attested quite abundantly in a region stretching from within the Halys bend (*Sapinuwa* = Ortaköy) to the Tyanitis in Cilicia to the south (*Tuwanuwa* “newly erected” = Tyana) as well as to Lycia to the southwest (*Ḫibānuwā*) and Mira to the west (*Ḫapanuwa*), whereas, if related personal names like that of the Karkamisian king *Sahurnuwas* may be taken in consideration, even the province of North Syria is included (see table II), the question may legitimately be raised whether the assumption of a consonantal change from [n] to [l] in the given ethnic is necessary at all. Does it not lie more at hand to assume that the given ethnic *Nuwā’um* bears testimony of the same element *nuwa-* as attested for the category of place-names in question? At any rate, it is clear that we are dealing in the latter case with a reflex of PIE **newo-* “new” which is different from Hittite *newa-*, Luwian *nawa-*, and Lycian *ñnewe-*, but more closely corresponds to, apart from Tocharian *ñuwe*, Latin *novus* (cf. the toponym *Villanova*) and Celtic *novio-* (cf. toponyms like *Noviomagus*, etc.). As such, then, the element *nuwa-* “new” may safely be attributed to an Indo-European substrate layer in IE Anatolian. Moreover, if the ethnic *Nuwā’um* is indeed based on the same element, we happen to be dealing with a tribal name comparable to Celtic ethnics like *Novantae* “new arrivals” and *Trinovantae* “three [groups] (of)

⁵⁸“(…) does the ethnonym *nuwa’um* refer to the proto-Luwians? I believe with Carruba (1992) that it does.”

new arrivals” as attested for Scotland and England, respectively (Sergent 1995: 208), whereas the negative meaning attributed to this ethnic by the Assyrians (“rude, uneducated, brute, stupid”, see *Chicago Assyrian Dictionary*, s.v. *nû’u*) can be compared to the development of an ethnic like *Vandals*. Note, finally, that the frequency of the toponyms in *-nuwa* and their continued use into the Early Iron Age as exemplified by *Īrhanua* (< Hittite *irha-* “border”) “new border” from the Luwian hieroglyphic Cekke text (Woudhuizen 2005: 14, § 20) is no obstacle to their substrate nature, as the well-known pre-Greek toponyms in *-ss-* and *-nth-* are very prolific, indeed, and these suffixes remained productive well after Greek had become the dominant vernacular (Woudhuizen 1989: 202-204; 194, fig. 2).

1. <i>Ailanuwa</i>	17. <i>Puskurunuwa</i>
2. <i>Anunuwa</i>	18. <i>Saka/utunuwa</i>
3. <i>Aspinuwa</i>	19. <i>Sapinuwa</i> (= Ortaköy)
4. <i>Atunuwa</i>	20. <i>Sarpunuwa</i>
5. <i>Ṫibānuwā</i> (Lycia)	21. <i>Saspinuwa</i>
6. <i>Ḫalunuwa</i>	22. <i>Sispinuwa</i> ⁵⁹
7. <i>Ḫapanuwa</i> (Mira)	23. <i>Tapapanuwa</i>
8. <i>Ḫapinuwa</i>	24. <i>Tapal(hu)nuwa</i>
9. <i>Ḫarnunuwa</i>	25. <i>Tuwanuwa</i> (= Tyana)
10. <i>Ḫasinuwa</i>	26. <i>Zarninuwa</i>
11. <i>Ḫaspinuwa</i>	27. <i>Ziḫnuwa</i>
12. <i>Ḫatarsanuwa</i>	28. <i>Zarninuwa</i>
13. <i>Īrhanua</i> (North Syria)	29. <i>Zinirnuwa</i>
14. <i>Istaharunuwa</i>	30. <i>Zipunuwa</i>
15. <i>Lapasunuwa</i>	31. <i>Zirnanuwa</i>
16. <i>Pakurunuwa</i>	32. <i>Zitharunuwa</i>

Table II. Anatolian place-names in *-nuwa* (based on del Monte and Tischler 1978 and del Monte 1992).

Against the background of the Indo-European *Nuwa*-people, presumably inhabiting Anatolia already before the IE Anatolians, it deserves our attention that markedly in the Kaska texts, again (von Schuler 1965: 104), but also in other Hittite texts we are confronted with place-names in *-st-*, one of the characteristics, as we have seen, of the so-called

⁵⁹In view of the fact that this TN occurs in the Kaska texts, it may reasonably be argued that its root *Sispi-* corresponds to that of the mythological king of Corinth, *Sisuphos*.

