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The Phrygians from Βρίγες to Φρύγες: Herodotus 7.73, or the Linguistic Problems of a Migration *

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According to Herodotus (7.73), as long as the Phrygians lived in Europe with the Macedonians they were called Βρίγες. Only after their migration to Anatolia did they change their name to Φρύγες. Previous scholarship has considered Φρύγες and Βρίγες to be etymologically related, attributing the difference in the initial consonants to a regular phonological change PIE **b^h* > Greek /p^h/ <φ>, Phrygian /b/, and identifying the oscillation between /i/ and /u/ of the root vowel as a Phrygian phonological feature. Since the outcomes of PIE **i* and **u* are stable in Phrygian and in Greek, this assumption must be reconsidered. In the Greek sources, several ethnonyms referring to the Phrygians and to their European ancestors/relatives can be found: Φρύγες, Βρίγες, Βρύγες, Βρύγοι/Βρῦγοι. These Greek *exonyms* can be split into two groups according to their radical vowel, and can then be analyzed separately. The standard ethnonym Φρύγες designating the Phrygians, as well as the ethnonyms of the Thracian populations Βρύγοι and Βρύγες, can be traced back to the same “proto-ethnonym” reconstructible as **B^hrug-*. A “proto-ethnonym” **Wreg/k-* can be posited to account for the Macedonian form Βρίγες, and possibly for the Phrygian form *vrekes*, which might be a good candidate for the Phrygian *endonym*.

1. Introduction

The ethnonym Φρύγες ‘Phrygians’ is attested for the first time in Greek literature in the *Iliad*. According to Homer, young King Priam helped the Phrygians to fight against the Amazons (*Iliad* 3.185). In return, the Phrygians came to Troy to support

* This paper is drawn from a section of Chapter 1 of my Ph.D. dissertation (Anfosso 2019:80–104). I am thankful to Brent Vine and to Charles de Lamberterie, as I benefited greatly from their observations on the occasion of my dissertation defense; to Claude Brixhe, who kindly sent me useful material on this subject; to Joshua Katz, for his insightful question after the delivery of this paper; and to Stephanie Jamison and Brent Vine for their constructive comments on the first draft of this paper. Finally, I am indebted to Anahita Hoose for proofreading the English text at different stages. The usual disclaimers apply.

the Trojans against the Achaeans (*Iliad* 2.862). Thus in the Homeric tradition, the Phrygians appear as a population well rooted in Anatolia.¹

On the other hand, the first evidence in Greek literature for a Phrygian migration from the Balkans (ca. 12th century BCE) is provided by Herodotus (5th century BCE). While describing the imposing army assembled by Xerxes to attack Greece (480 BCE), the historian describes the Phrygian contingent and provides precise indications concerning the origin of this population (7.73). In particular, he points out a bizarre name change. As long as the Phrygians lived in Europe with the Macedonians they were called Βρίγες;² only after their migration to Anatolia did they change their name to Φρύγες:

7.73 [...] Οἱ δὲ Φρύγες, ὡς Μακεδόνες λέγουσι, ἐκαλέοντο Βρίγες χρόνον ὅσον Εὐρωπῆται ἔοντες σύνοικοι ἦσαν Μακεδόσι, μεταβάντες δὲ ἐς τὴν Ἀσίην ἄμα τῇ χώρῃ καὶ τὸ οὖνομα μετέβαλον ἐς Φρύγας.

[...] The Phrygians, as the Macedonians say, were called “Briges” as long as, living in Europe, they dwelled with the Macedonians; it was when they moved to Asia that, at the same time as they changed their country, they also changed their name to “Phrygians.”³

If we follow Herodotus (6.45), even after the migration, a population named Βρύγοι, likely to be descended from the same ethnos as the Phrygians before their migration, still inhabited Thrace. The historian lists the Thracian populations, including the Βρύγοι,⁴ among Xerxes’ suppliers of ground forces (7.185):

6.45 Μαρδονίῳ δὲ καὶ τῷ πεζῷ στρατοπεδευμένῳ ἐν Μακεδονίῃ νυκτὸς Βρύγοι Θρήκες ἐπεχείρησαν· καὶ σφῶν πολλοὺς φονεύουσι οἱ Βρύγοι, Μαρδόνιον δὲ αὐτὸν τραυματίζουσι.

While Mardonius was encamped in Macedonia with the land army, the Brygi of Thrace attacked them at night: and the Brygi killed many of them [i.e. of his soldiers], and wounded Mardonius himself.

7.185 Πεζοῦ δὲ τὸν Θρήκες παρείχοντο καὶ Παίονες καὶ Ἑορδοὶ καὶ Βοττιαῖοι καὶ τὸ Χαλκιδικὸν γένος καὶ Βρύγοι καὶ Πίερες καὶ Μακεδόνες καὶ

1 On the subsequent synonymous usage of the ethnonyms “Phrygians” and “Trojans” in Greek tragedy, see Anfosso 2018.
 2 The ethnonym Βρίγες can be found as well in Strabo (geographer, 64/63 BCE–24 CE) 7.3.2, 7.7.12, and Aelius Herodianus (grammarian, 2nd century CE) 3.1.61.
 3 Translations are mine, except as indicated.
 4 The ethnonym Βρύγοι is mentioned by Strabo 12.3.20, and by Pseudo-Scymnus (geographer, 2nd century BCE) 434.

Περραιβοὶ καὶ Ἐνιῆνες καὶ Δόλοπες καὶ Μάγνητες καὶ Ἀχαιοὶ καὶ ὅσοι τῆς
Θρηάκης τὴν παραλίην νέμονται.

Thracians, Paeonians, Eordi, Bottiaei, Chalcidians, Brygi, Pierians, Macedonians, Perrhaebi, Enienes, Dolopes, Magnesians, Achaeans, and all the dwellers on the seaboard of Thrace sent ground troops.

Later on, Strabo (1st century BCE) presents a similar account of the Phrygians' migration (7.7.12). Although originally settled on Mount Bermion, in Macedonia, at some point the Βρίγες moved to Anatolia, where they changed their name to Φρύγες. Strabo (7.3.2) specifies that the Βρίγες were a Θρακῶν ἔθνος, i.e., a population of Thracian origin:

7.3.2 Καὶ αὐτοὶ δ' οἱ Φρύγες Βρίγες εἰσὶ, Θράκιόν τι ἔθνος [...].

And the Phrygians themselves are Briges, a Thracian population [...].

7.7.12 Ὅτι αὐτοῦ που καὶ τὸ Βέρμιον ὄρος, ὃ πρότερον κατεῖχον Βρίγες Θρακῶν ἔθνος, ὧν τινες διαβάντες εἰς τὴν Ἀσίαν Φρύγες μετωνομάσθησαν·

Mount Bermion, also, is somewhere in this region [sc. in Macedonia]; in earlier times it was occupied by Briges, a Thracian tribe; some of these crossed over into Asia and their name was changed to Phrygians.

Strabo then asserts the ethnic identity of Brygi, Bryges, and Phrygians (12.3.20):

12.3.20 [...] ὁμοίως δὲ καὶ Βρυῖγοι/Βρύγοι καὶ Βρύγες καὶ Φρύγες οἱ αὐτοὶ [...].

