

Historical Development of the Ancient Greek Accent System¹

Ardhamātrālāghavena putrotsvam manyante vaiyākaranāḥ
“Grammarians rejoice more over the saving of half a mora
than over the birth of a son.”

Paribhāṣā 122

Typological classifications of languages in terms of their accentology have been proposed by several scholars (Jakobson (1931); Trubetzkoy (1939: 179–94); Martinet (1954); Garde (1968: 97–139); Kiparsky (1973)). According to Garde, in addition to languages with fixed accent and those with free accent (where accent is “linked with the accentual properties of morphemes”) there are at least two sub-types: quasi-fixed—where accent is linked sometimes with word-boundaries and sometimes with properties of morphemes (Polish, Macedonian, Latin); with limited freedom—where accent is linked simultaneously with word-boundaries and with the properties of morphemes (Ancient and Modern Greek). The following paper will demonstrate the usefulness of these principles in the genealogical study of successive états de langue (PIE.—Proto Greek—Ancient Greek dialects).

It is obvious that any analysis of suprasegmental phonology of dead languages faces serious—if not insurmountable—difficulties. In the case of Ancient Greek we are lucky to have a wealth of dialectal inscriptions, examples of a literary usage of various dialects and even descriptions of ancient grammarians, who introduced diacritics for marking accent around 200 B. C. If the analysis of living tone-accent languages depends very

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much on reading spectrograms, then this empirical technique has to be replaced by philological work on Greek dialectal texts. It is worth emphasizing, however, that classical scholars can enormously profit by drawing parallels with the development of the well investigated living tone-accent languages, namely Serbo-Croatian. In what follows I would like to point out some interesting parallels between the development of the Hellenic and Slavic groups of languages/dialects in the matter of accent.

It is generally agreed that Ancient Greek—or more precisely the Attic-Ionic dialect—was a tone-accent language, very much as Modern Serbo-Croatian or Lithuanian. We may recall that there are two conditions on the status of a “real” tone-accent language (as shown by Trubetzkoy):

- i) mobility of accent,
- ii) distinctive vowel length.

If any one of these conditions is about to disappear, it may be said that a language/dialect is on the way to becoming a stress-accent type. Thus the transition from the tone-accent type to the stress-accent type may manifest itself in fixation and immobilization of the accent, which is easy to demonstrate for Aeolic (Lesbian) and Doric dialects. (It will be shown that Lesbian fixed its accent purely phonologically, whereas Doric dialects tended to immobilize their accent morphologically). Before turning our attention to the accentual history I would like to make a few comments on the temporal and spatial dimensions of my investigation.

Greek at the time of the earliest alphabetic records (8/7th c. B. C.) is represented by a number of widely differing dialects—some of them very unlike one another. Meillet (1965: 79) commented on their mutual understandability “it must have been difficult for Greeks from different cities, speaking different dialects, if not to grasp the general sense, at least to understand one another exactly”. However, all these dialects were certainly recognizable as Greek; it is perhaps significant that Greek sources themselves do never refer to mutual unintelligibility.

We may venture the back-projection of the four principal Greek dialectal groups of the Classical Era to the last centuries

of the 2nd Millenium—thus we may talk about proto-Aeolic, proto-Doric as rather autonomous dialectal units, and proto-Ionic and proto-Arcado-Cypriot (or proto-“Achaean”) of the same period as two closely linked dialectal formations. As shown in works by W. Porzig and E. Risch the most characteristic features of Ionic, such as the fronting and raising of the Proto-Greek $\bar{a} > \bar{e} > \bar{i}$, are of relatively recent date. Many features of Ionic can be securely dated as post-Mycenaean and indeed many scholars, e. g. Chadwick (1963: 16), have wondered whether there was Ionic differentiated from the common Mycenaean dialect. There is however no doubt about the existence of two Greek dialects in the Late Helladic (= Mycenaean) period, called usually *ti*-group and *si*-group. E. g. the 3rd Pers. Pl. Act. of the thematic verb had the suffix *-onti*, which is preserved in West Greek (φέρονται); East Greek dialects have forms ending in *-si* (which is a result of dental palatalization and simplification of the affricate): Arcadian φέρονσι, Lesbian φέροισι, and Attic-Ionic φέρουσι, Mycenaean /phéronsi/. Thus many classical scholars have accepted the existence by 1400 B. C. of two Greek dialects, respective dialectal groups.

