

LAWS AND RULES IN INDO-EUROPEAN

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Phonetic laws, language diffusion, and drift: the loss of sibilants in the Greek dialects of the first millennium BC

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7.1 Introduction: similar changes and their interpretation

It is not surprising that similar phonological changes occur in different languages, different periods, and different parts of the world. In all instances we must decide whether the changes are independent developments or are somehow linked. When the languages are related the problem is more pressing and we first need to ask whether the link is genetic. When we find that all Greek dialects have lost a word-final dental, as in *ἐλνυε* from **ἐλνυετ*, the easiest hypothesis (which may of course be wrong) is that the change goes back to a common Greek period. On the other hand, when the same innovation occurs in Luwian, we pause because we do not want to postulate a Luwian-Greek subgroup. Alternatively the changes may be due to diffusion within a more or less continuous linguistic area or more generally to language contact (including substratum phenomena). Paul Kiparsky (1973b), for instance, argued that it was implausible that the dissimilation of aspirates (Grassmann's Law), which occurs in Indic and Greek, was due to independent innovations, and that there was enough evidence to attribute such a synchronic rule to a common

Greek-Indo-Iranian period. For another change, the **s > h/Ø* change found e.g. in Greek, Iranian, Armenian, and Lycian A, scholars have asked whether it started in one of these areas and spread to the others. These questions are sometimes answered by exploiting what we know about absolute and relative chronology.

For the dissimilation of aspirates it is argued that it occurs in Greek *after* changes which are normally assumed to be exclusively Greek (such as **s > h* between vowels or **d^h > t^h*). Kiparsky's views have not found favour among Indo-Europeanists, but an analysis of his arguments, which were based on a different view of both synchronic and diachronic phonology and a different concept of rule, obliges us to realize that much of our thinking about relative chronology, change, etc. depends on the theoretical framework that we adopt. From the point of view of the theory which Kiparsky accepted at the time, the chronology point made above does not constitute a serious objection to the whole argument, since he postulated an original dissimilation rule which yielded forms later lexicalized in Greek, and at a later stage partial rule reordering within Greek, with Grassmann's Law coming to follow rather than precede the devoicing of aspirates and the aspiration of /s/. This was challenged, however, on internal grounds and with regard to the validity of the etymologies on which it was based.¹

For the **s > h/Ø* change, which cannot be Indo-European since other Indo-European languages preserve the sibilant, it is pointed out that in Greece the change is earlier than our earliest Linear B texts (i.e. earlier than c. 1400 BC), while the Iranian change is likely to be much later. Though diffusion from Greek to the East cannot be entirely excluded, the time gap, as well as the geographical and cultural discontinuity in the relevant periods, make it difficult to make a case for it (Szemerényi 1968). In general it is very difficult to reconstruct with a degree of plausibility diffusion processes which belong to a prehistoric period. But what happens when the same or a similar change occurs in different ancient phases or different dialects of the same ancient language, at a time when we are able to assess the chronology and location of the changes? Here too things are not altogether clear. It is somewhat easier with morphology, syntax, or lexicon, but more difficult in the case of phonology. If in Greek Grassmann's Law is post-Mycenaean, we must explain why it is found in all dialects. Diffusion or independent development? I doubt that we have the evidence to decide. Similarly, we now assume that the development of the labiovelars into labials before a consonant or central vowel, including /o/, is

¹ But also on other more theoretical points; cf. e.g. Miller (1977). Currently the view begins to prevail that in Greek the dissimilation is post-Mycenaean, i.e. it occurred after changes which had not yet occurred in Mycenaean (such as the loss of intervocalic /h/), but the point is disputed and agreement has not been reached.

post-Mycenaean. But how do we account for this common outcome in a linguistic area which was heavily fragmented? We may think of diffusion during the so-called 'Dark Ages', since all the alphabetic evidence we have has already reached the labial stage. Alternatively we may think of independent developments which were in a sense prompted by their starting point. The shift from /k^w/ etc. to /p/ etc. is frequently found and perhaps no further explanation is needed. But we could also suppose, for instance, that in certain environments all inherited or even borrowed labiovelars at an early stage—perhaps pre-Mycenaean, perhaps Common Greek—had modified their original articulation moving, for instance, towards /p^w/ etc., and that the Mycenaean <qa, qo> signs indicated such sounds.² The shift to labial stop would then be even more trivial. In that case would we want to talk about diffusion or not? And if, as I believe, we cannot answer the question, is this because we do not have sufficient evidence? This change happened in the 'Dark Ages' and there is a sense in which the Dark Ages are not history but prehistory, since they do not provide us with direct written documentation.³

In a modern context linguistic diffusion can sometimes be documented, but here too the level of detailed information required to make a plausible case is forbidding.⁴ If that is so, can we reasonably identify instances of phonological diffusion for the ancient world? I have already indicated that this is very difficult and perhaps impossible for prehistory, where it is mostly done on the basis of common sense (or lack of it) and of diffusion models established with the help of more promising modern data. But what about the historical period?

7.1.1 *Loss of sibilants in first-millennium Greek*

An example which Hellenists can consider in the context of the queries mentioned above is that of the *s > h* change which occurred in some Greek dialects in the first millennium BC, i.e. in the historical period and in a reasonably literate context. It bears an uncanny similarity to the prehistoric *s > h* change

² This would not oblige us, of course, to understand the <qe, qi> signs as also reflecting [p^w] etc.; we may attribute a so-called labiovelar to Mycenaean without at the same time committing ourselves to the view that it had the same phonetic features in all environments. It may be relevant that, in contrast with the traditional view, I believe, partly on morphological grounds, that in the dialects in which labiovelars developed into dental stops before front vowels this change followed, rather than preceded, the development into labial stops.

³ For a wider discussion of related problems which impinge on language reconstruction and classification, see Garrett (1999, 2006).

⁴ Trudgill (1983: 54–9) gives an impressive demonstration of how apparently detailed linguistic maps meant to show the diffusion of post-vocalic /r/ in Britain and uvular /r/ in Europe are not sufficient to give a true account of the facts.

which, as we have seen, characterizes Greek and other Indo-European languages and occurred before our first Mycenaean texts.