[...] Likewise, Brygi and Bryges and Phryges are the same people [...].

Thus in the Greek sources, several ethnonyms related to the Phrygians and to their European ancestors and/or relatives, located in different parts of the Balkans (Thrace, Macedonia, Illyria), can be found:

- Φρύγες (*Iliad*+);
- Βρίγες (Herodotus 7.73; Strabo 7.3.2, 7.7.12; Aelius Herodianus 3.1.61);
- Βρύγοι/Βρυῖγοι (Herodotus 6.45, 7.185; Strabo 12.3.20; Pseudo-Scymnus 434);
- Βρύγες (Strabo 12.3.20, followed by the Byzantine lexical encyclopedia *Etymologicum Magnum* [12th century CE] 179.19G; the nom. sg. form Βρύξ is attested by Stephanus of Byzantium, *Ethnica* [6th century CE] 187.17).

Gusmani (1958:859–60) and Detschew (1976:91–2) considered Φρύγες and Βρίγες to be etymologically related, attributing the difference in the initial consonant to a regular phonological change PIE **b^h* > Greek /p^h/ <φ>, Thracian and

Phrygian /b/. More specifically, Gusmani identified the oscillation between /i/ and /u/ of the root vowel as a typical feature of Phrygian phonology (“una delle ben note caratteristiche della fonetica frigia”), and Detschew considered Φρύγες, Βρύγες, Βρῦγαι, Βρύγοι, Βρίγες, Βρίγοι, and Lat. *Brigae* to be derivations from the same root (“Bruchteile von einem Stamm”). Beekes (*EDG* s.v. βρίκελοι) suggested that we might be dealing with a Pre-Greek word βρικ-/βρυκ- meaning in his view ‘barbarian, foreigner’. For him, the variation between ι and υ is “well known” (quoting Furnée 1972:116⁵), though he admitted (2014:25) that he did not know how to interpret this phenomenon, whereas -ελ- is “a Pre-Greek suffix.”

In my opinion, these hypotheses need to be reconsidered. First of all, these ethnonyms are not genuine Phrygian forms, but rather Greek forms attested in Greek sources, i.e., *exonyms* (Jordan 2015:163).⁶ Thus it is incorrect to consider the variations in question as direct reflections of Phrygian (or Thracian) phonology. Moreover, the outcomes of PIE *i and *u are stable in Phrygian (Ligorio and Lubostky 2018:1821), and they do not converge under any circumstances. Concerning Greek: at the time of Herodotus—the author of the earliest text where Φρύγες and Βρίγες are recorded at the same time—we are still far from the regular Byzantine outcome /ü/ > /i/, leading to confusions or overlaps between ⟨υ⟩ and ⟨ι⟩ in the graphic system (Miller 2014:58). Since, moreover, the people in question, although “barbarian” from a Greek perspective, spoke Indo-European languages—i.e., Phrygian, Macedonian Greek, and possibly Thracian dialects—it is not strictly necessary to invoke a Pre-Greek origin for their ethnonyms. It seems worthwhile, then, to provide an alternative explanation.

With that in mind, the goals of this paper are as follows. First of all, I will split the different ethnonyms designating the Phrygians and their ancestors/relatives into two groups according to their radical vowel (i.e., Φρύγες, Βρύγες, Βρῦγοι/Βρῦγοι on the one side, and then Βρίγες on the other), with a view to analyzing them separately. Then, I will elaborate an alternative explanation in order to account for all the variations found in the Greek exonyms to designate the Phrygians and their ancestors/relatives. Finally, I will propose a hypothetical Phrygian endonym (Jordan 2015:163) after a careful reading of the Paleo-Phrygian corpus (9th–4th

5 “βρικόν = βάρβαρον (H.), woneben (Latte) βρυκός = βάρβαρος (H.): cf. βρίγες = βάρβαροι. οἱ δὲ σολοικισταί (H.). Hierher auch βρίκελοι = βάρβαροι (H.).”

6 External naming is always created on the basis of a specific viewpoint, often involving an unequal power relationship between the naming and the named entities. For a theoretical framing of the exonym/endonym issues in Ancient Anatolia, see Durnford 2013:51–3.

centuries BCE).⁷ Onomastic analysis is by definition fraught with difficulty and often leads to controversial proposals. However, I am convinced that it can be an interesting approach to investigating the reception of Phrygian language and history in Greek literature.

2. Φρύγες, Βρύγες, Βρύγοι/Βρῦγοι

Kretschmer (1896:229) was the first to state that the information provided by Herodotus at 7.73 could be interpreted linguistically. In his opinion, Φρύγες was the Greek term (an “exonym,” in our usage) meant to designate the Phrygians. It is well known that the outcomes of PIE voiced aspirated stops are different in Greek and Phrygian. In Greek, PIE voiced aspirates became voiceless before the Mycenaean period⁸ (ending around 1250–1150 BCE), so PIE **b^h*, **d^h*, **g^h* > Greek /p^h/, /t^h/, /k^h/, ⟨φ, θ, χ⟩ (e.g., PIE **b^h* > Greek /p^h/: PIE **b^hér-oh₂* > Greek φέρω). In Phrygian, PIE voiced aspirated stops lost their aspiration, so PIE **b^h*, **d^h*, **g^h* > Phrygian /b/, /d/, /g/ (e.g., PIE **b^h* > Phrygian /b/: PIE **b^hér-et* > Neo-Phrygian (αβ)βερ(ε)τ). According to Brixhe (2018a:1852–3), Thracian lacked aspirated stops as well, so it is possible to postulate the same development as in Phrygian.

Keeping in mind the expected development PIE **b^h* > Greek /p^h/ ⟨φ⟩, but Thracian and Phrygian /b/, it is possible to state that the standard Greek ethnonym Φρύγες designating the Phrygians, as well as the ethnonyms of the Thracian populations Βρύγοι/Βρῦγοι and Βρύγες, derive from the same “proto-ethnonym” reconstructible as **B^hrug-*.

Apart from the literary sources, the Greek ethnonym Φρύξ is attested as an anthroponym (albeit rare), inscribed on a vase from Corinth already in the 7th century BCE (*DGE* no. 121). This would confirm the stability of the initial consonant /p^h/ ⟨φ⟩ for the ethnonym Φρύγες in Greek.

The alternation between the *o*-stem form Βρύγοι/Βρῦγοι (Hdt. 6.45, 7.185; Strabo 12.3.20; Pseudo-Scymnus 434) and the consonant-stem form Βρύγες (Strabo 12.3.20) is remarkable. However, before analyzing that in detail, it is

7 Brixhe and Lejeune 1984, with supplements (Brixhe 2002, 2004). For a list of all Paleo-Phrygian inscriptions, including those published after 2004, see Obrador-Cursach 2020:427–523.

8 Voiceless aspirated stops are already present in Mycenaean, even though Linear B does not systematically distinguish them graphically from unaspirated voiceless stops or from voiced stops. Note, however, the sign ⟨pu₂⟩, which in some cases reflects [p^hu], as in Myc. pu₂-te-re /p^hutēres/ ‘planters’, and possibly the proper name pu₂-ke-qi-ri /P^hugeg^{wr}ī(n)s/, i.e., ‘who escapes/d the heavy [spear]’ or ‘heavy [evil, misfortune, enemy, etc.]’ (García Ramón 2009: 10–4).

worthwhile commenting briefly on the alternative accentuation seen in Βρύγοι/Βρῦγοι.