Any investigation into the prehistory of the Greek accent may start with Kurylowicz's observation (1958: 7) “Pour comprendre l'accent grec il suffit de partir d'un état à peu près védique”. In other words, we may imagine that in the PIE. ancestor of Ancient Greek—as in Vedic—the accent moved within word boundaries without phonological constraints limiting the range of positions. For instance, we may recall descriptions of accentual behaviour of various nominal and verbal classes—in terms of morphological categories—as elaborated by Ancient Indian grammarians. Thus grammar of Vedic Sanskrit contains accentual rules of the morphological nature such as: verbs of the Class I (e. g. *bhárāmi*) are stem accented, verbs of Class VI (*tudāmi*) are theme accented; on the other hand, verbs of the Classes II, III, V, VII (e. g. *védmi*—*vidmāḥ*) accent the stem in the Singular of the Present but the termination of the Dual and Plural. Another morphological rule describes the accentual behaviour of all Imperfects—namely, the augment is always accented.

Freedom of the PIE. accent was restricted in various ways in all daughter languages. (It would be better to say that morphological accentual rules were in their turn almost everywhere replaced by phonological rules). For instance, neither Greek nor Iranian continues the presumably PIE. rule of accenting the augment in historical tenses. Neither did Greek, Iranian or Balto-Slavic verbs continue the trichotomy of movable, stem-accented and theme-accented verbs. It is a pity that we are on safe ground only in Greek, but it is possible to make certain conclusions about Proto-Iranian and Proto-Balto-Slavic from later conditions. The situation in various Slavic languages is explicable from a penultimate fixed stress (with certain morphological restrictions such as possibility of the antepenultimate stress if the root syllable was third from the end, according to Shevelov (1964: 71)). The fixation of stress on the penultimate syllable is assumed by Kurylowicz also for Iranian and Armenian. In Greek freedom of the PIE. accent was limited by allowing the rule assigning accent to operate only within one of the last three syllable—thus against Vedic 1st Pl. *bhárāmaḥ* (Pres.) and *ābharāma* (Impf.) with the accent on the augment, we find in all Ancient Greek dialects the accent on the antepenult *φέρομεν* — *ἐφέρομεν*. What is remarkable in this development in all Satem languages is the fact that the simple phonological rule replaces the morphologically complicated accentuation of PIE. It might be tempting to talk about “simplification of grammar”, but there appear at the same time new complications which I will discuss shortly. It should also be mentioned that the assumption of a period in Common Slavic with fixed stress on the penultimate is by no means secure (in any case it should not be used for establishing “a one more Slavic-Iranian link” as Shevelov (1964: 71) wanted it). Let us remind ourselves of the well-known accentual dichotomy of stem-accented and ending-accented accentual classes of Russian, Ukrainian, Byelo-Russian and Serbo-Croatian dialects². Ancient Greek preserved a more

² Of course, the accentuation of verbs and nouns in individual Slavic languages underwent various morphologically conditioned levelings. Shevelov (1964: 74) places the appearance of the paradigms with final

original state of affairs—in having “normal” verbs accented on the stem, contract verbs on the post-root (= prethematic vowels φιλέω, τιμάω, χρυσόω, as in Vedic Class X *ćoráyāmi*); and there are even remnants of the mobile class (e. g. οἶδα, ἴδμεν < **wid—mén*). This accentual trichotomy has been severely limited in Arcado-Cypriot and Aeolic which accent denominative and deverbative verbs as Attic does its athematic verbs (Lesbian φίλημι vs. Attic φιλέω, cf. Attic δύνημι). It is also well-known that only Vedic and Greek among IE. languages preserved PIE. oxytones (in Greek some of them became paroxytones, according to Wheeler’s Law), whereas Lithuanian and Slavic languages shifted the PIE. accent from the ultima to the penult (these are cases covered in historical textbooks by Hirt’s Law). As far as Proto-Greek is concerned we can reconstruct the stage where the place of accent would be describable by rules such as: oxytones and paroxytones keep their accent distributed columnarly (e. g. *potamós*, *potamósyo* and *dāmos*, *dāmosyo*), whereas proparoxytones keep their accent on the antepenult:

Sg. Nom.	<i>pherómenos</i>	Pl.	<i>pherómenoi</i>
Gen.	* <i>pheroméno^{syo}</i>		* <i>pheroménoōn</i>
Dat.	* <i>pheroménoei</i>		* <i>pheroménosi</i>
Acc.	<i>pherómenon</i>		<i>pherómenons</i>
Sg. 1	<i>légō</i>	Pl.	<i>légomes</i>
2	* <i>légesi</i>		<i>légete</i>
3	* <i>légeti</i>		<i>légonti</i>

This antepenult rule assigning accent in Proto-Greek (and possibly even in its late Mycenaean descendant) operated on syllables—in other words we may assume that both Proto-Greek and Mycenaean were of stress-accent typology. During the process of vocalic contractions Greek started changing its typology toward a tone-accent language. Put simply, after the contractions involving the thematic vowel and the ending proper (i. e. after the loss of a syllable) it becomes more economical to describe the Greek accent in terms of moras. (In what follows,

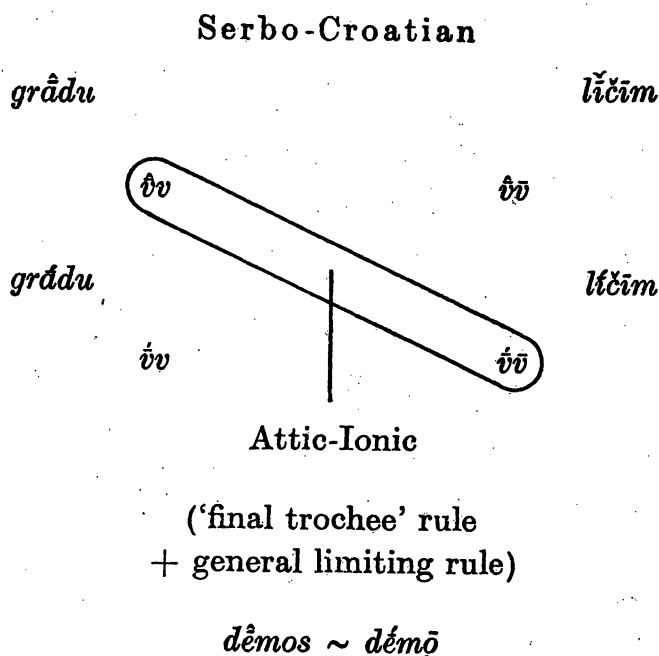
stress in the late Common Slavic period, when the jers were reduced to zero and the stress in the verbal paradigm was reinterpreted in both Sg. and Pl. as final.

I will be using the concept of the mora as defined by Garde [1968: 142], i. e. as "pitch-carrier").

However, we should not forget Martinet's (1954: 75) caveat that the mora does not correspond to a phonetic reality, but it is only a purely analytical device; there are languages in which this concept makes the description of phonology clearer and may be more economical, and there are others in which it does not. In our case, the accentual phenomena of Proto-Greek are adequately described in terms of syllables and morphology; however, starting in Mycenaean, i. e. around 14th c. B. C., and describing the prehistory and history of Classical dialects it is more economical to do so in terms of the mora than of the syllable (or syllabic nucleus). Furthermore, we should keep in mind that even in tone-accent languages such as Ancient Greek, Lithuanian and Serbo-Croatian where a wide range of accentual phenomena is describable in moras, we have to admit quite frequently syllabic and/or morphological criteria in our accentual descriptions. A classical example is Jakobson's version (1937/1962: 263) of the general limiting rule for Ancient Greek: "The span between the accented and the final mora cannot exceed one syllable".