“Nordwestblock” or speakers of the early form of Indo-European we have baptized “proto-Celtic”. In checking the repertory of Hittite geographic names as assembled in del Monte and Tischler 1978 and supplemented by Giuseppe del Monte in 1992 I came across as many as 16 instances of this type of toponym (see table III). Moreover, as is the case in the European context (Krahe 1962: 296-297), the suffix *-st-* can also be shown to have been productive in the realm of river names, as exemplified by Hittite *Dahasta*. If sources of later date may be included, mention should be made of the *Mákestos* (< PIE **méh₂*), a tributary of the Rhyndakos running in the vicinity of the “proto-Celtic” *Poimanēnos* (Rosenkranz 1966: 133).

	IBERIA	ITALY	PAN./ILL. ⁶⁰	GREECE	ANATOLIA
1.	<i>Segestica</i> ⁶¹	<i>Segesta</i>	<i>Segestica</i>	<i>Palaistinos</i>	<i>Anamusta</i> (S-E)
2.	<i>Ligustīnē</i>	<i>Ateste</i>	<i>Burnistae</i>	<i>Mákistos</i>	<i>Harasta</i>
3.		<i>Tergeste</i>	<i>Perestae</i>	<i>Kárystos</i>	<i>Harpusta</i>
4.		<i>Alísta</i>	<i>Pirustae</i>	<i>Pelastikón</i>	<i>Hupista</i>
5.		<i>Praeneste</i>	<i>Palaistē</i>	* <i>Pelastoi</i>	<i>Istumista</i>
6.		<i>Segesta</i>		<i>Phaistós</i>	<i>Isdupista</i>
7.				<i>Lapasta</i> (Cypr.) ⁶²	<i>Iunzarasta</i>
8.					<i>Kapastusta</i>
9.					<i>Kurusta</i>
10.					<i>Marista</i>
11.					<i>Parista</i> (W)
12.					<i>Tahasta</i>
13.					<i>Taggasta</i> (N-E)
14.					<i>Urista</i>
15.					<i>Zaparasta</i>
16.					<i>Ziggasta</i> ⁶³

Table III. Place-names in *-st-* in the Mediterranean region.

⁶⁰Cf. Mallory 1989: 75, fig. 45; Lehmann 1985: 47. In his discussion of the Celtic personal names in Pannonia, Wolfgang Meid (2005: 19) attributes the name of the region to a substrate which, as its first element *pan-* originates from PIE **pan-* “marshy meadow”, preserves *p*-initial. If we further realize that in this region we come across a place-name in *-st-*, *Segestica* (Meid 2005: 14-15, note 7), a river name in *-ap-*, *Serapilli* (Meid 2005: 24), and an ethnic related to those of the “Nordwestblock”, *Belgites* (Meid 2005: 42), it may reasonably be argued that the given substrate is of our “proto-Celtic” or “Old Indo-European” type as well.

⁶¹Schmoll 1958: 8, note 3 with overview of the TN *Segesta* and related toponyms in the western Mediterranean.

⁶²Lapp 1966: 103.

⁶³Freu and Mazoyer 2007: 176 (Maşat Höyük/Tapikka texts).

In following the trail of Meid's criteria, it next is relevant to our cause that to the west of the aforesaid locality *Poimanénos* runs the river *Aísēpos*, which happens to be a hydronym in *-apa*. It is true that this river name, just like Trojan *Apidanós*, which in turn bears testimony of a variant type of hydronym with the related element **ap-* in front (Rosenkranz 1966: 136), is only recorded for sources of later date, but an example from Hittite texts may be provided by the western Anatolian river name *Astarpa*, if rightly analyzable as a compound of PIE **h₂ster-* “star” with the element *-apa*.⁶⁴ The salient point about this latter analysis is that we appear to be dealing with an Indo-European substrate in which *the PIE laryngeal *h₂ is not rendered by h as typical of IE Anatolian in contradistinction to all other Indo-European languages*. The same verdict might very well apply to the element *-apa*, which is closely matched by the Hittite use in toponymy of *-hapa* (< PIE **h₂eb^h-*), if only Peter Kitson (1996: 88, note 22) is right in suggesting that the variants **ap-* and **ab^(h)-* for watery elements are mere reflections of one and the same root. As we will see below, such a suggestion appears to receive welcome support in the North Syrian context, where, as far as reflexes of PIE **h₂eb^h-* are concerned, IE Anatolian is represented by the river name *Habûr*, but our Indo-European substrate by that of *Abana*!

In connection with ethnonyms characterized by the suffix *-k-* and recurrent ethnics, finally, Sergent (1988: 346) has duly pointed out that the name of the *Bebrykes* as attested for the region of Bithynia is based on PIE **b^héb^hru-* “beaver” and as such represents the group of ethnics showing the formation in *-k-*, whereas it is closely paralleled, amongst others, for the *Berybrakes* of the eastern Iberian coastal region in the neighborhood of present-day Valencia (Avienus, *Ora*

⁶⁴The validity of this analysis can—on the analogy of the fact that IE Anatolian *hapa-* alongside in river names like *Parmashapa* also features in place-names like the town *Parmashapa* or the country *Hapala*—be further emphasized by the TN *Apasa* “Ephesos”, which is of similar formation as *Wilusa* < *wēllu-* “meadow” and *Tarwisa* < *taru-* “wood” and therefore likely renders the meaning “of, belonging to the river”—which, of course, suits its location at the mouth of the Kaistros. Note also in this connection the combination of the *Seha* river (= Maeandros) with the land *Apawiya* (= Marsyas on the basis of the identification of the associated toponyms *Iyalanda* and *Atriya* with classical *Alinda* and *Idrias*, see Freu 2008: 113).