The form Βρύγοι, with acute accent, is read in Herodotus 6.45 and 7.185. The form Βρῦγοι, with circumflex accent, is found in Strabo 12.3.20 and Pseudo-Scymnus 434. We must never forget that Greek texts as we read them today are the result of philologists' work on centuries-old manuscript traditions, in which the testimony concerning accentuation is often unreliable. In fact, Βρῦγοι, with circumflex, is a modern emendation by Meineke in Strabo 12.3.20 (Meineke 1852:772, ad loc.). Radt (2004:446–7, ad loc.) did not accept his predecessor's emendation in his more recent edition, following the traditional accentuation Βρύγοι for the ethnonym. Since in Strabo 12.3.20, as we have seen, the *o*-stem form is in close proximity to the consonant-stem form (ὁμοίως δὲ καὶ Βρῦγοι καὶ Βρύγες καὶ Φρύγες οἱ αὐτοί), we might assume that Meineke chose the circumflex accent in order to differentiate the two ethnonyms more clearly. However, Meineke was also the editor of Pseudo-Scymnus' *Periodos to Nicomedes* (1846), an account of the world (χωρογραφία) in iambic trimeters⁹ dedicated to a King Nicomedes (II or III) of Bithynia, and dated to the second half of the 2nd century BCE.¹⁰ Iambic trimeters were adopted for the exposition of factual knowledge by Apollodorus of Athens (2nd century BCE) in his *Chronica* for the first time,¹¹ and then imitated by Pseudo-Scymnus. In this poem, the ethnonym in question can be found in two passages (Meineke 1846:101):

- 434 Ὑπὲρ δὲ τούτους εἰσὶ Βρῦγοι βάρβαροι
Beyond them [i.e. the Illyrians] are the Bryges, a barbarian people
- 437 Ὑπὲρ δὲ Βρύγους Ἐγγέλειοι λεγόμενοι
And beyond the Bryges, the so-called Encheleians dwell

The root vowels in Βρῦγ- (434) and Βρύγ- (437) must be long, since these syllables are found in metrically heavy positions.

In terms of the rules of Greek accentuation, the circumflex accent can appear only over a long vowel or diphthong. However, as noticed by Detschew (1957:92),

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- 9 The iambic trimeter verse (as in the early Ionian iambographers and the dialogues of drama) is made up of three metra, and the basic form of the iambic metron is ×-υ-|. See West 1987: 24–8.
- 10 For more detail about the dating of Pseudo-Scymnus' *Periodos to Nicomedes* and the identification of King Nicomedes of Bithynia, see Marcotte 2002:7–16.
- 11 Iambic trimeters were already employed in the later 4th and 3rd centuries by philosophers and satirists, see West 1982:160.

the length of the root vowel is differently attested in Greek literature: “Es verdient bemerkt zu werden, daß der Stammvokal in Βρῦγ-οι, Βρῦγ-αι lang, dagegen in Φρύγες, Βρύγες, Βρύγοι kurz ist.” Thus, since both accentuations are attested (i.e., Βρῦγ-οι and Βρῦγ-οι), Meineke’s choice of circumflex accent for Βρῦγοι in verse 434 was evidently driven by the metrical position of the syllable, as well as the vowel length indicated by the metrical position in verse 437. Meineke then adopted this accentuation in other editions of literary works where the ethnonym is attested: cf. Βρῦγ-αι in Meineke’s edition (1849) of Stephanus of Byzantium’s *Ethnica* (6th century CE), s.v. Βρύξ, vs. Βρυγαί, attested by codices R, Q, P, and N (Billerbeck 2004:8, 380). The accentuation Βρῦγοι is accepted by Marcotte (2002:120) in his recent edition of the *Periodos to Nicomedes*. There is, then, evidence for both Βρῦγ- and Βρῦγ-, although the latter is restricted to late authors and may in part reflect a metrical license.

As for the thematic *o*-stem form Βρύγοι/Βρῦγοι: this might look like a relatively trivial secondary development, based, for example, on the gen. pl., where consonant-stem and *o*-stem forms would be virtually identical except for the accent. But the *o*-stem form used by Herodotus refers only to a Thracian tribe still inhabiting Thrace in the 5th century BCE. So it may be that there is something systematic about the use of the *o*-stem form for this particular ethnonym. On the other hand, Βρύγες can be found only in Strabo 12.3.20. Considering the fact that Strabo wrote his *Geography* in the 1st century BCE, and that this ethnonym can be found elsewhere only in the Byzantine (12th century CE) *Etymologicum Magnum* (179.19G), it is more likely that we are dealing with a late secondary consonant-stem Βρύγες built on the original *o*-stem Βρῦγοι by analogy with the consonant-stem Φρύγες.

Unfortunately, a Phrygian ethnonym derived from the “proto-ethnonym” **B^hrug-* is not attested in Phrygian inscriptions. However, it is possible to reconstruct it hypothetically. As we have seen, the outcome of the initial PIE voiced aspirated stop is certain, i.e., PIE **b^h* > Phrygian /b/. The development of the PIE voiced stops is more controversial. In the past, most handbooks claimed that the PIE voiced stops were stable in Phrygian (e.g., Fortson 2010:462), so that, for example, PIE **g* > Phrygian /g/; but in fact there is variation within the corpus. As pointed out by de Lamberterie (2013:27–8) and recalled by Obrador-Cursach (2020:72), a Lautverschiebung *stricto sensu*, in the way this concept is traditionally used in Indo-European Studies (referring to a generalized stop mutation of the type **b^h* > *b*, **b* > *p*, **p* > *p^h*), as claimed in particular for Phrygian by Haas (1966:209–12, 1972:§§15–17), is to be excluded. Nevertheless, PIE voiced stops appear to be devoiced in Phrygian in some cases: e.g., PIE **b^hh₁ǵ-* > Phrygian *bekos* ‘bread’ (cf. Armenian *bek* ‘broken’, *beknem* ‘break’; Panagl and Kowal 1983:186–7), PIE

**dh₃tim* > Phrygian *totin* (acc. sing.) ‘gift’ (cf. Greek δόσις ‘gift’ etc.; Ligorio 2016), PIE **meǵh₂-* > Phrygian *mekā-* ‘big’ (cf. Sanskrit *māhi*, Greek μέγας; Obrador-Cursach 2016).