We may recall Vendryes' (1929: 53) and Garde's (1968: 145) attempts to formulate this rule in terms of the last three moras. Garde has to explain the occurrence of forms such as $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\varsigma$ (where the high pitch occurs on the fourth mora from the end (1 + 2 + 1)), which are neatly covered by the rule as formulated by Jakobson. According to Garde in the case of words with short ultima the last three moras are identical with the last three syllables. I believe with Allen (1973: 238) that this assumption implying that a penultimate long vowel in words like $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\varsigma$ should not be counted as a long one is quite unrealistic and I think that Jakobson's formulation is preferable. Perhaps even better formulation is that by Allen (1973: 237) "not more than one mora may follow the contonation" where contonation includes the falling glide and has thus a monsyllabic (in the case of circumflex) or disyllabic form (in the case of acute). The reason is that Jakobson's formulation does not explain why the accent of the Gen. Pl. $\acute{\alpha}\nu\theta\rho\omega\pi\omega\omicron\nu$ is acute not circumflex (if it

were circumflex the distance between the accented and final moras would be only two moras i. e. one syllable). It may be noted that in this case both Allen's and Garde's formulation are adequate (according to Allen the phonetic glide ends at the end of ultima, that is there is no more left; and according to Garde the accented mora is the third one from the end). However, it is more usual to cover these cases by the so-called 'final trochee' rule, whereby if the high pitch occurs on the penultimate syllable containing a long vowel or a diphthong, it must occur on the first mora if the final vowel is short (i. e. the accent must be



circumflex and not acute). It is usually assumed that this was only the Attic rule since circumflexed disyllabic words have acute in Doric (Laconian) (e. g. Attic *παῖδες* vs. Doric *παίδες*)³ and in Aeolic (Lesbian) there are no polysyllabic words with the circumflex on the penult (e. g. Attic *ἀρχαῖος* vs. Lesbian *ἀρχαῖος*). At this point we may notice the cardinal difference between the accent pattern of Attic-Ionic and modern Serbo-Croatian dialects. In Attic-Ionic, as a consequence of the 'final trochee' rule,

³ Examples of Doric accents can be found in Schwyzler (1939: 384): *αἴγες*, *πτῶκας*, *ἐνδοῖσα*, *ἀμύναι*, *στάσαι* (Inf.), *ἀνθρώποι*.

the occurrence of circumflex or acute on the penult is automatically determined by the length of the ultima and minimal pairs such as classical examples from Serbo-Croatian (*grādu* ~ *grādu* "city" [Dat. vs. Loc.] *līčim* "I paint" ~ *līčim* "I resemble") are here impossible:

At this point—when the general limiting rule started operating on moras instead of syllables—we may assume that Proto-Greek changed its typology from the stress-accent language toward a tone-accent language. In other words, there appeared contour accents on final syllables after early contractions obliterated the boundary between the thematic vowel and the case or personal suffix. As is well-known this boundary is still recoverable in Sanskrit—contrast the disyllabic ending of the Gen. Sg. Fem. *kanyāyās* "girl" with a dimoric ending of the same declension in Ancient Greek $\theta\epsilon\tilde{\alpha}\varsigma$ where we presume that even Mycenaean [*theās*] (about 13/14 c. B. C.) had a monosyllabic ending. If we want to know when this circumflex became phonemic, we have to ask whether we can date the loss of *-n-* in the Acc. Pl. Consider the minimal pair such as Classical Attic $\theta\epsilon\tilde{\alpha}\varsigma$ (Gen. Sg.) vs. $\theta\epsilon\alpha\varsigma$ (Acc. Pl.) in other dialectal groups:

Proto-Greek		
Sg. Nom. <i>theā</i>		
Gen. <i>*theājās</i>		
Pl. Acc. <i>*theāns</i>		
<div></div>		
pitch-accent	stress-accent	stress-accent
Attic-Ionic	Doric dialects	Lesbian
<i>theā</i>	<i>theā</i>	<i>theā</i>
<i>theās</i>	<i>theās</i>	<i>theās</i>
<i>theās</i>	<i>theās</i>	<i>theāis</i>
	<i>theāns</i> (Cretan, Argolic)	