This paper will provide a brief summary of the first-millennium evidence, but its purpose is to highlight rather than to solve the problems raised by this change and to try to make explicit where the points of doubt are. After I had collected the data and written up my results I came to know, through the kindness of Professor Méndez Dosuna, an exhaustive and insightful unpublished dissertation (2008) by Dr Alonso Déniz, where all the evidence is discussed in detail; a recent article (2009) by the same author summarizes some of the dissertation's results. My factual conclusions, as I now see, largely overlap with those of Dr Alonso Déniz, which were reached on the basis of a more detailed analysis of the data, but once again my purpose is somewhat different. I was, and am, more interested in seeing where the advantages and pitfalls of this type of argumentation are than in reaching a definitive conclusion. However, Dr Alonso Déniz's work dispenses me from producing a long list of examples, which would simply replicate parts of his exhaustive lists. I ought to emphasize that when he and I differ I am far from certain that my views are preferable.

This paper would have been much better (and clearer) had I been able to discuss it with John Penney; I dedicate it to him in full awareness that neither this nor anything else will ever repay what I owe him.

7.2 *Sibilants in Greek*

Some background is necessary. In the shift from Proto-Indo-European to alphabetic Greek a sibilant was replaced by /h/ word-initially before a vowel and internally between vowels. In all likelihood the same change occurred in some pre-consonantal contexts which I choose to ignore here, but see Méndez Dosuna (1996: 100) and Alonso Déniz (2008: 12–15, 17–18). In all dialects (with the likely exception of Mycenaean in the second millennium BC) the new /h/ was lost internally between vowels; initial prevocalic /h/ was preserved in some dialects, such as Attic, but lost in others, such as Ionic and Elean. It seems likely that in a first (prehistoric) stage initial and intervocalic [h] was—partially at least—in complementary distribution with [s], which no longer occurred in those environments but had survived in word-final position and before and after certain consonants.⁵ However, as early as the Mycenaean

⁵ The question is complicated because in the Greek of the first millennium word-initial prevocalic /h/ also continued PIE **h*, though the dating of this change is not altogether clear; we cannot be certain about the early fate of intervocalic **h*, which in Greek eventually disappeared, possibly through an /h/ stage.

texts, we find both a sibilant and [h] in initial prevocalic position and internally between vowels. In these positions the Linear B texts have <sV> signs in words which either (i) are borrowed from non-Greek languages, or (ii) show analogical spreading of a sibilant, or (iii) have a sibilant from earlier clusters. Mycenaean words like *a₂-te-ro* /hateron/ (<*sm₂-tero-) 'other' (cf. Gr. ἕτερος), *pa-we-a₂* /p^harweha/ (<*p^harwes-a) 'cloths' (nom.-acc. ntr. pl., cf. Gr. φάρος), *me-zo-a₂* <*megios-a 'bigger, greater' (nom.-acc. ntr. pl., cf. Gr. μέζων), *we-te-i-we-te-i* /wetehi-wetehi/ 'every year' (loc. sg., cf. Gr. ἕτος) document the presence of initial and intervocalic /h/ from etymological *s. It is not disputed that <a₂> indicates /ha/ and, though there are no signs <*he, hi, ho, hu>, the <-e-i> spelling with hiatus points to the contemporary (or perhaps earlier?) occurrence of /h/ between the two vowels; an /ei/ diphthong would be written with a simple <-e>. We find initial prevocalic <s> and intervocalic <s>, e.g. in *se-ri-no* /selinon/ 'celery' (cf. Gr. σέλινον), *sa-sa-ma* /sāsama/ 'sesame' (cf. Gr. σήσαμα), *ku-ru-so* 'gold' (cf. Gr. χρυσός), and *a-sa-mi-to* /asamint^hos/ 'bath-tub' (cf. Gr. ἀσάμινθος), all words of non-Indo-European origin. With the exception of *su-go-ta* /sug^wōtai/ 'swineherd' (dat. sg.) (cf. Gr. συβώτης), which has a problematic sibilant in alphabetic Greek too, there is no certain example of initial prevocalic <sV> from PIE *sV-. On the other hand forms like *ka-ke-u-si* /k^halkeusi/ 'bronzesmiths' (dat. pl., cf. Gr. χαλκεύς), *e-re-u-te-ro-se* /eleut^herōse/ 'freed' (3sg. aor., cf. Gr. ἐλευθερώω), etc. are written with an intervocalic <-s> which matches the *-s- of the Indo-European locative plural and that of the Indo-European sigmatic aorist, though almost certainly the Mycenaean forms are due to analogical restoration.⁶ Other forms like *pa-si* /p^hāsi/ (<*p^hāti) 'says' (cf. Gr. φησί) or *to-so* /to(s)so-/ 'so much' (cf. Hom. τόσσος, Attic τόσος) may contain an intervocalic -s- from a dental before /i/ or from a -ty- cluster. In other words, though Mycenaean has initial and intervocalic [h] from *s, it also seems to have a sibilant which occurs in the same positions in the word. Naturally enough, there is no proof that this also holds true for all contemporary forms of Greek, but there is no reason to think differently or to doubt that, perhaps in different periods, all Greek dialects went through the same phases.

⁶ This may not be right for the aorist; if we start from a prehistoric *s-m, *s-e(t) we would expect an *s > h change followed by a later restoration of /s/. But the remodelling may have also started from the expected 2sg. and 3sg. athematic forms in *-s-s > *-s and *-s-t > *-s, with the addition of analogical vowels, in which case there need not have been an -h- stage.

7.2.1 First-millennium evidence

So much for the second millennium BC. The Mycenaean evidence is sufficient to show that the *s > h change is earlier than our first Greek evidence and may be considerably earlier. In the first millennium, as we have seen, all dialects apparently lose intervocalic /h/ from *s and may undergo as a result various forms of vocalic contraction or dissimilation. At the same time we find that the borrowed forms with initial and intervocalic /s/ which are attested in Mycenaean, as well as the restored forms of the /k^halkeusi/ and /eleut^herōse/ type, are shared by all dialects. If we are right in reading the Mycenaean ending of dative/locative plural -o-i as /-oihi/ (see below),⁷ the -οισι ending of some dialects provides a post-Mycenaean example of analogical restoration of the sibilant. The dialects differ, however, in their treatment of consonant clusters or certain sequences of consonant and vowel. Thus the -ti > -si change found in the Mycenaean verbal endings such as *pa-si* /p^hāsi/ (quoted above) is widely attested in Arcado-Cypriot, Attic-Ionic, and Lesbian, but is not found in West Greek, Thessalian, and Boeotian, which preserve the more archaic -ti. Clusters like *-(h)_i- and *-(h)_i- may have different treatments, though it seems that *#t^(h)_iV- > #sV- in all dialects. In the first millennium the number of intervocalic sibilants increases because of the simplification of some consonant clusters. When we find in Mycenaean *pa-sa* <*pant-ia 'all' (fem.) (cf. Gr. πᾶσα) we do not know whether to read it /pansa/ or /pāsa/, though the former is more likely. In most Greek dialects we find πᾶσα (or παῖσα); similarly the simplification of -ss- or -ds- into -s- yields forms like Attic γένεσι (<*-εσ-σι) and ἐφήφισα (<*-ιδ-σα), etc., while in Mycenaean we cannot be certain whether to read *pa-we-si* 'cloths' (dat. pl.) as /p^harwessi/ or /p^harwesi/, etc.