Maritima 485: described in clear terms as backward herdsmen). Moreover, if we realize that the Belgic *Paemani* as referred to in the above live near the *Cauci*, it may reasonably be argued that in the case of the *Kaukōnes* in Paphlagonia we are likewise dealing with a recurrent ethnonym. Now the *Kaukōnes* are named after the mythical founding father *Kaukōn* and stated by Herodotos, *Histories* IV, 148 to be originally at home in the region of later founded places like Lepreon, Makistos, Phrixai, and Pyrgo in the hinterland of Triphylian Pylos. At the time of the Trojan War (c. 1280 BC), however, they may, on the combined testimony of Homer, *Iliad* X, 429 and XX, 329, who places them in passing among the Trojan allies, and Strabo, *Geography* 12.3.5, already have been living along the Parthenios river in Paphlagonia. It is possible that the ethnic *Kikōnes* (< heros eponym *Kikōn*) of the people inhabiting the Aegean coast of Thrace between the Bistonian lake and the mouth of the Hebros in the historical period provides us with a variant form of *Kaukōnes*. At any rate, the *Kikōnes* are officially enlisted among the Trojan allies in the enumeration of Homer, *Iliad* II, 846-847. What primarily concerns us here is that the *Kaukōnes* in their original habitat are associated with — apart from a Phrygian toponym like Phrixai — a place-name in *-st-*, viz. *Makistos* (< PIE **még_h₂-*), the toponymic counterpart of the earlier mentioned northwest Anatolian hydronym *Makestos*. It follows then that the ancient nature of the ethnic may be underlined by its apparent relationship to the Trojan royal name *Kukunnis* as preserved in Hittite sources as a predecessor of Alaksandus (Bryce 1998: 247)⁶⁵ and that of a Lycian scribe, *Kwkwon* (cf. epichoric Lycian *Khukhune* [D sg.], see Melchert 1993, s.v.), working during the final stage of the Middle Bronze Age at the court of Abišemu II of Byblos (Woudhuizen 2007: 697, note 1; Woudhuizen 2009: section II.5). Finally, it deserves mention in this connection that, notwithstanding the hesitations by H. d'Arbois de Jubainville (1889: 287), a Ligurian presence in the region of Paphlagonia

⁶⁵Against the backdrop of the correspondence of the royal name *Alaksandus* to Homeric *Aléksandros*, the memory to this king may well be traceable in Greek literary tradition in the form of *Kúknos*, who according to the Cypria is defeated by Akhilleus in an early stage of the Trojan war. Perhaps to be situated anterior to this episode is the duel between Herakles and Kyknos near the Ekhedoros river (= the Gallikos) in the territory of the Paionians, the most westerly allies of the Trojans according to Homer's catalogue, see Apollodoros, *The Library* II, v, 11 and cf. Tiverios 2008: 21; 32; 44.

in the form of the ethnic *Lígues* is explicitly reported by Herodotos, *Histories* VII, 72.

As an afterthought, it may be added here that the royal names of the Mariandynoi (< PIE **marya*- “young warrior” and **dūno*- “fortress”), inhabiting the region in between that of the Bebrykes and the Kaukones in the saga of the Argonauts, namely those of king *Lúkos* and his son *Bōrmos*, are of typical Celtic background. In his discussion on the topic, Sergent (1988: 342) rightly correlates the Greek form *Lúkos* to that of the Celtic sun-god *Lug* or *Lugus*, whose name most likely originates from PIE **luk*- “light” (see Woudhuizen *forthc.* 2, note 7). Similarly, *Bōrmos* corresponds to the name of the Celtic god of thermal springs, *Bormō*, which can be positively traced back to PIE **g^{wh}orm*- “warm” (see further Woudhuizen *forthc.* 2). The use of *Lúkos* as a river name, like the one near Herakleia to the east of the territory of the Mariandynoi, or as an ethnic name, as in the case of the *Lukka* of southwest Asia Minor and, considering the fact that the root of the latter appears as *Lik*- in line 9 on the Cypro-Minoan inscription on the Enkomi cylinder seal, probably that of the *Lígures* (< **Ligus*-) of northwest Italy as well, does not cause any problems at all for the given identification with *Lug* or *Lugus*, as Sergent (1988: 342) gives ample evidence of river names derived from deity names, like the *Matrona* (= Marne) and *Cernunnos* (= Sânon) — cf. in this respect also *Tiber* < Luwian *Tiwat/ra*- —, whereas the same author elsewhere (1995: 202-5) presents a list of ethnics derived from deity names, like *Velauni* (< *Vellaunos*), *Bormanni* (< *Bormō*), *Cornovii* (< *Cernunnos*), and *Rhaetii* (< *Reitia*).⁶⁶