I think that for Doric dialects we do not have to reconstruct this difference in tone signaling a difference in grammatical function. Certainly not for some of them such as Cretan and Argolic

which preserved the Proto-Greek cluster *-ns* in the Acc. Pl. Unfortunately, we cannot make any decisive statement about other Doric dialects, especially so-called “mild” dialects (Megarian and Corinthian), which were close geographically to Attic-Ionic and thus conceivably could be influenced in their accent pattern by Attic-Ionic. Incidentally, this contrast did not exist even in Lesbian where the Acc. Pl. developed a diphthong *ai*. Furthermore, we may observe that in comparison with Slavic Greek due to its general limiting and ‘final trochee’ rule lacked the prerequisite for the rise of contrastive tone in middle syllables. There are actually some rare minimal pairs with the contrast acute ~ circumflex on the penult such as:

λῦσαι (Inf.) ~ λύσαι (Opt.) “bind”
οἴκοι (Nom. Pl.) ~ οἴκοι (Loc. Sg.) “house”
μῆτις “intention” μήτις “nobody”

but these are best explained as shown by Kiparsky (1967: 109) by grammatical rules which allot different mora values to the final diphthongs (< λύσειε, < οἴκο+ι) or by postulating a morpheme boundary in underlying representation of μῆ+τις. Thus, after all, it seems that Garde is right in treating penultimate syllables as monomoric units since—whith these rare exceptions—the phonological opposition of acute and circumflex on them is impossible.

At this point, I would like to emphasize that the traditional view of Ancient Greek as a tone-accent language is rather unsatisfactory. As we have seen in terms of tonemic contrasts we can find pairs involving only ultima in certain dialects, most notably the literary Attic-Ionic and probably insular Ionic dialects (and maybe some “mild” Doric dialects). Aeolic dialects—to judge on the basis of dialect of the island of Lesbos—generalized the recessive accent (i. e. the alternation circumflex ~ acute is possible only on the penult, where no real minimal pairs are possible). So-called “strict” and probably even “middle” Doric dialects were contourless; in other words, their typology was that of a stress-accent language. This can be assumed on the basis of the absence of minimal pairs involving ultima (such as Gen. Sg. vs. Acc. Pl.), as shown above. Another important

piece of evidence for the stress-accent typology of "strict" Doric can be found in phonetic interpretation of phenomena covered by so-called "Wheeler's" and "Vendryes' Law". Wheeler's Law ("Daktylisch ausgehende oxytona werden zu Paroxytona") covers examples of the shift of accent from the ultima to the penult in words with the heavy antepenult:

Vedic	Proto-Greek	Attic-Ionic
<i>pēśalāḥ</i>	<i>poikilōs</i>	<i>poikilos</i> "variegated"
<i>aṅkurāḥ</i>	<i>aṅkulōs</i>	<i>aṅkilos</i> "crooked"

Using Allen's theory (1967: 46) of the stress in Ancient Greek (basically, the stress was regulated by the quantity of the ultima, whereas the tone by the length of the ultima)⁴ we may notice that in Proto-Greek *poikilōs* there was a positive correlation of the pitch and stress in that the stress and high tone coincided on the ultima (as in Vedic). After the metatony—described by the label of Wheeler's Law—this correlation changed into a negative one (*poikilōs*) of high tone and stress. This of course is a typical situation arising in tone-accent languages such as Serbo-Croatian, where the fundamental frequency of the post-acute syllable is "level or slightly rising" (in the case of long rising accent, Lehiste (1970: 86)). It may be noted that Lesbian dialect with the typical antepenultimate accent shows the positive correlation of the tone and stress *poikilos*. Another type of metatony—which presumably took place in Old Attic—is described by Vendryes' Law ("Tout properispomène à antépénultième brève devient en attique proparoxyton") according to which the falling accent on the penult became a rising accent on the antepenult if the antepenult was light. Thus for instance, Old Attic *hetōimos* showing a positive correlation of high tone and stress (i. e. there was a falling ac-