Although generally agreeing with Lejeune (1979), who rejected with good reason Haas’s claim of a systematic Lautverschiebung, Neumann (1988:6) isolated some examples attesting the devoicing of PIE voiced stops in Phrygian. Orel (1997: 382) also showed that in some cases a devoicing is possible, and he formulated a rule to account for some examples, i.e., PIE **gn* > Phrygian /kn/. Woodhouse (2006) accepted Orel’s rule and gathered a dozen more factors that could account for devoicing of the voiced stops in specific contexts, in particular in the presence of /m/ (2006:158–63), /w/ (2006:163–5), */b^h/ (2006:165–6), */d^h/ (2006:166–8), /n/ “with some kind of reinforcement” (2006:168–9), and possibly /l/ (2006:169–74), all of this suggesting a “conditioned devoicing” in Phrygian. Thus, according to him, the devoicing of PIE voiced stops in Phrygian is the result of a voicing dissimilation in which weakly voiced consonants lost voicing in the presence of more strongly voiced consonants in the same word (2006:174). In other words, “in the vicinity of the more strongly voiced consonants the less strongly voiced were perceived as voiceless or nearly so, thus becoming more weakly voiced with each succeeding generation” (2006:176). Lubotsky (2004), for his part, and independently from Woodhouse, confirmed the devoicing of PIE voiced stops in several cases (e.g., **dǵēm*, **dijūs*, **dijuej* > τιαν, τιος, τιε ~ τι ~ τη; 2004:230). Finally, even de Lamberterie (2013:27–8), who is generally opposed to the idea of a systematic sound change, recognized that the development of PIE voiced stops in Phrygian can be surprising in many cases. Thus in Phrygian, /k/ can go back to PIE **g*, **ǵ*, **gu*, **k*, **k̂*, and **kū* (Obrador-Cursach 2020:74). Taking all this into account, the expected development of the “proto-ethnonym” **B^hrug-* in Phrygian would probably be either ***Brug-*, with the regular outcome of PIE **b^h* > Phrygian /b/, or ***Bruk-*, with PIE **b^h* > Phrygian /b/ and devoicing of the PIE voiced stop (PIE **g* > Phrygian /k/), if we accept Woodhouse’s theory that the presence of PIE **b^h* in the same word can trigger the devoicing of PIE voiced stops in Phrygian (2006:165–6). The hypothesis of the existence of such an outcome ***Bruk-* is reinforced by a gloss of Stephanus of Byzantium (*Ethnica* 187.11), who attests a family of Thracian ethnonyms whose root is actually **Bruk-*: Βρύκες καὶ Βρύκαι ἔθνος Θράκης, λέγονται καὶ Βρυκεῖς καὶ Βρυκήϊοι “Brukes and Brukai are Thracian tribes, called as well Brukeis and Brukeioi.” Duridanov (1993:66) even considered ***Brug-es* and Βρύκες to reflect different stages of the Phrygian ethnonym, the first attesting an archaic phase of the language in which the devoicing of PIE voiced consonants had not yet occurred. However, neither ***Brug-* nor ***Bruk-*

are attested in any surviving Phrygian inscriptions. Thus it is impossible to state with certainty whether one of these two ethnonyms was the Phrygian endonym or not, or if they corresponded to different stages of the Phrygian language.

3. Βρίγες

As we read in Herodotus 7.73, before the migration to Anatolia the Phrygians lived in Europe with the Macedonians, and they were called Βρίγες. Only after their migration to Anatolia did they change their name to Φρύγες. The ethnic equivalence between Φρύγες and Βρίγες is underlined also by the lexicographer Hesychius of Alexandria (5th century CE) in the final phrase of an obscure gloss (Latte and Cunningham 2018:464, β 1087) that adds another piece to the puzzle: Βρέκυν· τον Βρίγα, τὸν Βρέκυντα. Βερεκύνδαι δαίμονες, οἱ Φρύγες. Βρίγες γὰρ οἱ Φρύγες.

Concerning Βρίγες, Herodotus explicitly states that he is reporting the Macedonians' point of view (ὡς Μακεδόνες λέγουσι “as the Macedonians say”). In my opinion, this is a clue that invites us to focus on the dialects of this region, more specifically on those of a small area including Pelasgiotis, Perrhaebia, and southeastern Macedonia, which was, according to Hatzopoulos (2006:49), the main contact zone between the Macedonians and the Phrygians before their migration.

As underlined by Brixhe (2018b:1863–4), Macedonian presents some features which are common to Thessalian and North-West Greek. One of the characteristic features of the Thessalian dialects spoken in the area around Mount Olympus is the preservation of ⟨Ϝ⟩ from PIE **u*, including in the cluster **ur-*, which can either be preserved as ⟨Ϝρ-⟩ or, as pointed out by Lejeune (1972:178), fricativized as /vr-/ ⟨βρ-⟩ (cf. Βράμυς for Φράμυς in Boeotia in 424 BCE; *DGE* no. 478, cf. Brixhe 2018b:1865).

In Macedonian, the letter ⟨β⟩ could represent /b/, /f/, and /v/. After a careful reading of bills of sale from Amphipolis and the Chalkidiki region, Hatzopoulos (2006:44, with references) showed that in Northern Greece the ancient unvoiced aspirated stops represented by the signs ⟨φ, θ, χ⟩ had already lost their occlusion in order to become spirants in the 4th century BCE. On the other hand, the ancient voiced stops represented by the signs ⟨β, δ, γ⟩ could be realized as occlusives or as spirants depending on the phonetic context (cf., e.g., Spanish *andar* ‘to walk, to move’ with /d/ vs. *querido* ‘beloved’ with /ð/). The evidence for such a theory would be found in mistakes like βεφαίως instead of βεβαίως in a bill of sale from Amphipolis (mid-4th century BCE): this would be unjustifiable, according to Hatzopoulos, unless one assumes that the sign ⟨φ⟩ represented the phoneme /f/, and the sign ⟨β⟩ represented the phoneme /v/. In Byzantine Greek, ⟨β⟩ regularly

represents /v/, so the initial cluster ⟨βρ⟩ in Hesychius’s Βρέκυν was definitely pronounced /vr/. It is important to note that the cluster /vr/ regularly survives also in Phrygian, where it is not confused with /br/: cf. B-05, l. 4 *vebr̥aş* vs. l. 5 *evr̥aduş* (Brixhe 2004:55). Thus I think that there is a good chance that the initial cluster of the ethnonym Βρίγες is not the outcome of PIE *b^hr-, but of PIE *ur-.

4. *Vrekun*

Surprisingly, it is possible to find exact (and near-exact) parallels of Hesychius’s gloss Βρέκυν in the Paleo-Phrygian inscriptions.

W-01a (Brixhe and Lejeune 1984:36–9, Lubotsky 1988):

- I. *vrekun* : *tedatoy* : *yostutut* – – – *a – m – ?* *noy* : *akenanogavos* | *aeγ*
- II. *materan* : *areyastin*
- III. *bonok* : *akenanogavouş*

B-05, l. 3 (Brixhe 2004:55):

vrekan vitar̥an artimitouş k̥raniya p[– – –]

Likely also HP-114 (Brixhe 2004:118–26):

- A 1 *30? . . . ekeş 30? i? |*
- 2 *. . 30? y?r?ekes? |*
- 3 *. 30? knays 30? ş? |*
- 4 *i?y?r?i 40? knayke?[s]? |*
- B 5 *.? 40? m?akeres 40? |*

The Phrygian form *vrekun* has been widely analyzed in previous research, leading to different results. One group of scholars, having taken Hesychius’s gloss seriously, interprets *vrekun* as the endonym of the Phrygians, while others have rejected this interpretation in favor of alternative solutions.