If we next turn to North Syria and the Levant, it so happens that — if we are willing to set Meid’s criteria aside for a moment — we come across here, as demonstrated by Bernhard Rosenkranz, Indo-European river names. In the foregoing, we have already pointed out the Indo-European nature of the river name *Jordan* (Biblical *Jardên*), based on PIE **dānu*-. To this instance, Rosenkranz (1966: 134) adds the case of the *Habûr* (= modern al-Hābûr; attested from the Old Babylonian period onwards, see Groneberg 1980, s.v., and cf. Nashef 1982, s.v.), a tributary of the Euphrates, which for its

⁶⁶The closest parallel for the ethnic *Lukka* is provided by *Loũgoi* (< *Lugus*) as reported for a people in Scotland, see Marco Simón 1998: 37 with reference to Ptolemaios, *Geographia* 2, 3, 12.

initial laryngeal *h* definitely is of IE Anatolian type. As opposed to this, it seems that *Abana*, the Biblical name of the Chrysorrhoeas near Damascus (Rosenkranz 1966: 126), confronts us with a reflex of the same PIE root **h₂eb^h*- but this time lacking the initial laryngeal, which means that it is definitely *not* of IE Anatolian type. The suggestion, ventilated in the above, that we might be dealing here with a hydronym from an Indo-European substrate anterior to IE Anatolian may receive welcome supporting evidence from other patent Indo-European river names, like the *Arantu* (Assyrian texts of the 9th and 8th century BC, see *Reallexicon der Assyriologie*, s.v. *Orontes*) or *irnt* (Egyptian) or *Oróntēs* (Greek) in North Syria and the *Arnon* (Biblical) along the border of the kingdom of Moab in Jordan, which are based on the root **er-/or-* featuring prominently among Hans Krahe's Old European hydronymy (Rosenkranz 1966: 135-136). To these examples may legitimately be added the *Lúkos* (< PIE **luk-*), the ancient name of the Nahr el-Kelb near Berytus, which belongs to a type we are already acquainted with from the Anatolian theatre, and the *Rhadânu*, a tributary of the Tigris, the name of which is of similar structure as the European *Rhodanós* "Rhône" (Rosenkranz 1966: 136-137; based on PIE **dânu-*). It is unfortunate that the nature of the root of the river name *Sagur* (attested for a Early Iron Age Luwian hieroglyphic inscription from Karkamis, K-A11b/c, § 25, see Woudhuizen 2004b) of a tributary of the Euphrates eludes us, but its close correspondence to that of the *Saḫiriya-* (Hittite) or *Sangários* in northwest Anatolia (Rosenkranz 1966: 135; cf. del Monte and Tischler 1978, s.v.) as well as that of the place-name *Saḫarwa* or *Skheriā* (= Hagia Triada, see Woudhuizen 2006b: 82) in southern Crete strongly suggest an early Indo-European origin.

The Indo-European nature of the river names in North Syria and the Levant presented in the above ties in with the analysis by Ignace Gelb (1961) of the ethnic situation in Syria on the basis of onomastics. According to this analysis, the earliest recorded personal names from the Ur III period (2135-2027 BC) are of unknown ethnic affiliation. Later on, in the Mari texts (early 18th century BC) and those of Alalakh VII (1720-1650 BC), west-Semitic or Amurru names become predominant, whereas from the time of Alalakh VII to Alalakh IV (15th century BC) and that of the Ugarit archives (14th-

13th century BC) especially Hurrian names come to the foreground. According to Gelb, this state of affairs coincides with the fact that place-names of a decidedly non-Semitic type, like the ones in *-iya* and *-uwa*, maintain a prominent position in the Alalakh and Ugarit texts, because, as he stipulates, onomastics are more liable to changes in fashion than toponymy. If we realize, then, that the given category of place-names in *-iya* and *-uwa* are a typical feature of Hittite toponymy (in the case of TNs in *-iya* I counted more than 200 instances in the repertory by del Monte and Tischler of 1978 and the supplement by del Monte of 1992, whereas the total numbers of TNs in *-uwa*, though still impressive, are more modest), the conclusion seems to be justified that North Syria had once been inhabited by Indo-European population groups, to be more specific: during the Early Bronze Age! Such a conclusion, then, can be corroborated by the fact that well-known west-Semitic divine names like *Astarte* and *Dagan* have plausibly been explained as originating from the PIE roots **h₂ster-* “star” (Gamkrelidze and Ivanov 1995: 592; 772) and **d^heǵ^hom-* “earth” (Singer 2000), respectively. And what to think of the personal name *Matrunna* of the daughter of the 18th century BC Karkamisian king Aplaḥanda, which is clearly based on a reflex of PIE **mēh₂tēr-* “mother”, and therefore *Indo-European of a non-IE Anatolian type?*