⁴ Allen (1967: 46ff.) summarized his hypothesis concerning the incidence of stress in plurisyllabic words in Ancient Greek in three points:
(a) words were primarily stressed on their last heavy syllable;
(b) a secondary stress fell on preceding heavy syllables if separated from the primary stress by at least one (quantitative) mora;
(c) a (probably weaker) stress fell on an initial light syllable if followed by two light syllables.

cent and the stress on the penult) developed a negative correlation where the high tone appeared on the antepenult and the post-acute syllable preserved the stress *hétōimos*. The Lesbian dialect in this case did the same, however Laconian shows the correlation of high tone and stress as Old Attic did (at least in the Plural *hetōímoi* to use the actually documented forms). Other types of the correlation may be surveyed in the following chart:

A correlation of tone and stress in
Ancient Greek dialects

			<i>Coincidence</i>	
(1)	Attic	ἔλεγον	<i>élegon</i>	+
	Lesbian	ἔλεγον	<i>élegon</i>	+
	Laconian	ἐλέγον	<i>élegon</i>	+
(2)	Attic	ποταμός	<i>pōtamós</i>	—
	Lesbian	πόταμος	<i>pōtamós</i>	+
	Laconian	ποταμός	<i>potamōs</i>	+
(3)	Attic	ἄγγέλους	<i>āngélōs</i>	—
	Lesbian	ἄγγέλοις	<i>āngélois</i>	—
	Laconian	ἄγγέλως	<i>āngélōs</i>	(—)
(4)	Attic	ἄνθρωποι	<i>ánthrōpoi</i>	—
	Lesbian	ἄνθρωποι	<i>ánthrōpoi</i>	—
	Laconian	ἀνθρώποι	<i>anthrōpoi</i>	+
(5)	Attic	ἀρχαῖος	<i>arkháios</i>	+
	Lesbian	ἄρχαιος	<i>árkhaios</i>	—
	Laconian	ἀρχαῖος	<i>arkháios</i>	+

As this contrastive survey shows there was always a coincidence of the tone and (hypothetical) stress in Laconian (with the exception of (3) which is negative everywhere). Thus we may hypothesize that Doric dialects—at least so-called “strict” dialects such as Laconian—preserved the Proto-Greek stress-accent. For Attic and Lesbian we may notice—in Allen’s words (1967: 50)—“a predominantly negative correlation of high tone with stress and a positive correlation of svarita with stress”. Those are cases (2), (3), (4) for Attic, and (3), (4), (5) for Lesbian. As pointed out above a similar situation obtains in

tone-accent languages with a disyllabic type of accentuation such as Serbo-Croatian. A coincidence of tone and stress at word level (i. e. monosyllabic accentuation), which is typical of Modern Greek as a stress-accent language is supposed to be reached by the end of the Greco-Roman period (3rd c. A. D.)⁵. As we have seen, it is very likely that some of the Ancient dialects—namely “strict” Doric dialects in a sense anticipated this stage; or more precisely, some of the Greek dialects were of the stress-accent typology during the whole history. Thus I would like to conclude the whole analysis by raising questions which I believe are more appropriate than “when did Ancient Greek lose its tone system?”. Namely, “did stress-accent dialects—especially Doric—contribute in an essential way to the new stress-accent typology of Middle Greek? Could the contact between speakers of Ionic and Doric dialects accelerate the acquisition of stress-accent typology? How important was the anticipation of the stress-accent typology by Classical and Hellenistic Doric dialects for the Middle Greek?” It is well-known—to use Blass-Debrunner’s words (1961: 1)—that “on the lips of other Greeks, Attic gradually lost the peculiarities which set it off from all or most other dialects”. Of course, we will never know to what extent this statement corresponds to the reality; in other words—how big were the local differences within Koine. Nevertheless, we may venture some conjectures on the basis of Hellenistic inscriptions. First of all, we may recall that during the last three centuries B. C. we encounter not only inscriptions in Attic-Ionic Koine (i. e. Koine based on the tone-accent dialect) but also inscriptions in the so-called Doric Koine (i. e. Koine based on presumably stress-accent Doric dialects) and Northwest Greek Koine (basically a mixture of Attic with West Greek forms similar to the Doric Koine). If the reconstruction of the phonetic substance of the accent pattern of the Doric dialects during