Lubotsky (1988:13–4) at first accepted the hypothesis of *vrekun* in W-01a as the endonym of the Phrygians (without providing further explanation). Following a previous interpretation by Gusmani (1958:858–9), he explained this form as the nom. sing. of an adjective/participle in *-ont-s (with a development *-ont-s > *-on > *-un), modifying the supposed honorific title *akenanogavos*, thus “*akenanogavos* of the Phrygians” (in Lubotsky’s gloss), i.e., “*akenanogavos* the Phrygian” or “the Phrygian *akenanogavos*.” It must be emphasized that the inscription, engraved on the bands of a triangular pediment, was supposed to be read, following Lubotsky,

in the order II–III–I.¹² For his part, Woudhuizen (2008–9:191) asserted that *vrekun* is an “epichoric variant of the ethnic adjective Φρύξ,” without further comment. Eventually, though, Lubotsky abandoned this theory in his more recent articles (citing en passant the Paleo-Phrygian inscription W-01a); see in particular Ligorio and Lubotsky 2013:192, 2018:1829.

According to Diakonoff and Neroznak (1985:143), *vrekun* would be the acc. sing. of a masculine *o*-stem meaning ‘vow’, deriving from (in their version) PIE **uer-* ‘to say, to declare’, whence Greek εἶρω. In their view, the voiceless stop in the word is a suffix *-k-*, and is not part of the root itself. Today, however, the root of Gk. εἶρω ‘to say’ is reconstructed rather as PIE **uerh₁-* (*LIV*² 689–90; cf. already *IEW* 1162–3), which cannot produce Phryg. *vre(k)-* in any regular way.

Orel (1997:469) stated that *vrekun* is a derivative “*o*- or *u*-stem” from the PIE root **ureǵh-* (sic) ‘break’ (i.e., **ureh₁ǵ-*: *LIV*² 698, cf. *IEW* 1181–2), meaning, in his view, something like ‘magic, magic object (?)’. The context of the inscriptions does not seem to support such an interpretation at all. Moreover, the expected result of PIE **ureh₁ǵ-* in Phrygian would almost certainly be either **vrag-* or (with Woodhouse’s devoicing process, 2006:1635) **vrak-*, since PIE **ē* and **eh₁* (> **ē*) merged with **eh₂* as Phrygian /a/ (Ligorio and Lubotsky 2018:1821): e.g., PIE **d^heh₁-k-* > Neo-Phrygian (αδ)δακετ 3sg. ‘inflicts’ (cf. Gk. aor. ἔθηκα); PIE **méh₂tēr* > Phrygian *matar* ‘mother’.

Brixhe (2004:55) observed that *vrekan* (B-05) could be the fem. acc. sing. form of the thematic adjective modifying *vitarān*, and *vrekun* (W-01a) the masc. or neut. acc. sing. form (with *-un* < **-on*) of the same thematic adjective, perhaps substantivized. But he did not attempt to translate the word, or to propose an etymology.

Matzinger (2005:386–90, 2006:358–60) identified *vrekun* as a noun inherited from the PIE verbal root **uerǵ-* ‘work’ (*LIV*² 686–7, *IEW* 1168–9) and compared it to Greek ἔργον ‘work, deed, action’. More specifically, he translated *vrekun* as ‘sculpture, relief’ because in W-01a the word occurs in the dedication of a monument with a niche supposed to host a statue. Sowa (2008:33) accepted Matzinger’s interpretation of *vrekun*, as did Ligorio and Lubotsky (2013:192, 2018:1829). Obrador-Cursach (2018:194, 2020:243–4) stated that “the etymology suggested by Matzinger is attractive,” adding that the translation ‘image, idol’ proposed by Ligorio and Lubotsky (2013:192, 2018:1829) “fits very well” into the context of inscription W-01a.

12 Lubotsky’s interpretation has been adopted by Janda (1997:272), Wittke (2004:203–4), and Berndt-Ersöz (2006:80).

Nevertheless, the comparison with ἔργον is problematic, since this form shows the far more common version of the root, i.e., **uerg-*, which does not match Phrygian *vrek-*: such a form would derive rather from the other version of the root, i.e., **ureg-*. In other words, Matzinger’s theory depends on the existence in Phrygian of the **ureg-* version of the root **uerg-*; but the status of this form is generally regarded as very doubtful. It can be found only in Greek and Celtic (*LIV*² 687), where its existence is to be attributed to secondary Schwebeablaut developments¹³ from original **u(e)rg-* forms—specifically, as usual, newly formed “wrong” full grades based on zero grades. Thus, beside the inherited zero-grade present **ur̥g̥-je/o-* attested in Myc. 3sg. *wo-ze*,¹⁴ Greek also shows secondary full grades ἔρδω < **uergīō* (with the correct full grade) and ῥέζω < **uregiō* (with the “wrong” full grade). The secondary nature of the apparent Celtic **ureg-* forms (such as MBret. *gru(e)ont* ‘make’) is particularly clear in this respect, as PCelt. **uerg-* : **ur̥ig-* (< **uerg-* : **ur̥g-*) was leveled to **ureg-* : **ur̥ig-* (*LIV*² 687 n.7). For Phrygian, then, a full-grade form **ureg-* has no actual basis (apart from a hypothesized episodic metathesis); therefore, the strategy of invoking such a root-shape to explain Phrygian *vrek-*, as with Matzinger’s theory, is a particularly weak and unattractive approach to the background of this word.

Moreover, there is a question as to how one should explain the presence of what looks like a fem. acc. sing. *vrekan* in inscription B-05. Obrador-Cursach (2018:70, 2020:244) tried to do so by implying that the feminine version of the word *vrekun* might designate the relief of the goddess Artemis on the stela, the divinity’s gender being the reason for the stem and gender shift of the noun (see Matzinger 2005:389). However, this hypothesis is not convincing. Compare inscription W-01a, carved on a façade dedicated to the Great Mother, as suggested by the phrase *materan areyastin* in the inscription (“Mother of Areyastis,” with the epithet probably based on a toponym), and by the niche for the statue of the goddess in the middle. The gender of the deity in question is still feminine, but the form attested in W-01a is *vrekun*, and not *vrekan*, as in B-05; at best, then, Obrador-Cursach’s explanation must somehow face this inconsistency.

If the form *vrekes* is actually attested on the Persepolis clay tablet HP-114 (Brixhe 2004:118–26), it would clearly be an athematic nom. pl. accompanied by a numeral, parallel to the other nom. plur. forms in the same text, i.e., *knayke?*[s]?

13 On PIE Schwebeablaut, see recently Ozoliņš 2015.

14 For the inherited character of this zero-grade formation (*LIV*² 686), cf. Av. *vərəziieiti*, Go. *waurkjan*.

‘women’,¹⁵ and *m?akepes*, an obscure word.¹⁶ The Fortification Archive of Persepolis¹⁷ contains several thousand texts of an administrative and practical nature written in different languages (Elamite, Aramaic, Babylonian, Phrygian, Greek, and Old Persian), in line with the multiethnic dimension of the Achaemenid Empire. In particular, many clay tablets from the Fortification Archive mention workers coming from different regions. In this case, the noun *vrēkes* was probably used to designate ‘Phrygian men’ working in Persepolis (probably as slaves), listed with their ‘wives’ or other ‘female workers’, rather than ‘statues, idols’ (Matzinger, followed by Sowa, Ligorio/Lubotsky, and Obrador-Cursach, cf. above), ‘magic objects’ (Orel), or ‘vows’ (Diakonoff and Neroznak).