If we would include further evidence from Anatolia, we could easily elaborate on this issue, by pointing, for example, to a form from a Luwian perspective irregular form like the TN *Parḫa* < PIE **b^hrǵ^h(i)-* in Pamphylia, in which the voiced velar **[ǵ]* is represented by laryngeal *ḫ*, or the originally west-Anatolian royal name *Pithana* if indeed a compound of PIE **b^hwī-* “to procreate, grow” with **ǵenh₁-* “descendant, offspring” to which the same verdict in that case would apply. By means of conclusion to this topic, I would like to point out that the Luwian hieroglyphic divine name *Pārti-* < PIE **b^hrend^h-* as a variant indication of the stag-god in an inscription from Malatya (Woudhuizen 2004b: 29, note 1; cf. the Italic TN *Brindisium* and ethnic *Frentāni*) may likewise be attributed to pre-IE Anatolian Indo-European substrate influences.

From an archaeological perspective, Indo-Europeanization in the Mediterranean during the earliest phase of the Early Bronze Age appears to receive its materialization by means of three diagnostic features:

- (1) catacomb or tumuli graves;
- (2) apsidal houses; and
- (3) statue menhirs.

Of these features, the origin of the grave types and the statue menhirs can positively be traced back to the North Pontic steppes, whereas apsidal houses for lack of attestation in the steppe region appear to be of merely southern Balkan antecedents.

Starting with the graves, catacomb graves, among which one of twin type, dating to Early Bronze Age I have been found at Bâb edh-Dhrâ' along the eastern side of the Jordan (de Vries 1978: 212, fig. 2). In the same location, stone *tholoi* have been unearthed which presumably served funerary purposes as well (Lapp 1966: 95). As duly observed by Nanny de Vries (1978: 211, fig. 1), a catacomb grave of twin type closely comparable to the one from Bâb edh-Dhrâ' has come to light at Palermo in Sicily, where it formed part and parcel of the local Eneolithic (= Early Bronze Age I) Conca d'Oro culture. Further catacomb graves have been reported for Boccadifalco and S. Margherita in Sicily (Zanotti and Rhine 1974: 338, figs. 4-5). Yet another catacomb grave worthy of mention in this connection is the one discovered at Porte San Pietro in Tuscany, which is baptized the "Tomb of the Widow" and belongs to the local Eneolithic or Early Bronze Age Rinaldone culture. This particular burial bears testimony of the rite of suttee as the skull of the woman showed "injuries suggesting that she was dispatched on the death of her husband" (Mallory 1989: 93-94, fig. 66). For other Rinaldone graves in the region horse remains have been reported. Finally, it deserves our attention that catacombs dating to *c.* 2900-2600 BC have been found at Vučedol in former Yugoslavia, a site along the confluence of the Drava with the Danube (Zanotti and Rhine 1974: 336, fig. 3). In their in-depth treatment of catacomb graves within the Mediterranean, David Zanotti and Barbara Rhine (1974) rightly stipulate that this type of grave is in the main associated with dagger blades of arsenical bronze, sheep bones, and, as we have already noted, the rite of suttee. Note, however, that in the foregoing we have seen that some catacombs, like the one at Manika on Euboea and yet another at Vounos (one being of twin type!) on Cyprus, and those at Jericho in Palestine date to Early Bronze Age III, *c.* 2300-2000 BC.

As far as tumuli are concerned, pride of place goes to the stone circles at Nidri on Lefkas dating from the beginning of Early Helladic II onwards. Notwithstanding the fact that tumuli here are considered hypothetical by some (Primas 1996: 134), Imma Kilian-Dirlmeier (2005: 47 ff.) provides positive evidence for the remains of a tumulus in connection with “Grabhügel S”. Interestingly, some of the burials in this particular cemetery bear testimony of the rite of cremation, which is paralleled for counterparts in the Balkans (see Primas 1996: 126 or Kilian-Dirlmeier 2005: 85, abb. 79). This rite appears as the predominant one in the cemetery at Gedikli in Cilicia, later on during the Early Bronze Age III, from *c.* 2300 BC onwards. What primarily concerns us here, however, is that the closest parallels for the stone circles under a tumulus at Nidri on Lefkas are found at Karataş-Semayük in Lycia, which are also dated to Early Bronze Age II (Mellink 1968: 257, Ill. 4; Mellink 1969: 320, Ill. 1). One may wonder whether it is merely coincidental, in this light, that the names of both these two regions in question are derived from PIE **luk-*. At any rate, if the tombs at Nidri on Lefkas may be ascribed to an influx of Indo-European settlers, as seems plausible in the light of the parallels, we must be dealing here with an earlier group than the Thracian-Phrygian ones we have suggested to be responsible for the destructions in central and southern Greece during the Early Bronze Age II/III (*c.* 2300 BC) and Early Bronze Age III/Middle Bronze Age I (*c.* 2000 BC) transitional periods. But what is more, along the same line of reasoning and under due consideration of the *tholoi* at Bâb edh-Dhrâ’ mentioned in the above, the circular tombs or *tholoi* in the Messara on Crete, dating from Early Minoan I onwards (Pelon 1976), should be assigned to such an early group of Indo-European settlers as well — irrespective of the fact that these tombs were used for multiple burials as this feature may likely be attributed to the influence of non-Indo-European substrate population groups!