⁵ Allen (1973: 268) mentions evidence from the work of Gregory Nazianzen in whose hymns there is a tendency to single correspondence between accentual peak and strong position. Similar indications of the transition to a dynamic accent can be seen in an anonymous early 4th century Christian hymn (Pap. Amherst, ed. Grenfell & Hunt, I.ii) and in the hymns of Clement of Alexandria.

the Hellenistic era surpasses our capacities, we may pinpoint at least some Doricisms (or rather "non-Atticisms") in the Hellenistic Greek regarding the place of accent. E. g. in the paradigm of the 2nd Aorist Attic ἐλάβον was ambiguous (it could mean either "I took" or "they took"). whereas in Doric dialects the 1st Pers. Sg. was accented on the antepenult but the 3rd Pers. Pl. on the penult ἐλάβον "they took"⁶. The situation in contract verbs is similar. In Attic verbal inflections the accent always recedes to its full limits but in Doric dialects the accent is typically "progressive" in the 3rd Pers. Pl. It may be noted that both situations are anomalous for different reasons. Attic paradigms are regular phonologically (in that the accent always recedes to its full limits) but irregular morphologically since the plural paradigms have mobile accent. On the other hand, Doric paradigms are regular morphologically in that the accent is immobilized (on the augment in singular and on the root in plural), but irregular phonologically (the accent could still recede one syllable leftwards in the 3rd Pl.).

Hellenistic Greek solved anomalies of both Attic and Doric systems by borrowing the ending of the sigmatic Aorist *-san*⁷. The extra-syllable in ἐλάβοσαν made it possible to keep the accent on the root (as in Doric plural paradigms) satisfying at the same time the recessive accent of verbal system (as in Attic)⁸.

To add some sociolinguistic flavour to the analysis, we also have to consider an urban dialectal (and accentual) diversity

⁶ See Schwyzler (1939: 384).

⁷ According to Hainsworth (1967: 73) ancient writers variously ascribe the Hellenistic type ἐλάβοσαν to Boeotian, Doric, Chalcidian, Alexandrian, οἱ τῇ Ἀσιάνῃ φονῇ and οἱ ἐλληνίζοντες ἐν Κιλικίᾳ.

⁸ It is of interest to observe a similar tug of war between phonology and morphology in Modern Greek. In Modern Greek past tenses the augment is lost if unstressed—this happens in the 1st and 2nd Pl. but there are two forms in the 3rd Pers.:

Sg. 1 <i>égrafa</i> "I wrote"	Pl. <i>gráfame</i>
2 <i>égrafas</i>	<i>gráfate</i>
3 <i>égrafe</i>	<i>égrafan</i> or <i>gráfane</i>

The phonologically proper 3rd Pl. *égrafan* is paradigmatically irregular. This irregularity can be liquidated only by the adoption of an extrasyllable (*e*)*gráfane*, which allows all plural forms to have accent on the root.

(e. g. Athens — Attic, Korinthos — “Mild” Doric, Sparta — “Strict” Doric) against the background of geographical areas with heterogenous speech communities and various social institutions (such as Hellenistic military camps), where the speakers of various dialects had to establish a contact. E. g. we may imagine speakers of Doric dialects and Attic resorting to a type of accentual Koine (with non-phonemic contours on the ultima and uncertainty as to the antepenult/penult accentuation in many verbal and nominal forms) across the border of Ionic Attica and “Mild” Doric Megara, or in the Saronic Gulf with adjacent shores of Attica, Megara, Korinthos and Argolis.