The details could be multiplied but for e.g. Attic or Arcadian a simple statement would say that these dialects preserve initial /h/ from the second millennium while they have lost internal /h/; and that they have both initial and intervocalic /s/, with a distribution which is not drastically different from that of Mycenaean, though it seems likely that intervocalic /s/ is more frequent than in Mycenaean.

⁷ This is now accepted in most Mycenological publications but is not undisputed. C. J. Ruijgh (e.g. 1967: 76–8) argued that -o-i was simply a spelling for /-ois/, though in the last years of his life he expressed some doubts orally, largely because of the presence in Arcadian of the two dat. pl. pronouns σφεῖς and σφεσιν in correspondence with Myc. *pe-i* /sp^hehi/ (see Morpurgo Davies 1992: 428–30). A strong case against the traditional interpretation was made by Brixhe (1992)—cf. also Brixhe (2006: 51–3)—but has not found general acceptance.

7.3 Greek dialects with secondary loss of /s/

Some first-millennium dialects have <h> or <Ø> in correspondence with the intervocalic <s> which we find in e.g. Attic and Arcadian. They are Laconian, Western Argolic, Elean, and Cypriot; odd examples of loss of /s/ in other dialects have been quoted but they are all too doubtful to deserve consideration. Alonso Déniz (2008: 446–8, 2009: 14–15) has examined the possible additional evidence in detail and has rightly decided to dismiss it; here it seems superfluous to reconsider it since the rare examples are isolated and too uncertain.

A few examples of the basic change may be useful even if they are taken somewhat arbitrarily from much longer lists, for which I can again refer to Alonso Déniz (2008).⁸

Laconian: Amyclae *Ποιοιδάνος* SEG XI 692 (= LSAG p. 200, no. 34, cf. p. 448; late 6th century); Sparta *ἐποίηε* IG VI/I 696 (5th century); Gerenia (Messenia) *Ἀγελίπολις* IG VI/I 1338 (5th century); Sparta *Ποιοιδάια, Ἐλευθύνια, ἐνίκαιε*, etc., IG VI/I 213 (date notoriously uncertain: early 4th century?); Sparta *Νικακικλῆς* IG VI/I 704 (4th century?); Sparta *νικάας* IvO 171 (late 4th century); Tanaros *Ποιοιδάνι, Λύχισπον* IG VI/I 1232 (4th century); Sparta *ἀπορρηρίαν* SEG XL 348 A 3–4 (3rd century); Sparta *βαίλεος* IG VI/I 885b (2nd century).

The examples range from the late sixth century BC⁹ to the second century AD; they concern <h> or zero from intervocalic secondary /s/ of different origins (analogical restoration, -ti- clusters, pre-Greek names). All through this period we also find <s> writings, often for the same words and in the same inscriptions. (Full list of the epigraphic data in Alonso Déniz 2008: 28–117.)

Western Argolic: Argos (at Epidauros) *Νικαχαρίστα* IG IV/I² 140 (5th century); Mycenae *Φραβιαρίδας* IG IV 492 (= LSAG p. 174, no. 2; c. 500–480 BC?); Argos (at Olympia) *ἐποίηε* IvO 631 (= LSAG p. 169, no. 19; c. 480–475 BC?); Argos (at Tylisos) *Κνορίαν* DGE 84. 21–2 (but *Τυλισοί*; mid 5th century); Argos *Δ[μ]αίπιδαι* SEG XXIX 361. 27 (c. 400 BC); Argos *περίσταίν* SEG XVII 146. 8, *θηάνρον* SEG XVII 146. 11, 21 (mid 4th century); Heraion *δαμόιοι* IG IV 542

⁸ I consider here only the epigraphic evidence; note that conventionally I write a rough breathing (not present in the inscription) where we would have expected <s> or <h>. For the literary evidence (mainly Laconian), the grammarians, and the glosses, see Alonso Déniz (2008: *passim*) with earlier references.

⁹ Alonso Déniz (2008: 59–63) makes a strong case against deriving Lac. *Φορθαία* (attested in the late 7th century BC) from *Φορθασία*, as normally assumed. Given the uncertainty I have excluded *Φορθαία* from consideration and adopted Alonso Déniz's sixth-century dating for the start of the *s* > *h* change.

(cf. DGE 82 adn.; 3rd century?); Argos *Σωβίος τοῦ Σωβίου* Vollgraff 1909, p. 176, no. 2, lines 7–8 (1st century).

The examples of <h> or zero from secondary /s/ range from the late fifth century to the first century BC. Earlier texts have only <s>, and through the whole period <s> alternates with <h> or zero. (Full list of the epigraphic data in Alonso Déniz 2008: 186–93; cf. also Alonso Déniz 2010.)

Elean: Olympia *φυγαδεύαντι, ἀδεαλτώμαι* DGE 424. 6, 12 (= Minon 2007: i. 196–208, no. 30; 4th century); Alipheira *ἀ]ποτειᾶτω, καταχραᾶστω* SEG XXV 448 (= Minon 2007: i. 209–12, no. 31; c. 242 BC); Olympia *ποήασσαι* (Att. *ποιήσασθαι*), *ποιήάται* (Att. *ποιήσηται*) IvO 39. 33, 36 (= DGE 425 and Minon 2007: i. 220–9, no. 34; early 2nd century).

The list above comprises the total of the evidence available for Elean (4th–2nd centuries only): six instances of aorists where presumably the lost /s/ was originally a restored /s/. For full discussion see Alonso Déniz (2008: 279–340) and Minon (2000 and 2007: ii. 344–5 and *passim*).

Cypriot: (From the seventh century, instances of word-final <se>, i.e. /-s/, missing. Idalion ICS 217 in the fifth century has instances of proclitics ending in /s/ which is not written before words which begin with a vowel: 217. 5 *ka-a-ti* /ka(h) a(n)ti/; *ka-u-ke-ro-ne* /ka(h) u-/; 217. 15 *ta-u-ke-ro-ne* /ta(h) u-/. The sequence 217. 19 *to-po-e-ko-me-no-ne* /to(n) po(h)ek^homenon/ fits here.)