The distribution zone of our second diagnostic feature, apsidal houses, shows a partial overlap with that of the catacomb and tumuli graves. As evident from the discussion by Marija Gimbutas (1994: 62-63), the origin of this type of house is to be looked for in the southern Balkans, where it is found in various sites in Bulgaria (Karanovo, Nova Zagora, Dyadovo), Yugoslavia (Vučedol), and northern Greece (Sitagroi to the

east of the Khalkidike, as well as Chasabali and Rachmani in Thessaly) during the Early Bronze Age I, from *c.* 3100 BC onwards. Already during this very period, the apsidal house form can be shown to have radiated to Troy and Karataş-Semayük in western Anatolia (Warner 1979: 136, Ill. 3), as well as various sites in Palestine (Byblos, Megiddo, Meşer, and Jericho, see Best 1978, whose findings have to be verified by the distinction between apsidal and curvilinear as emanating from the drawings presented by Braun 1989). As we have noted in the foregoing, later on, occasionally during Early Helladic II, but especially from the turn of this period to Early Helladic III onwards, the apsidal house form was introduced from the north into central and southern Greece.

The third and final diagnostic feature, then, concerns the statue menhir. This type of anthropomorphic stele is typical for the culture of the North Pontic steppes, and the custom of raising such monuments can be shown to have spread to the western coastal region of the Black Sea on the one hand and northern Italy, southern France, and Iberia on the other hand, where, as I have argued in Woudhuizen *forthc.* 2, it can positively be attributed to “proto-Celtic” population groups. Therefore, it may suffice here to note that a statue menhir has been reported for Troy during the earliest phase of the Early Bronze Age (*in casu* Troy I, see Anthony 2007: 338, fig. 13.11).

Now, the task remains to bring about a relationship between these archaeological features and the previously given linguistic criteria for speakers of an early form of Indo-European. In doing so, it first of all deserves our attention that, as we have noted before, the Thraco-Phrygian deep-layer in Greek in turn is characterized by a Celtic deep-layer, represented by the elements *nem-*, *brig-*, *mid-*, and *teuta-* (see preceding section). Three of these roots, moreover, can be traced in onomastics (*Mídās*, *Teútamos*) and toponymy (*Pyrgiotissa*) as recorded for the island of Crete.⁶⁷ Against this

⁶⁷Further correspondences in Minoan onomastics and toponymy with Celtic may be provided by the MNs *Nuwas* (CHIC # 314, 3, see Woudhuizen 2006b: 80-81; cf. our treatment of Anatolian *nuwa-* above), *Arantas* (CHIC # 300, 2, see Woudhuizen 2009: section I.1; 105; cf. Sergent 1988: 346), and the TN *Mílatos*, which is located to the east of Malia and after which according to literary tradition Miletos in southwest Anatolia is named (Woudhuizen 2006b: 156; cf. Celtic *miletu-*, see Delamarre 2003, s.v.).

background, it may not be entirely coincidental that in the region of the Mesara, where we came across the circular or *tholos* tombs, we are confronted with a toponym in *-st-*, namely *Phaistós* (Linear B *pa-i-to*), and, if we realize that *Pelasgoi* may plausibly be traced back to an earlier form **Pelastoi* and that the branch of this population group mentioned by Homer is likely to be situated in the Mesara as well, an ethnonym of the same type of formation. Similarly, the circular tombs of Nidri on Lefkas are in the neighborhood of that part of the Peloponnese from where the *Kaúkōnes* are said to originate and where we encounter yet another place-name in *-st-*, viz. *Mákistos*. Yet other cases of a place-name in *-st-* are provided by *Kárystos* (Linear B *ka-ru-to*) on Euboia and *Pelastikón* in Attica, to the eastern side of southern Greece. Furthermore, the attestation of *Palaistinos* for northern Greece is in the vicinity of the tumulus grave recorded for Sykia in the Khalkidike. However, the case for a relation between the early types of Indo-European graves, in this particular case catacombs, with toponyms in *-st-* can be substantially enhanced in the central Mediterranean theatre, where we come across *Segesta* (< PIE **seǵh-* or *seǵh-os-* “victory”) in the region of the Conca d’Oro catacomb graves of Sicily and *Praeneste* in that of their Rinaldone equivalents of Tuscany. Note that in the Sicilian case the Celtic nature of the population group in question can be ascertained thanks to the element *Calta-* in the place-names *Caltagirone*, *Caltanisetta*, and *Caltabellotta* as recorded for the inner part of the island. Similarly, as far as the Italian peninsula is concerned the “proto-Celtic” nature of the bearers of the Rinaldone culture may be underlined by their association with Ligurian, in the territory of which the toponym *Segesta* reoccurs and which, apart from preserving p-initial on account of the river name *Porco-bera* (< PIE **porko-* “piglet” and **bher-* “to carry”, referring to a certain species of fish), bears testimony of most of our other criteria as well like a river name in *-ap-*, represented by *ostium Metapinum* at the mouth of the *Rhodanós* “Rhône” (Plinius, *Natural History* 3, 33), and ethnics in *-k-* as exemplified by *Belaci* and *Marici* (Pokorny 1938: 86).⁶⁸ It must be admitted, though, that in the