Recapitulating, from a morphological point of view: in the Phrygian inscriptions we have sought to identify an athematic nom. pl. *vrēkes* (HP-114) and a thematic fem. acc. sing. *vrēkan* (B-05, l. 3). Concerning *vrēkun* (W-01a), Hesychius’s gloss τὸν βρία for Βρέκυν seems to indicate clearly that the form *vrēkun* is accusative, thus identifiable as a thematic masc. acc. sing. However, it is equally possible, as noted above, to consider the form *vrēkun* in W-01a as a consonant-stem nom. sing. with *-un* < PIE **-ont-s*, and with neutralization of the opposition between /o/ and /u/ before nasal. Moreover, if *akenanogavos* is an honorific title, as argued by Lubotsky (1988:14), the idea of an appositional nom. sing. of the type “the Phrygian *akenanogavos*” would make good sense. If this analysis is correct, in Phrygian, as well as in Greek (cf. Βρύγου/Βρῦγοι and Βρύγες), we might have both a consonant-stem (noun) and a thematic stem for the corresponding adjective in *-os/-on/-a* from the same root.

In light of the observations concerning the treatment of PIE **ur-*, the ethnonym Βρίγες would be the Macedonian counterpart of what looks like the Phrygian endonym *vrēkes*; thus it is possible to reconstruct a “proto-ethnonym” **Wreg/k-*. As we saw in §2, the devoicing of PIE voiced stops is a common feature in Phrygian, so PIE **g* > Phrygian /k/ would be unsurprising (Ligorio and Lubotsky 2018:1823). However, in light of Hatzopoulos’s observations concerning the treatment of intervocalic voiceless consonants in Macedonian (1987:407), one could also assume, more specifically, a “proto-ethnonym” **Wrek-*. In this case, PIE **k* (or **k̂*) would be stable in Phrygian, as usual (> Phrygian /k/), but would undergo lenition in Macedonian, as in, for example, the local epithet of Artemis Διγαία = Δικαία (<

15 Brixhe 2006:306; PIE **g^hneh₂-* ‘woman’ (*NIL* 178, *IEW* 473, Opfermann 2017; cf. Gk. γυνή, γυναικός, Arm. *kin*, Ved. *gnā*, Go. *qino*, etc.).

16 For an overview of previous etymological research on this word, see Obrador-Cursach 2018:234, 2020:289–90.

17 See Tavernier 2008, with bibliography.

PIE **deik-* ‘the righteous one’, attested inscriptionally in the surroundings of Edessa and Mount Bermion, and somehow connected to a local cult attested solely in Phrygia.¹⁸

Concerning the different outcomes of the vowel, i.e., Phrygian /e/ vs. Macedonian /i/, it is possible to provide the following explanation. In Phrygian, /e/ is the outcome of PIE **e* (e.g., PIE **b^her-* > Neo-Phryg. (αβ)βερετ) as well as PIE **h₁* in vocalization environments (e.g., PIE **d^hh₁-to-* > Neo-Phryg. δετουν, δετον). However, Brixhe (1990:89) posited the existence of a Phrygian secondary /e:/ as the product of compensatory lengthening or monophthongization of PIE **ei* since the Paleo-Phrygian period. Subsequently, in the Neo-Phrygian period, not only /e:/ > /i/ (Brixhe 1990:77–8), but also /e/ of any nature was likely to be confused with /i/ in many cases, because of its closed pronunciation (Brixhe 1990:89): cf., e.g. σιμουν... [ζ]ιμελωσι... (Haas 1966, no. 25) for σεμουν... ζεμελωσι. As for Macedonian,¹⁹ the spellings δαπινά for ταπεινά and ιμέ for εϊμί in line 6 of the Pella defixio (*SEG* 43.434, Dubois 1995:195–6) might attest to the early merger of /e:/ (<EI>) and /i:/ (<I>) as well. Thus, it might be possible to reconstruct the following evolution for the ethnonym in question here: PIE **Ureig/k-* > pre-Phrygian **/wreig/k/* > **/wre:g/k/*, Phrygian *vrek-*, Macedonian βρίγ-. A Hesychian gloss records another Greek word etymologically related to Phrygian *vrekun* and with /i/ vs. Phryg. <e>: βρικήσματα· ὄρχησις Φρυγιακή (a Phrygian dance).

In general, hesitations between /e/ and /i/ are attested in Phrygian under different conditions: some instances may be due to pre-nasal raising (*akenanogavos* [M-01a and W-01a] ~ *akinanogavan* [M-04]), while others may involve pretonic or post-tonic weakening (*kubeleya* [B-01] ~ *kubileya* [W-04], αββερετο [Haas 1966, nos. 73, 75] ~ αββερετο [Haas 1966, no. 25]), and still others show this variation in the root vowel (δεως ~ διως [Haas 1966, nos. 4, 5, 39]; cf. also -βεε- ~ -βιε- above). Thus βρικήσματα (Hsch.) might display the raising of /e/ to /i/ in pretonic position.

18 Concerning the association of Justice and Artemis, it might not be a coincidence that the theonyms Dikaiosynē and Artemis are associated in a Greek inscription from Prynnessos, in Phrygia (Hatzopoulos 1987:405). The same iconography can be identified on some coins from Prynnessos where Artemis is seated on a throne in the manner of the Mother of the Gods, but holding a scale, the symbol of Justice, in her right hand (Hatzopoulos 1987:405, n.34).

19 In general, as underlined by the data gathered by García Ramón (1987:126–8, cited by Hatzopoulos 2007:169), Brixhe (1985:366; 2018b:1864), and Hatzopoulos (2006:48), the raising of mid vowels is a tendency shared by Thessalian, Boeotian, and Macedonian.

5. Conclusions

In this paper, the standard Greek ethnonym Φρύγες designating the Phrygians, as well as the ethnonyms of the Thracian populations Βρύγοι and Βρύγες, have been traced back to the same “proto-ethnonym” reconstructible as **B^hrug-*. On the other hand, a “proto-ethnonym” **Wreg/k-* has been posited in order to account for the ethnonyms Βρίγες in Macedonian and (possibly) *vrekes* in Phrygian. The supposed development from a common preform **Wreg/k-* > Macedonian Βριγ-, Phrygian *vrek-* looks consistent with the testimony of Herodotus, data from Hesychius, and the Paleo-Phrygian inscriptions.

In ancient Greek literature and culture, ethnonyms were a central instrument for authors’ conceptualization of geographical space; and ethnic conceptions differ when groups are viewed and named from the outside (exonyms) or from the inside (endonyms). The bizarre name change reported in Herodotus 7.73 can be interpreted as a “change of perspective.” In this respect, Βρίγες would be the Macedonian exonym corresponding to the Phrygian endonym *vrekes*, assuming that the “Proto-Phrygian” **Wreg/k-* tribe was one of those which actively took part in the migration to Anatolia. Φρύγες, on the other hand, is the regular development in Greek of the endonym of another “Proto-Phrygian” tribe named **B^hrug-*. Herodotus (6.45 and 7.185) points out that, even in his day, a population named Βρύγοι, etymologically related to the **B^hrug-* tribe, was still inhabiting Thrace.