Amathus *o-na-i-ti-mo* (cf. *Ὀνασίτιμος*) ICS 195 (Eteocypriot, 4th century); Golgoi *e-pi-si-ta-i-se* /epista(h)is/, *po-ro-ne-o-i* /p^hroneō(h)i/, possibly *ku-me-re-na-i* if = /kumerna(h)i/ ICS 264 (4th century, metrical); Tamassos *a-la-si-o-ta-i* /Alasiōtāi/ vs. Phoen. *lhyts* ICS 215, 216 (4th century; cf. also *ibid.* the name *ma-na-se-se* vs. Phoen. *mnḥm*?); Kafizin (3rd century) *o-na-a-ko-ra-se* NK 132, 175 etc. (= ICS 229, × c. 8 in various states of preservation) vs. *o-na-sa-ko-ra-se* NK 117 etc. (×6) and alphabetic *Ὀνησαγόρας* (frequent) / *Ὀνηγόρας* (×1?). *Ibid.* *a-pa-i-re-i* /ap^haire(h)i/ NK 266 (= ICS 231).¹⁰

This is the total evidence available for unwritten intervocalic /s/ (list and analysis in Morpurgo Davies 1988: 113–24; list for intervocalic /s/ in Alonso Déniz 2008: 409–11, for word-final /s/, 350–62).

¹⁰ Interpretation disputed; cf. Alonso Déniz (2008: 421–3). Certainty is not possible but I prefer a dat. sg. /ap^haire(h)i/ to the haplography of a possible dat. pl. /ap^haire(h)i(h)i/.

7.3.1 *Summary of the evidence*

After some recent and not so recent work¹¹ the actual data are relatively well known. The evidence is mostly epigraphic.¹² All dialects in question have both writings with intervocalic <s> and writings with <s> replaced by <h> (Laconian, Argolic, Elean with one example) or with <s> simply absent, leaving a hiatus between the two vowels (Cypriot which has no signs for /h/, Elean and later phases of the other dialects). The sibilant which is being replaced may be an original restored sibilant as in the aorists, a sibilant derived from a cluster or an original dental as in *περίσταίν*, or a pre-Greek sibilant as in some ethnics or place names; in Elis where the examples are few and late the phenomenon is limited to aorist forms. In all these dialects the earliest texts have only s-writings and in the texts in koine <s> regularly appears. The chronology for the epigraphic data is best summarized by Alonso Déniz (2009: 17–19), who concludes that in Laconia we do not find <h> replacing <s> before the second half of the sixth century (earlier inscriptions from the late seventh century write <s>). In the western Argolid intervocalic <h> appears in the first half of the fifth century (in contrast with <s> in the sixth century), in Elis in the first half of the fourth century; on Cyprus intervocalic <s> may be missing from the fourth century but is present in the earlier syllabic texts. In other words the date of the first attestation differs in the various regions, and so does the distribution of the sibilants. Cyprus offers evidence for the aspiration or loss of word-final /s/, probably in specific environments, though we cannot define them with certainty;¹³ this is at least two centuries earlier than the first instances of omitted intervocalic <s>. Glosses, which we cannot date, but may be still later, then reveal that word-initial /s/ could also be aspirated.¹⁴

In the three dialects of the Peloponnese, the first documented changes replace intervocalic <s> with <h> or <Ø>; we have no evidence for the aspiration of word-initial /s/. In Argolic word-final /s/ is preserved. In Elean we find word-final /s/ replaced by /r/ from the fifth century BC, conceivably in specific environments, though we can only speculate about them since the evidence is

¹¹ Cf. Alonso Déniz (2008, 2009) for all the evidence and above all for Laconian. Also Fernandez Alvarez (1981: 151–6) for Argolic; Minon (2007: ii. 343–52) for Elean; Morpurgo Davies (1988: 113–24) and Egetmeyer (2010: i. 160–83, especially 166–70) for Cypriot.

¹² For Laconian we also have some literary evidence; for the other dialects and above all Cypriot we have numerous glosses which, however, cannot be dated and are likely to be late.

¹³ Alonso Déniz (2008: 375–403) discusses in detail the typology of the change and concludes on the basis of the data available that it started in unaccented words.

¹⁴ See section 7.4.3 for a possible typological difference between Cypriot and the other dialects.

not sufficient. This so-called rhotacism is generalized in the later period but is never found in word-internal position; it is generally assumed that it is preceded by the voicing of the sibilant. In Laconian it looks as if word-final /s/ is preserved, but in the very late texts (second century of our era) we find rhotacism there too. In Elean, as we have seen, the evidence for the weakening of secondary /-s-/ is limited to the sigmatic aorist, and more precisely to aorists in which the sibilant apparently followed a long vowel (Minon 2007: ii. 344–5, 399–400).

Finally we must mention the Laconian spelling with <s> of original /t^h/, attested from the fourth century in inscriptions; this may have indicated a dental fricative, which may however have turned into a sibilant at some stage (Lazzeroni 1967: 66).

So much for the basic data. How do we interpret them?

7.4 *Interpretation proposals*

Past proposals, again summarized by Alonso Déniz (2008: 437–54, 2009), consider the possibility (a) of a continuous *s > h* change from prehistory to the mid first millennium and later, or (b) of substratum influence on the dialects involved with perhaps the exclusion of Elean (see Bechtel 1923: 320–2, 462–5, 838–9), or (c) of independent developments. Alonso Déniz himself rejects for the Peloponnesian dialects (a), (b), and (c), and argues for a diffusion process from Laconian to Argolic to eventually Elean. He does, however, think that Cypriot represents an independent development.

7.4.1 *The continuity hypothesis*

The first suggestion goes back to the start of Greek dialectology studies. According to Ahrens (1843: 74–9) there was some form of continuity, or at any rate a link, between the change of intervocalic Indo-European */s/ to /h/ in prehistoric Greek and the similar change in the later Greek dialects. Put in these terms (Ahrens 1843: 76 spoke of *sigma ejiciendi amor, quo omnes Graeci inclinarunt*) the suggestion is inoffensive but too vague to be tested. Going back to an early form of generative phonology we might be tempted to interpret the deletion or aspiration of the intervocalic sibilant as reflecting an abstract synchronic rule of fricative weakening or the like, which was part of the phonology of Greek both in the second and the first millennium.¹⁵ However,

¹⁵ For Attic, cf. e.g. Sommerstein (1973: 17 n. 22).

in the first-millennium dialects which we are discussing, the rule (a) would have to be differently formulated from that of the second millennium, since it does not apply to word-initial /s/,¹⁶ and (b) would have had to undergo reordering if we assume for the second millennium BC the presence of surface forms like *δαμόσιος* (see *δαμότης*; Attic *δημόσιος*), with /t/ → /s/ before the /ios/ suffix, in contrast with Argolic *δαμόϊος* and perhaps *δαμόχιος*.¹⁷ But if we remain within the limits of traditional historical phonology, which operates in terms of different surface outputs at different times, what does continuity mean? In our search for a claim that can be tested we might argue that in the dialects in question, if continuity existed, any new intervocalic /s/ introduced between, say, 1400 BC and the koine ought to have been aspirated and then lost. In that case, we would be entitled to argue that for some dialects the *s > h change was not already concluded before the Mycenaean period.