⁶⁸Note in this connection that Ligurian is further associated with the royal name *Kúkno*s and the river name *Ēridanós* in literary tradition (Schulzen 1922: 65), which both appear to belong to the earliest layer of Indo-European as reconstructed here. If the *Ēridanós* in this particular case indeed refers to

Levant, to the best of my knowledge, no toponyms in *-st-* are encountered,⁶⁹ whereas at the other side of the spectrum in the case of Iberian *Segestica* and *Ligustinē* (= *Hasta Regia* near *lacus Ligustinus*, situated along the lower Guadalquivir, according to Schulten 1950: 160) the diagnostic grave types are missing so that only the statue menhirs might be called into play, which in the case of those found in the territory of the Lusitanians (who are reportedly still fighting with bronze weapons in Roman times) may safely attributed to a “proto-Celtic” population group as well (see Woudhuizen *forthc.* 2).⁷⁰

Less diagnostic, but still instrumental to our case may be the ethnics in *-k-*, which, apart from in the Levant (*Kilikies*, *Phoínikes*), are also traceable for Crete (*Phaiākes*), but particularly prolific in the Italian (*Italici*, *Falisci*, *Osci*, *Etrusci*,

the Rhine, as suggested by the Penguin translation of Pausanias, *Guide to Greece* I, 30, 3, the king in question may reasonably be argued to be the heros eponym of the *Cauci* mentioned in the above, who according to the commentary of Carl Müller to Ptolemaios’ *Geographia* 2, 2, 8 were neighbors of the *Menapii* ultimately originating from the right side of the Lower Rhine, in like manner as the *Kaukōn* is the heros eponym of the *Kaukōnes*.

⁶⁹Note that the *Philistines* are latecomers into the region, arriving in Palestine from Kaphtor (= Crete, where, as we have just noted, we come across the related ethnic *Pelasgoi* < **Pelastoi*) in the period of the Sea Peoples at the end of the Bronze Age, c. 1200 BC.

⁷⁰As duly noted by Schulten (1922: Index, s.v. *Ligurer*), yet another relationship of Iberia with Liguria, apart from the *pernix Ligus* in the north and the explicit mention of *Ligurer* along the east coast (Skylax, *Periplus* 3 [north] and Thucydides, *Peloponnesian War* 6, 2 [south]) (see Schulten 1950: 68, note 2; 111, note 5) and alongside the aforesaid *Segestica* and *Ligustinē*, is provided by the river name *Doúrios* or *Durius* as corresponding to *Durias* in northwest Italy (occurring two times, namely as *Durias Major* and *Durias Minor*, both of which empty into the Po), see Strabo, *Geography* 3.4.20; 4.6.5; and Loeb ed. volume II, 270-271, note 2. On the basis of Schulten’s work (1922: 66), moreover, the relationship of Ligurian to the “Nordwestblock” more in general can be further underlined by the distribution of the onomastic elements *eburo-* (< PIE **h₁epero-* “boar”), *inta-* (< PIE **h₁éndo-* “in”), and *mel-* (< PIE **meh₁-* “small animal”), covering the Lower Rhine region (ethnic *Eburones*, MN *Intamelus*), the territory of the Ligurians in the French Riviéra and northwest Italy (fundus *Eburelia*, ethnic *Intimilii* > Ventimiglia), and Spain (TN *Eburobrittium* in Lusitania, MNs in *indi-* or *indo-* and *m/bel-* like *Indibélēs* [Schmoll 1958: 13]). Note that the ethnonym *Eburovices* (Sergent 1995: 202-205), in which *eburo-* occurs in combination with Celtic **vic-* “to fight, conquer”, excludes the alternative interpretation of the first mentioned root as a tree name, “yew”, as in Delamarre 2003, s.v. *eburos*. Note also that *Intamelus*, etc., given the pastoral nature of the earliest Indo-Europeans, is likely to be analyzed as of similar formation as Greek *ἐπιμήλιος* “guardian of flocks”.