Ethnonyms emerge from situations in which descriptive terms become applied conventionally to a particular ethnic group. In cognitive linguistics, metaphor, metonymy, and synecdoche are universal cognitive and communicative strategies, and they play a major role in semantic constructions and changes (Nerlich and Clarke 1999:203). In the case in question here, synecdoche—shifting between referents—results from a cognitive and linguistic process through which, after having mentally associated two different but logically and/or physically dependent or contiguous realities, the denomination of one is substituted for that of the other. Thus it is likely that the Greeks adopted the ethnonym Φρύγες to refer to the Phrygians because originally the **B^hrug-* tribe was geographically closest to them, even though other tribes, including the **Wreg/k-* tribe, actually migrated to Anatolia. In other words, the Greeks transferred the designation for a peripheral component to the ethnic group as a whole, and Φρύγες became the Phrygian exonym. This “synecdochic shifting” is in line with a common pattern for forming exonyms, as for example in French *allemands* (< *Alamanni*, the Western German tribe closest to the Western German Franci, occupying much of modern France) for ‘Germans’, i.e., in general, not just (as originally) the closest neighbors of the Franci.

References

- Anfosso, Milena. 2018. I Frigi nell'universo tragico greco: Riflessioni su una tragedia perduta di Eschilo. In Luca Austa and Francesco Carpanelli (eds.), *The Forgotten Theatre: Mitologia, drammaturgia e tradizione del teatro frammentario greco*, 53–82. Alessandria: Dell'Orso.
- . 2019. Problèmes linguistiques du rapport entre Grec(s) et Phrygien(s). Ph.D. diss., Sorbonne University, Paris.
- Beekes, Robert S. P. 2014. *Pre-Greek: Phonology, Morphology, Lexicon*. Leiden: Brill.
- Berndt-Ersöz, Susanne. 2006. *Phrygian Rock-Cut Shrines: Structure, Function, and Cult Practice*. Leiden: Brill.
- Billerbeck, Margarethe (ed.). 2006. *Stephani Byzantii Ethnica I: A–Γ*. Berlin: de Gruyter.
- Brixhe, Claude. 1985. Énergie articulatoire et phonétique béotienne: Faits de substrat ou développements indépendants? In Paul Roesch and Gilbert Argoud (eds.), *La Béotie antique: Actes du 4e colloque international. Lyon, Saint-Étienne, 16–20 Mai 1983*, 365–84. Paris: CNRS.
- . 1990. Comparaison et langues faiblement documentées: L'exemple du phrygien et de ses voyelles longues. In Jean Kellens (ed.), *La reconstruction des laryngales*, 59–99. Paris: Belles Lettres.
- . 2002. Corpus des inscriptions paléo-phrygiennes. Supplément I. *Kadmos* 41.1–102.
- . 2004. Corpus des inscriptions paléo-phrygiennes: Supplément II. *Kadmos* 43.1–130.
- . 2006. A-t-on retrouvé la femme phrygienne? In Raffaella Bombi, Guido Cifoletti, Fabiana Fusco, Lucia Innocente, and Vincenzo Orioles (eds.), *Studi linguistici in onore di Roberto Gusmani I*, 303–9. Alessandria: Dell'Orso.
- . 2018a. Thracian. In Klein, Joseph, and Fritz 2018, 1850–4.
- . 2018b. Macedonian. In Klein, Joseph, and Fritz 2018, 1862–7.
- Brixhe, Claude, and Michel Lejeune. 1984. *Corpus des Inscriptions Paléo-Phrygiennes*. Paris: Éditions Recherche sur la Civilisation A. D. P. F.
- Detschew, Dimiter. 1976. *Die Thrakischen Sprachreste. 2. Auflage mit Bibliographie 1955–1974 von Zivka Velkova*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- DGE = Eduard Schwyzer. 1923. *Dialectorum Graecorum Exempla Epigraphica Potiora*. Leipzig: Olms.
- Diakonoff, Igor M., and Vladimir P. Neroznak. 1985. *Phrygian*. Delmar: Caravan.
- Dubois, Laurent. 1995. Une tablette de malédiction de Pella: S'agit-il du premier texte macédonien? *Revue des Études Grecques* 108.190–7.
- Durford, Stephen. 2013. Peoples and Maps — Nomenclature and Definition. In Alice Mouton, Ian Rutherford, and Ilya Yakubovich (eds.), *Luwian Identities: Culture, Language and Religion between Anatolia and the Aegean*, 41–72. Leiden: Brill.

- Duridanov, Ivan. 1993. Brygischer Spuren im thrakischen Sprachgebiet. *Orpheus* 3.63–8.
- Dusinberre, Elspeth R. M. 2013. *Empire, Authority, and Autonomy in Achaemenid Anatolia*. Cambridge: Cambridge University Press.
- EDG = Robert S. P. Beekes. 2010. *Etymological Dictionary of Greek*. Leiden: Brill.
- Fortson, Benjamin W. IV. 2010. *Indo-European Language and Culture: An Introduction²*. Malden, MA: Wiley-Blackwell.
- Furnée, Edzard J. 1972. *Die wichtigsten konsonantischen Erscheinungen des Vorgriechischen. Mit einem Appendix über den Vokalismus*. The Hague: Mouton.
- García Ramón, José Luís. 1987. Geografía interdialectal tesalia: la fonética. *Verbum* 10 [= René Hodot (ed.), *Actes de la première rencontre internationale de dialectologie grecque, Nancy/Pont-à-Musson, 1–3 Juillet 1986*], 101–53. Nancy: Presses Universitaires de Nancy.
- . 2009. Mycenaean Onomastics, Poetic Phraseology and Indo-European Comparison: The Man’s Name *pu₂-ke-qi-ri*. In Kazuhiko Yoshida and Brent Vine (eds.), *East and West: Papers in Indo-European Studies*, 1–26. Bremen: Hempen.
- Gusmani, Roberto. 1958. Studi sull’antico frigio: La popolazione, le glosse frigie presso gli antichi. *Rendiconti dell’Istituto Lombardo, Classe di Lettere* 92.835–69.
- Haas, Otto. 1966. *Die phrygischen Sprachdenkmäler*. Sofia: Académie Bulgare des Sciences.
- . 1972. Die Sprache der spätphrygischen Inschriften. *Balkansko ezikoznanie/Linguistique Balkanique* 19/3.49–82; 19/4.53–7.
- Hatzopoulos, Miltiades. 1987. Artémis Digaia Blaganitis en Macédoine. *Bulletin de correspondance hellénique* 111/1.397–412.
- . 2006. Le parler des anciens Macédoniens d’après les découvertes épigraphiques récentes. In Miltiades B. Hatzopoulos (ed.), *La Macédoine: Géographie historique, langue, cultes croyances, institutions*, 35–51. Paris: de Boccard.
- . 2007. La position dialectale du macédonien à la lumière des découvertes épigraphiques récentes. In Ivo Hajnal (ed.), *Die altgriechischen Dialekte: Wesen und Werden. Akten des Kolloquiums Freie Universität Berlin, 19.–22. September 2001*, 157–76. Innsbruck: Institut für Sprachen und Literaturen der Universität Innsbruck.
- IEW = Julius Pokorny. 1959. *Indogermanisches etymologisches Wörterbuch* I. Bern: Francke.
- Janda, Michael. 1997. Zur altphrygischen Areyastis-Inschrift. In Roberto Gusmani, Mirjo Salvini, and Pietro Vannicelli (eds.), *Frigi e frigio: Atti del I Simposio Internazionale, Roma, 16–17 ottobre 1995*, 271–7. Rome: Consiglio Nazionale delle Ricerche.
- Jordan, Peter. 2015. The Endonym/Exonym Divide from a Cultural-Geographical Point of View. In Jonas Löffström and Betina Schnabel-Le Corre (eds.), *Challenges in Synchronic Toponymy: Structure, Context and Use*, 163–80. Tübingen: Narr.
- Klein, Jared, Brian Joseph, and Matthias Fritz (eds.). 2018. *Handbook of Comparative and Historical Indo-European Linguistics*. Berlin: de Gruyter.