7.4.1.1 Objections

The assumption has found no favour in the last century or so,¹⁸ but until very recently little has been done to spell out why. Three points may speak against it:¹⁹

- (i) It is difficult to dissociate the prehistoric change which aspirates /s/ between vowels from the change which aspirates /s/ word-initially before a vowel. In the first millennium, however (with the possible exception of Cypriot), initial /s/ is preserved.
- (ii) We know that Mycenaean had already lost the intervocalic and prevocalic word-initial sibilant before our first documents and had created a new sibilant which seems stable through all of our Linear B documentation (see section 7.1); hence we must suppose that the original change had not only started but also been completed by 1400 BC or so (the presumed date of the first Mycenaean texts); otherwise some of the new sibilants would have turned into /h/.

¹⁶ With the possible exception of Cypriot (see above).

¹⁷ Evidence listed in Alonso Déniz (2009: 19). Mycenaean does not have /dāmosios/, but forms like *e-qe-si-jo* (vs. *e-qe-ta* 'follower') and *ra-wa-ke-si-jo* (vs. *ra-wa-ke-ta* 'people leader') show that it could have existed.

¹⁸ I am not sure that I agree with the way in which Alonso Déniz (2008: 285, 450) interprets Brugmann and Thumb (1913: 144). In my view they are not arguing that the Elean aorists with no /s/ where we expect it are due to a continuation of the prehistoric process of /s/-loss; they are rather saying that those forms were inherited as such and never underwent the restoration of /s/.

¹⁹ Note that for the likes of Kretschmer and Bechtel, who did not know the Mycenaean texts and did not have all our data, (ii) and (iii) below were not relevant, but they would have known that there was a time gap between the prehistoric s > h change and that which occurred in the Peloponnese and Cyprus in the first millennium.

- (iii) With the increased evidence at our disposal we also know that some of the earliest first-millennium texts in the relevant dialects wrote <s> in sequences where later they wrote <h> or <Ø>; hence the change must be later than the earliest alphabetic texts in the Peloponnese, and this necessarily implies a gap between the pre-Mycenaean change and the first-millennium change.²⁰ This third point, when formulated at this level of generality, i.e. with reference to all the dialects in question, is relatively new and we owe its detailed documentation to Alonso Déniz (2008, 2009).

7.4.1.2 Counter-objections

It may be worthwhile to play the *advocatus diaboli* and ask whether the three points mentioned are decisive. The first may be indicative but by itself is not conclusive. A basic difficulty arises with reference to (ii) and (iii) above: how much can we trust the script(s), or rather our interpretation of the script(s)? We might start with Mycenaean. Let us suppose that after the change of intervocalic /s/ to /h/ had run its course there was no intervocalic /s/ left. At this stage, but still in the pre-Mycenaean period, we are told that new intervocalic sibilants were introduced thanks (*inter alia*) to the development of various sequences such as those in **didōti*, **totiō*-, **id-si* (cf. the dat. pl. *pi-we-ri-si*), etc. (cf. Gr. *δίδωσι*, *τόσ(σ)ος*, etc.). In Mycenaean they came to be written with the <sa, se, si, so, su> signs, which were also used to indicate an etymological sibilant in pre- or post-consonantal position, as in e.g. *do-so-mo* /dosmos/ or *de-ka-sa-to* /deksato/. However, we cannot be certain that in intervocalic position the sounds in question were in fact [s] or even [z]; there may be reasons to suppose that some or even all of them were affricates or perhaps geminates.²¹ Other words, like *sa-sa-ma* 'sesame', *ku-ru-so* 'gold', *a-sa-mi-to* 'bath-tub', do not continue an Indo-European sibilant, since they are borrowings from Semitic or from a pre-Greek language. No doubt they had some form of sibilant in their

²⁰ It is well known that the text of Alcman (7th century) preserves /s/ while Aristophanes' imitation of Laconian in the *Lysistrata* (5th century) has forms where <s> is not written between vowels (cf. Alcman *Mōσα* vs. Aristophanes *Mōα*), but the uncertainties about the textual tradition are such that not much can be done on this.

²¹ Linear B, like the Cypriot syllabary, never indicated geminates in writing. The problem of the affricates is discussed by Bartoněk (1987: esp. 45; cf. also Bartoněk 2003: 143), who assumes that the <s> signs may reflect both intervocalic /ts/ and intervocalic /s/. The original dimorphic clusters of the **tj*- type, and some pre-Greek words (those which in the later dialects appear with either <σσ> or <ττ>), would still have /ts/ in Mycenaean (as in *a-pe-a-sa* /ap-e(h)atsa/ < **ap-esnt-ia* or *ku-pa-ri-so* /kupa-ritsos/), while monomorphemic **tj*- as well as **ts*-/**ds*-, **ss*-, and some pre-Greek sibilants would have all yielded /s/, conceivably through a /ss/ stage (as in *to-so* < **totios*, *pi-we-ri-si* < **id-si*, *ze-u-ke-si* < *jeugessi*, and possibly *ko-no-so* /Knōs(s)os/). In fact, even if one accepts Bartoněk's reconstructions in full, it is not easy to decide whether his second type had /s/ or /ss/ at the time of the tablets.

original language, but presumably their pronunciation was adapted to whatever was available in the borrowing language, i.e. in the Greek of the time. If so, can we be certain that Mycenaean had intervocalic /s/? This skepticism may be excessive but the possibility must at least be considered that in Mycenaean intervocalic <s> always represented an affricate or a geminate. The proposal that <sa, se, si, so, su> could also indicate affricates has been made by reputable authors for different purposes from our own. Note, however, that there is no reason to suppose that in word-initial position the s-signs indicated anything different from /s/ (/ss/ is probably excluded); if so, then in initial position at least there was a contrast between /s/ and /h/.