etc.)⁷¹ and, to a lesser extent, Iberian (*Berybrakes*, *Gallaeci*, *Celtici*) context. As far as “Old Indo-European” river names are concerned, we have already mentioned that of the *Iordan* in Palestine and of the *Iárdanos*, *Mesápios*, and **Amnis* in Crete in the context of the upheavals of c. 2300 BC, with the noted adjustment that the given date should be taken as a *terminus ante quem*: these river names may alternatively have been introduced already during the earliest phase of the Early Bronze Age. The same verdict certainly applies to the river names in *-apa* and *-dan* attested for the Greek mainland, like *Asōpós*, *Ēridanós* in Attica, and *Apidanós* in Thessaly, not to mention Lydian *Iárdanos* and Trojan *Aísēpos* and *Apidanós*, the latter two of which are already referred to in the above.⁷² (see table IV)

As far as mainland Greece is concerned, it has been plausibly argued by John Coleman (2000) that there is a hiatus between the Neolithic and Early Bronze Age. At any rate, such a hiatus has also been observed to the north, in present-day Bulgaria (Coleman 2000: 136 with references). Against this backdrop, it does not come as a surprise that there is no further deep-layer in Greek with information about the language or languages of Neolithic population groups in this region.

	IBERIA	ITALY/S FRANCE	GREECE	ANATOLIA	N SYRIA/ LEVANT
	linguistic				
<i>p</i> -initial “Celtic”	x	x		x	
TN in <i>-st-</i>	x	x	x	x	
ethnic in <i>-k-</i>	x	x	x	x	x
RN in <i>-apa</i>		x	x	x	x
RN in <i>-dan</i>		x	x	x	x

⁷¹As most of these ethnonyms are of latecomers in Italy, the formation evidently remained productive up to as late as the end of the Late Bronze Age or even Early Iron Age.

⁷²It is interesting to note in this connection that also the name of *Ártemis* (Linear B *a-te-mi-to*, D *a-ti-mi-te*), who was venerated at her sanctuary at Brauron in Attica by young girls dressed like little bears, for the correspondence of the first element of her name to Celtic *arto-* “bear” as further attested for the TN *Artákē* and the MN *Artákēs* typical for the Doliones in the region of Kyzikos (see Sergent 1988: 329 ff.) and as clearly distinct from Greek ἄρκτος, may safely be assigned to the earliest Indo-European layer traceable for the Greek mainland.

		archaeological			
statue menhir	x	x		x	
catacomb/tholos		x	x		x
stone circle-tumulus			x	x	
apsidal house			x	x	x

Table IV. Linguistic and archaeological features of earliest Indo-Europeans in the Mediterranean.

Finally, attention may be drawn to graves dug into a mound used as a ready-made kurgan at Korucutepe in eastern Turkey, which are assigned to the earliest stage of the Early Bronze Age, *c.* 3100 BC. According to Shan Winn (1981), we appear to be dealing here with northern immigrants from the Transcaucasian Kura-Araxes culture or beyond. Of particular interest are the horse bones discovered in the neighborhood, at Norşun Tepe and Tepecik, as the introduction of the horse during this early period can be shown here to have been abortive, no horse bones having been found in Early Bronze Age II levels. In the foregoing, we have suggested that the Early Bronze Age introduction of the horse elsewhere in the Mediterranean may have been of marginal impact for the lack of fresh supplies or insufficient breeding programs. At any rate, the early northern immigrants in the region of Korucutepe are clearly distinguished from their colleagues in the Mediterranean, who, in view of their dispersal of the apsidal house, must have taken a route through the southern Balkans.

In the relevant literature, the Indo-Europeanization of Greece has often been identified with the question of the coming of the Greeks (Coleman 2000 is a case in point). In the foregoing, I hope to have shown convincingly that this is an irresponsible reduction of the state of affairs and that the Indo-Europeanization of Greece involves a process which is at least as multi-layered as that in Italy to the west and Anatolia to the east. At any rate, our reconstruction of the process of Indo-Europeanization in the wider Mediterranean can be summarized as follows (see table V).

	Iberia	Italy	Greece	Anatolia
700	Celtiberian	Etruscan		(Cimmerians and Skyths)
1200		Oско-Umbrian Latin-Faliscan		Thracо-Phrygian (Buckel Keramik)
1600	"proto-Celtic" (Lusitanian)		Greek	Thracо-Phrygian (Kaska)
2300			Thracо-Phrygian (Pelasgian)	IE Anatolian
3100		"proto-Celtic" (Ligurian)	"proto-Celtic" (deep-layer in Pelasgian)	"proto-Celtic" (Nuwā'um)

Table V. Various Indo-European layers in the Mediterranean.

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