- Kretschmer, Paul. 1896. *Einleitung in die Geschichte der griechischen Sprache*. Göttingen: Vandenhoeck & Ruprecht.
- Lamberterie, Charles de. 2013. Grec, phrygien, arménien: des anciens aux modernes. *Journal des Savants* 2013/1.3–69.
- Latte, Kurt, and Ian C. Cunningham (eds). 2018. *Hesychii Alexandrini Lexicon I: A–Δ*. Berlin: de Gruyter.
- Lejeune, Michel. 1972. *Phonétique historique du mycénien et du grec ancien*. Paris: Klincksieck.
- . 1979. Regards sur les sonores i.-e. en vieux phrygien. In Emmanuel Laroche (ed.), *Florilegium Anatolicum: Mélanges offerts à Emmanuel Laroche à l'occasion de son 65e anniversaire*, 219–24. Paris: de Boccard.
- Ligorio, Orsat. 2016. Old Phrygian *totin*. *Lucida Intervals* 45.33–9.
- Ligorio, Orsat, and Alexander Lubotsky. 2013. Фригийский язык [The Phrygian Language]. In Yuri B. Koryakov and Andrej A. Kibrik (eds.), *Языки мира: Реликтовые индоевропейские языки Передней и Центральной Азии* [Languages of the World: Relict Indo-European Languages of Western and Central Asia], 180–95. Moscow: Academia.
- . 2018. Phrygian. In Klein, Joseph, and Fritz 2018, 1816–31.
- LIV² = Helmut Rix. 2001. *Lexikon der indogermanischen Verben²*. Ed. Martin J. Kümmel. Wiesbaden: Reichert.
- Lubotsky, Alexander. 1988. The Old Phrygian Areyastis-inscription. *Kadmos* 27.9–26.
- . 2004. The Phrygian Zeus and the Problem of the ‘Lautverschiebung’. *Historische Sprachforschung* 117.229–37.
- Marcotte, Didier. 2002. Les géographes grecs. Introduction générale. Pseudo-Scymnos. Paris: Belles Lettres.
- Matzinger, Joachim. 2005. Phrygisch und Armenisch. In Gerhard Meiser and Olav Hackstein (eds.), *Sprachkontakt und Sprachwandel: Akten der XI. Fachtagung der Indogermanischen Gesellschaft, 17.–23. September 2000, Halle an der Saale*, 375–94. Wiesbaden: Reichert.
- . 2006. Interpretation sprachlicher Daten aus Rest- und Trümmersprachen: Das Fallbeispiel der Streitfrage um eine phrygische Lautverschiebung. *Historische Sprachforschung* 119.190–210.
- Meineke, August. 1846. *Scymni Chii Periegesis et Dionysii Descriptio Graeciae*. Berlin: Nicolai.
- (ed.). 1849. *Stephani Byzantii Ethnicorum Quae Supersunt*. Berlin: Reimer.
- (ed.). 1852. *Strabonis Geographica II: VII–XII*. Leipzig: Teubner.
- Miller, D. Gary. 2014. *Ancient Greek Dialects and Early Authors: Introduction to the Dialect Mixture in Homer, with Notes on Lyric and Herodotus*. Boston: de Gruyter.
- Nerlich, Brigitte, and David D. Clarke. 1999. Synecdoche as a Cognitive and Communicative Strategy. In Andreas Blank and Peter Koch (eds.), *Historical Semantics and Cognition*, 197–214. Berlin: de Gruyter.

- Neumann, Günter. 1988. *Phrygisch und Griechisch*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- NIL = Dagmar S. Wodtko, Britta Irslinger, and Carolin Schneider. 2008. *Nomina im indogermanischen Lexikon*. Heidelberg: Winter.
- Obrador-Cursach, Bartomeu. 2016. Phrygian *mekas* and the Recently Discovered Phrygian Inscription from Nakoleia. *Indogermanische Forschungen* 121.177–86.
- . 2018. Lexicon of the Phrygian Inscriptions. Ph.D. diss., University of Barcelona.
- . 2020. *The Phrygian Language*. Leiden: Brill.
- Opfermann, Andreas. 2017. Griechische, Armenische und Albanische ‘Frauen’ und die Wurzel *G^hen-. In Harald Bichlmeier and Andreas Opfermann (eds.), *Das Menschenbild bei den Indogermanen*, 55–80. Hamburg: Baar.
- Orel, Vladimir. 1997. *The Language of Phrygians*. Delmar: Caravan.
- Ozoliņš, Kaspars. 2015. Revisiting Proto-Indo-European Schwebeablaut. Ph.D. diss., University of California, Los Angeles.
- Panagl, Oswald, and Béla Kowal. 1983. Zur etymologischen Darstellung von Restsprachen: Am Beispiel des Phrygischen. In Alfred Bammesberger (ed.), *Das etymologische Wörterbuch, Fragen der Konzeption und Gestaltung*, 185–99. Regensburg: Pustet.
- Radt, Stefan L. 2004. *Strabons Geographika III: Buch IX–XIII: Übersetzung*. Göttingen: Vandenhoeck & Ruprecht.
- . 2008. *Strabons Geographika VII: Buch IX–XIII: Kommentar*. Göttingen: Vandenhoeck & Ruprecht.
- SEG = Angelos Chaniotis, Henri W. Pleket, R. S. Stroud, and Johan H. M. Strubbe (eds.). 1993. *Supplementum Epigraphicum Graecum XLIII*. Amsterdam: Gieben.
- Sowa, Wojciech. 2008. *Studien zum Phrygischen*. Göttingen: Cuvillier.
- Tavernier, Jan. 2008. Multilingualism in the Fortification and Treasury Archives. In Pierre Briant, Wouter F. M. Henkelman, and Matthew W. Stolper (eds.), *L’archive des Fortifications de Persépolis: État des questions et perspectives de recherches*, 59–86. Paris: de Boccard.
- West, Martin L. 1982. *Greek Metre*. Oxford: Clarendon.
- . 1987. *Introduction to Greek Metre*. Oxford: Clarendon.
- Wittke, Anne-Maria. 2004. *Mušker und Phryger: Ein Beitrag zur Geschichte Anatoliens vom 12. bis zum 7. Jh. v. Chr.* Wiesbaden: Reichert.
- Woodhouse, Robert. 2006. Conditioned Devoicing of Mediae in Phrygian. *Studia Etymologica Cracoviensia* 11.157–91.
- Woudhuizen, Fred C. 2008–9. Phrygian & Greek. *Talanta* 40–1.181–217.