Let us now turn to the first-millennium data. Can we be certain that the earliest texts do not use traditional spellings, which would not reflect the real pronunciation? Take the case of Laconian. In a few early texts we have intervocalic <s> and no intervocalic <h>, and the sibilants mostly occur in proper names (personal names, place names, gods' names), which notoriously preserve traditional forms and spellings. There is little doubt that <s> is meant as a form of sibilant, but the problem is that we cannot be absolutely certain that it was pronounced as such in all environments. Traditional spellings are common and it is conceivable that the writing with sigma in intervocalic position conceals an [h] pronunciation which is not marked as such in writing until a later stage. Cypriot may offer some typological support for this hypothesis: in the fourth century we have at Tamassos two Cypriot-Phoenician bilingual inscriptions where we find the equivalences *ma-na-se-se* : *mnḥm* (ICS 215) and *a-la-si-o-ta-i* : *lhyts* (ICS 216), for the name Manasses and the ethnic Alasiotas. For the ethnic at least we are certain that Cypr. <si> corresponds to Phoen. <hy>; this makes it likely that <-s> corresponded to an aspirated pronunciation.²²

Let me summarize so far by saying that if (a) the Mycenaean sibilants in intervocalic position were in fact not (yet) simple sibilants but affricates or geminates, and consequently were not subject to aspiration, and if (b) the intervocalic sibilants written in the early documents of Laconian, Argolic, and perhaps Cypriot concealed under a traditional spelling an /h/, it would be legitimate to assume a form of continuity (defined as above) between the prehistoric *s > h change and the later s > h change in these dialects. We would have in pre-Mycenaean times (i) a change from intervocalic /s/ to /h/; (ii) the creation (pan-Greek?) of a set of new affricates or geminates between vowels. Then (iii) in post-Mycenaean times the affricates or geminates (or

²² On the other hand in the seventh century we find on Assyrian inscriptions *ú-na-sa-gu-su* for the name of King Onasagos (Egetmeyer 2010: i. 162), which speaks for an /s/ both written and pronounced.

some of them) would be replaced by simple sibilants, and (iv) in some dialects these would turn into /h/.

7.4.1.3 The evidence from morphology

Though this reconstruction may seem far-fetched (as indeed it is), it cannot be entirely excluded.²³ However, in my view there are some strong morphological objections which ought to be considered.

We find in Mycenaean examples of restored intervocalic sibilants in forms like *ti-ri-si*, Gr. *τρισί*, *qa-si-re-u-si*, Gr. *βασιλεύσι*, *do-se*, Gr. *δώσει*, *e-re-u-te-ro-se*, Gr. *ἡλευθέρωσε*. These continue the Indo-European /s/ of the locative plural and of the future or the sigmatic aorist. There is reasonable agreement (but see n. 7) that in these forms the Mycenaean sibilants do not directly continue Indo-European /s/ but are due to analogical restoration, since we also have forms where restoration did not happen (*pe-i/sp^hehi* 'to them'; *-o-i/-oihi*, thematic dat.-loc. pl.). The restoration would have been modelled on those forms where the s-morphemes followed a consonant. But the restoration cannot have happened at a stage when the choice between [s] and [h] was automatic, i.e. when the two were in complementary distribution; it must have been later than that but still pre-Mycenaean. Does this speak against our imagined scenario which does not allow for a simple /s/ between vowels in Mycenaean? In a last-ditch defence we could argue that word-initial, postconsonantal, and preconsonantal /s/ alternated with intervocalic /ss/ (or /ts/?), i.e. that the contrast between /s/ and /ss/ (or /ts/?) was neutralized in certain positions. Perhaps it was /ss/ which was analogically introduced in the place of a weakening /h/. At a later stage this would have been simplified to /s/. In other words we could read the Mycenaean words above as */trissi/* (or */tritsi/?*), */eleut^herösse/* (or */eleut^herötse/?*), etc., and postulate that later on /ss/ or /ts/ were simplified into /s/. Is this plausible? It is not entirely impossible though it seems counterintuitive, and we can point out that the presence in later dialects of forms like *τόσσοις* (rather than *τόσσοι*) and *ἔσσονται* next to dative plurals and aorists written with a single sigma²⁴ makes it difficult to reconstruct a plausible development.

²³ I am not convinced by Alonso Déniz's point (2008: 154–5 and 230–1, 2009: 17) that a clinching argument in favour of the late chronology of the s > h change in the first-millennium Peloponnese is that it happened after the dissimilation of the aspirates (Grassmann's Law), which in its turn is post-Mycenaean but earlier than our first inscriptions. The standard examples of Grassmann's Law concern adjacent syllables and there is no certain example where the dissimilating (as contrasted with the dissimilated) consonant is /h/; hence, while we expect **hek^hōn* to yield *ἔχων*, we do not expect *Mvabíμαχος* and *Φραβιαρίδας* to dissimilate their /h/ and /p^h/ respectively. Also, I am not certain that Grassmann's Law is post-Mycenaean.

²⁴ This is the position of Laconian, though *τόσσοις* occurs only in Alcman and *ἔσσονται* only in the fragmentary IG V/I 3. 7, which is in dialect but in the Ionic alphabet.

More significant, because presumably more recent, is the development of *-oioi*. Early Argolic has a few examples of dative plurals in *-oioi* (SEG XI 314), a form which is later replaced entirely by the standard *-ois* of the Doric dialects. If we can use the Mycenaean evidence to determine the linguistic state of the second millennium, we must assume that, in contrast with Myc. *-oi(h)i*, Argolic at some stage restored the sibilant on the model of the athematic inflection (Myc. */trisi/* etc.). This is likely to be a first-millennium restoration, and it would be somewhat perverse to assume that here too the restored form was */tsi/* or */ssi/*. *Inter alia* the same sixth-century inscription where *-oioi* appears makes a distinction between *<σ>* and *<σσ>*, and in the datives only *-σ-* appears. Could we argue on the other hand that this is traditional spelling, with *<s>* written for an actually pronounced [h]? This too seems improbable. Argolic has a letter *<h>*, which is used in word-initial position (e.g. *hoiζ*, *ho* in SEG XI 314) and after digamma (ibid. *Φηδιέστας*). If it had inherited a form */oihi/* like that of Mycenaean and had not restored the sibilant it would have presumably written it with *<h>*. Traditional spelling in this case makes little sense and we should probably take *<s>* as representing a real sibilant. But, if so, we must accept that there was a period when not all intervocalic sibilants had turned into /h/. In other words, in terms of our definition of continuity, there is no continuity between the prehistoric *s > h* change and the historical *s > h* change.