Obviously, attempts to reconstruct these events cannot be cast in sociolinguistic terms of “how many speakers of ‘mild’ Doric tested well on the distinction between falling and rising accent on the ultima”; a historical linguist has to resort to the phonetic interpretation of inscriptional evidence such as the appearance of a high back Attic /*ū*/ (< *eo*, spelled OY) or Ionic diphthong /*eu*/ (< *eo*) in the Doric inscriptions of the last pre-Christian centuries found in the islands of Rhodes and Cos (Buck [1955: 166–7])⁹. Suppose it really means that certain sections of the Doric population adopted Ionic forms such as *καλεῦντες* and/or Attic form *καλοῦντες* and dropped their native *καλέοντες*. Here we have the case where the dimoric monophthong /*û*/ and the diphthong /*êu*/ with the falling tone in Attic and Ionic correspond to a disyllabic sequence /*eo*/ in Doric. The correspondence of dimoric monophthong /*û*/ and the diphthong /*êu*/ to the disyllabic sequence /*eo*/ in Doric obtains for instance in the Gen. Pl. :

	Attic	Insular Ionic	East Aegean Doric
Pl. Nom.	<i>καλοῦντες</i> / <i>û</i> /	<i>καλεῦντες</i> / <i>êu</i> /	<i>καλεοντες</i> / <i>eo</i> /
Gen.	<i>καλούντων</i> / <i>û</i> /	<i>καλεύντων</i> / <i>êu</i> /	<i>καλεοντων</i> / <i>eo</i> /
Pl. Nom.	<i>ἄνθρωποι</i>		<i>ἄνθρῶποι</i>
Gen.	<i>ἀνθρώπων</i>		<i>ἀνθρῶπων</i>

⁹ *ποιεῦντα* Ialysos. 4th or 3rd c. B. C. IG. XII. i. 677. Schwyzer 284.
ποιεῦνται Lindos. 3rd c. B. C. IG. XII. i. 761. Schwyzer 285.

May we hypothesize that the speakers of East Aegean Doric dialects borrowed even the Attic-Ionic falling and rising tones? The alternative answer, of course, could be that they did not and that they could carry over their native habit of accenting the same syllable in both Nominative and Genitive Pl. as in *ἀνθρώποι ~ ἀνθρώπων*. Thus we may imagine that in the speech of Doric-Ionic bidialectals the above words could be realized without the falling and rising tone: /kalūntes/ ~ /kalūntōn/ i. e. with the coincidence of high tone and stress on the penult. Since examples of a negative influence of the bidialectalism and bilingualism on the tone-accent system from various living languages are relatively numerous¹⁰, I am inclined to hypothesize that the Middle Greek stress-accent typology was reached much earlier than the 4th c. A. D. In certain areas—such as Doric Aegean islands and Peloponnese—we may assume that this could be the case in the last pre-Christian centuries.

In any case, the outcome of these processes is fairly well-known—Middle Greek became a stress-accent language and we may note the similarity with the accentual development of the East Slavic languages. Both groups eliminated the length distinctions in the vowel system but in general did not shift its stress-accent from the position of the ancient tone-accent. Thus Modern Greek stress-accent occurs on the same syllable as bore either the circumflex or the acute in Ancient Greek. Even the ancient accentual shift *ἀνθρώπος ~ ἀνθρώπου*—predictable by the general limiting rule—is continued by the modern phonologically unpredictable shift [ánthropos] [anθrópu]. Similarly, the contemporary distribution of Russian word stress is considered to be a relatively good indicator of the original

ποιεύντω Halasarna (Kos.) 3rd or 2nd c. B. C. Ditt. Syll. 614³ 1023. Schwyzer 253.

αἰετούμενοι Antimachia (Kos). 3rd or 2nd c. B. C. DI. 3720. Schwyzer 254.

¹⁰ I know of two synchronic parallels: Ivić (1958: 261) reports that the Ikavian dialect of Istria undergoes drastic changes in its tone-accent typology as a result of Italian-Serbo-Croatian bilingualism of its speakers. For Lithuanian spoken in Philadelphia in a non-tone-accent language environment Robinson (1968: 206) found that the prosodic feature of pitch is nondistinctive.

accentual position. In marked contrast with the Slavic and Hellenic group of languages, Modern Indo-Aryan languages lost the ancient tone-accent without trace and replaced it by a stress-accent, the location of which is quite unconnected with that of the ancient melodic accentual peak.

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Dept. of Linguistics,
Memorial University
of Newfoundland,
St. John's, Newfoundland,
A 1 B 3 x 9, Canada

Vit Bubenik