If this is correct it seems likely that the conclusions reached for Argolic may legitimately be extended to the other relevant dialects. For Cypriot we have some independent evidence in the Assyrian spelling *ú-na-sa-gu-su* of Onasagos (cf. n. 22). The structure of the syllabary also points to an early intervocalic sibilant (Morpurgo Davies 1988: 118–19). It is possible of course that in some inscriptions *<s>* corresponds to an [h] pronunciation, but I feel inclined to follow my early conclusions, as well as Alonso Déniz's and Egetmeyer's more recent views, that in Cypriot the shift really happened at a later date.

7.4.2 *The substratum hypothesis*

Should we then accept one of the alternative hypotheses? Well before Bechtel other philologists had thought that the first-millennium change found in the Peloponnese and Cyprus was unlikely to be a Doric feature, and had wondered whether it could be due to the influence of the earliest Greek speakers in the eastern Peloponnese. In 1905 August Fick reacted against Meister's view that the loss of secondary /s/ was typical of Doric and argued that, since Argolic and Laconian shared this change with Cypriot, it was likely that the change originated in eastern 'Achaean'. He explained that he shared Hoffmann's view that Arcadian and Cypriot were a form of South 'Achaean' closely related to the

Northern Achaean Boeotian and Thessalian. This was a view largely accepted (cf. Solmsen 1907): Arcadian and Cypriot were Aeolic or rather Achaean dialects. After Kretschmer (1909) turned the discussion about the classification of Greek dialects into a historical account, the Achaeans were seen as the second of the three immigrant waves which had invaded the Peloponnese. In 1910 Kretschmer (1910: 153–4) argued again (somewhat tentatively) that the presence of the change in Cypriot as well as Laconian and Argolic could speak for a feature due to the Achaean linguistic layer, and suggested that the change was limited to the *altachäisch* dialect of the eastern and south-eastern Peloponnese, thus excluding Arcadia. Bechtel (1923: 320–2, 461–4) did in fact follow this line, excluding Elean from the discussion because he thought that the phenomenon was documented too late; he was followed by Thumb and Kieckers (1932: 85). The old discussions make clear that the crucial point is the desire to account in the same way for the change in Cypriot and in the two Peloponnesian dialects (or three if we include Elean). There was not, and at the time there could not be, any direct evidence for pre-Doric dialects in the area. Needless to say, after the decipherment of Linear B in the 1950s the position is different. We now know, rather than assume, that there were Greeks who did not speak a Doric dialect in the Peloponnese before the Doric speakers took over. So, there was a Greek substratum, but the existing Linear B documents offer no evidence for a difference between an eastern (Mycenae, Tiryns) and a western (Pylos) form of Mycenaean, though given the highly conventional character of Mycenaean literacy this is not surprising. They also offer no evidence for a change of secondary /s/ to /h/. This may of course have occurred without being indicated in writing. Unfortunately the point forcefully and usefully made by Alonso Déniz (2008: 438–46, 2009: 13–14), that the late appearance of the first-millennium *s > h* change in Cyprus (and indeed in the dialects of the Peloponnese) speaks against the assumption that in Cyprus the *h*-pronunciation was a feature imported from the mainland, cannot be conclusive. There may have been different social and/or ethnic strata, and one of these may have had [h] pronunciations from an earlier period, though that stratum came to the fore only later. However, the fact that in Cypriot the first evidence for an aspiration of /s/ concerns word-final position is significant, since it separates the change found in the Peloponnese from the Cypriot one.

The basic point is that while there is circumstantial, even if not conclusive, evidence against the substratum hypothesis, there is no positive evidence in its favour. Yet, unless we want to believe that all sound change is determined by substratum phenomena, this is a typical example of a suggestion which needs positive arguments to support it. If they are missing, as they are here, the hypothesis cannot be accepted.

7.4.3 Diffusion or independent developments?

We are then left with two possibilities: diffusion from one dialect to the other, presumably in the first millennium, or independent developments. All through the history of the question both possibilities have been considered. The most recent discussion, that of Alonso Déniz (2008, 2009), concludes that the Cypriot change is independent from that of the Peloponnesian dialects, while these probably share an innovation which may have started in Laconia—where the first examples of intervocalic <h> from /s/ are attested and the evidence is richer—and then spread to the western Argolid and later to Elis. The geographical distance may speak against a diffusion to Cyprus, as does the different development of /s/ aspiration (see above). In a widely-cited article of 1990 Ferguson argued for a major typological distinction in the diachrony of languages of a Spanish type and languages of a Greek type. The former weaken /s/ to /h/ starting with syllable-final position, first preconsonantly and word-internally, then word-finally, then in other positions. The latter weaken /s/ intervocalically and then word-initially, then word-internally before a consonant, and last, word-finally. From this point of view Cypriot would belong with the Spanish type and Laconian etc. with the Greek type, which would highlight the difference. However, Méndez Dosuna (1996) has made a good case for a somewhat less polarized description, pointing to prehistoric Greek changes like **nasuōs* > **nahuōs* > *nāwos* 'temple', or **h₁esmi* > **ehmi* > *ēmi* 'I am'. The problem is once again that there is no conclusive evidence. On balance the Cypriot changes seem to differ from the other changes, though I suspect that we do not know enough about the contacts between Cyprus and the Peloponnese in the first millennium to be certain that there were no possible channels of diffusion. But what about the Peloponnesian dialects? What tells us that the changes in the Peloponnese are not independent developments? Laconian and West Argolic are geographically close and the changes in question are close both in time and in nature, though relations between Laconia and Argolis were permanently hostile and it is not clear that wars are a good way of diffusing phonological change. The Elean evidence for change is later (fourth to second century) and is limited to one morphological category (the sigmatic aorist) and to a very few examples of that. Admittedly lexical diffusion works on limited word sets or categories, but is this a standard case? Minon (2000: 239, 2007: ii. 350–1) mentions the possibility (originally suggested by J.-L. García Ramón) that the change was limited to restored /s/ (as in the aorist), which at the time of the change could have been phonetically different from the secondary /s/ of words like *παῖσα* 'all' (fem.). However, we have only six forms distributed over two centuries—not enough to judge.

7.4.3.1 Points of uncertainty

Let us briefly summarize the points of uncertainty for all our data.

- (i) We are dealing with two different writing systems (three if we include Linear B): syllabic Cypriot and alphabetic Greek, and within alphabetic Greek with at least three different regional variants. We know that in Greece attitudes to the match between writing and phonology varied from region to region: indifference in Laconia, deep concern in Boeotia (Morpurgo Davies 1992). Yet we do not have sufficient data for Elis or Argolis and we cannot trust the graphic consistency of the Laconians, which means that, though the case made by Alonso Déniz for the relative dating of the change is the best one can make, we cannot reach certainty even on that point. Nor can we reconstruct with certainty the phonological systems of the dialects under consideration.²⁵
- (ii) If we want to think in terms of diffusion we lack data which allow us to follow the pattern of diffusion. Consider again the strictures delivered by Trudgill (1983; see n. 4) on the inadequacy of the standard dialect maps of Europe or Britain, which lack information about exact isoglosses, social details, age, distribution, etc. For ancient Greece we cannot hope to have this type of information.
- (iii) The distinction between independent developments and diffusion is a perennial problem for all dialect geography (and of course for other disciplines such as archaeology and anthropology). In phonology we consider the possibility of diffusion when the languages or dialects in question are geographically close and/or on known communication routes (be they commercial or cultural), the chronology works, and, if we are lucky, more than one feature is spread. It is easier to make a case if the change considered is not a common change. If these conditions are met we then begin to look for sociolinguistic supporting evidence of the type indicated in (ii). In our case Lazzeroni (1967) has argued that Elean shares with Laconian both the *s* > *h* change and the assibilation of the dental aspirate (see n. 25). This may satisfy a requirement, though the second point is disputed, but is it enough, since we cannot proceed to the next step and since the aspiration of /s/ is found in a number of unrelated languages?

²⁵ In Laconian for instance we find at some stage that <σ> is used for the earlier <θ> letter. We debate whether <σ> represents [θ] or [s]. In Elean it is often, and possibly correctly, assumed that [t^h] had changed into [θ] or [s], but the evidence is very late except for a disputed infinitive ending in -σσαι where we expect -σθαί (Minon 2007: ii. 339). What should we conclude? And how relevant is this to the *s* > *h* change?

7.4.4 *Drift*

It looks as if we must reluctantly conclude that there is no evidence for continuity from the second millennium or for substratum influence, and that the data do not allow us to distinguish between diffusion and independent developments. We ought, however, to entertain a further possibility, which has recently been exploited in the analysis of so-called World English. I take two examples from recent work by Trudgill, which modify some of the standard views.

In contrast with Canadian and American English, which are predominantly rhotic, Australian and New Zealand English are predominantly non-rhotic, like most English and Welsh varieties, i.e. they have lost preconsonantal and word-final /r/ in words like *smart* or *car*, while retaining /r/ in other positions and word-finally before a word starting with a vowel. This was normally explained by pointing out that English was exported to America in the seventeenth century, before the loss of rhoticity in Britain, but to Australia and then New Zealand in the nineteenth century, when that loss had already happened in Britain. Yet recent discoveries have shown that in New Zealand (for which better evidence is available) and in Australia the language was originally rhotic and the loss of rhoticity is relatively recent. Trudgill et al. (2000: 120–4; cf. Trudgill and Gordon 2006: 244) argue that the new data make it likely that ‘rhoticity was extremely common in 19th century Britain’ and was brought from there to Australia and New Zealand. Later on it was lost in parallel in England, Australia, and New Zealand through a process of ‘drift’, to use Sapir’s terminology. Similar conclusions are reached for other examples. I quote only one: the merger of the English vowels of e.g. *square* and *near* which is happening in New Zealand, where it is now practically complete; the same merger occurs for the majority of speakers in Norfolk in Britain and in the English of Newfoundland (Trudgill 2003). Diffusion is highly unlikely given the geographical distribution; the change has occurred independently in the various places but we cannot exclude a general predisposition to it in what are, after all, variant forms of the same language. Once again one may appeal to drift (cf. Trudgill et al. 2000, and see below).

Our Greek problem is different, but another possibility is now opened. In languages or dialects which have a common origin Trudgill et al. (2000) distinguish between a first form of drift which is in fact the continuation of an inherited change in progress, even if this is concealed by lack of evidence (as for the loss of rhoticity in New Zealand and Australia), and a second form of drift which is the result of a structural predisposition towards a certain change; this would be the case of the merger described above. The point is that our four dialects (including Cypriot) show similar, even if not identical,

changes in regions which are not too remote from each other. It may be counterintuitive to treat them as independent phenomena but at the same time there is not enough evidence to attribute the whole set of changes to diffusion, and, as we have seen, Alonso Déniz excludes it for Cypriot. Drift may help, if taken in the second of the meanings discussed by Trudgill et al. (2000). Yet, if we do not want to return to nineteenth-century imagery and think of drift as a mysterious overpowering force which dominates the life of language, what would account for such a predisposition? Perhaps we may appeal to a suggestion by Méndez Dosuna (1996), who points out that in languages where consonantal length is phonologically relevant there is a tendency to maximize the distance between /s/ and /s:/ by shortening /s/ as much as possible. If this is applied to Greek, where phonologically long /s:/ occurs only between vowels, we can assume that this tendency to shorten intervocalic /s/ may eventually have led to a further form of weakening, i.e. aspiration. Of the dialects that we have been discussing, Laconian, Argolic, and Elean all provide evidence for <ss> between vowels; the Cypriot syllabic writing obviously cannot do so, though we may want to argue that Cypriot was like Arcadian, which does. Even so, it would still be difficult to understand why Cypriot lost its final sibilants before the intervocalic ones.

7.5 *Conclusion*

To conclude: whatever one says about this subject is to a large extent hypothetical and structural explanations are notoriously so. To make a case for diffusion and the like in the prehistoric period is almost impossible, but in the historical period too some linguistic developments may remain partially or totally impenetrable. In our case we do not have sufficient data to make a water-tight case for whatever account we choose to give. However, the starkness of the contrast between independent development and diffusion may be reduced if we introduce drift as a third possibility and assume that in languages or dialects which have the same origin there is often a structural predisposition to certain changes. It should be emphasized that ‘such changes may, but need not occur’ (Trudgill et al. 2000: 112). It is conceivable that appealing to this form of drift may help us to understand the weakening of secondary intervocalic /s/ in some Greek dialects of the first millennium BC. At the same time we should note that any change is subject to a number of different and perhaps contrasting sociolinguistic influences, some of which may act as catalysts. Diffusion is bound to be one of these. Drift and diffusion are not mutually exclusive and may conspire towards similar results. We cannot demonstrate it but this may be the solution to our problem.

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