Gaberell Drachman & Angeliki Malikouti-Drachman
University of Salzburg, Austria
drachman@sbg.ac.at

CONCRETE MORPHOLOGY, AFFIX TYPOLOGY, AND CONCORD CHAINS

Abstract

The paper begins with the prediction that rich verbal morphology (concrete morphology) for tense allows for a second clause-internal subject position. But the prediction fails for all stages of Greek. Although the concrete morphology hypothesis is justified in the end, we are nevertheless forced to re-evaluate the Greek verbal augment under grammaticalisation theory. The paper proceeds to integrate these conclusions into a cross-dialect typology of affixes resting largely on the alternating dominance of the two constraints a) Non-Finality of a stress-trochee and b) Metrical Consistency (rizotonicity), whereby verbal endings in some Greek dialects de-grammaticalise. We conclude with a novel approach to multiple exponency, reinterpreting the shifts in the status of the affixes in terms of shifting semantic dominance in the concord-chains for 'past'.

Part I Concrete Morphology and Syntax

Suppose a morphological paradigm is robust if (almost) all instances of a given semantic content are realised with phonological content. We now claim that the existence of overtly rich or concrete morphological paradigms (CM) is prerequisite to certain syntactic processes, e.g. XP movement as in Germanic Scrambling or head movement as in Romance V-Raising. But, and this is the first topic of the present paper, they may also be critical to the full activation of certain syntactic projections in first language acquisition. We begin by documenting and discussing the failure of a prediction from CM for Modern Greek (MGk) and Ancient Greek (AGk), and the consequences for the status of the augment, in history and across the contemporary dialects.

Suppose then that an overt and rich paradigm for Tense is prerequisite to the full syntactic projection of TnsP that enables transitive expletive constructions (with two Subject positions) of the kind found in the Icelandic equivalent of 'There drank the Norsemen much wine'.

MGk is a good case to begin with. Since it is the only morpheme uniquely representing 'past'[1], the verbal Augment (cf. é-kana vs. káno) might well be the required primary morphological category triggering the full TenseP projection. But the syntactic consequences, i.e. the Icelandic type Transitive Expletive Construction, with its additional

[1] Even though redundancy considerations suggest the Category Past is realised in both the augment and the secondary endings (cf. Hamp's 1961 discontinuous morpheme). The main tense contrast was perhaps indeed originally in the endings; the augment arose in a coding-enhancement function but declined when prosody made it opaque/defective. Modern German, where enhancement (Umlaut+vowel) is NOT a preferred coding for plural (see Keglevic, to appear), emphasises that enhancement is but one potential strategy of morphological distinctivness. See section 3 for amplifications under concord-chain theory.

Subject position, is NOT found[2]. The question is, how are we to interpret this apparent failure of the concrete-morphology hypothesis?

Reinterpretation 1

We might conclude that not a concrete-paradigm but rather an abstract N-Strength feature on Tense is the trigger for the projection of SpecTnsP. Then despite the overt augment-paradigm evidence, the Greek Tense head lacks the relevant strong N-feature, and the Tense projection merges with that of Agr, thus disallowing a separate SpecTns position[3].

But (following the earlier exploration in Drachman 2000) we claim that although the surface syntactic facts do indeed imply there is no SpecTnsP position in Modern Greek, the CM hypothesis is not thereby falsified, and thus the reversion to an abstract 'strength' feature on the tense head is unnecessary. For the MGk Augment paradigm clearly does NOT show the robustness prerequisite for the activation of SpecTnsP, in fact on nine counts, as may be seen in:

a) Since the loss of vowel length, the 'temporal'-augment[4] is lost in vowel-initial verbs.
b) the Syllabic augment (with consonant-initial verbs) was a victim to prosody – the underspecified vocalic morpheme being realised phonetically almost entirely under stress, thus in é-kan-a, marginally in ?e-kán-ame, but certainly not in *e-skup-ís-ame, *e-grafómuna.
c) with some derivational prefixes, alternations such as ipévale ~ ipó-vale (cf. Mackridge 1985) are found, and there is even a semantic distinction between kalo-é-pjasa 'I grasped s'thing well' vs. kaló-pjasa 'I flattered'.
d) It was also liable to the constraint requiring an Onset, cf. the erosions in (i)méra, (a)yeláda, etc.
e) It is realised optionally in close liaison with clitics, as in é-δosa but to-é-δosa~tó-δosa.
f) It is excluded, even where it woluld have been prosodically justified, in verbs showing past-stem allomorphs in -i-, as: vjíka, vríka , bíka, píra, píga.
g) The morpheme may even be semantically empty as in the present stems of verbs like kat̲evázo, kat̲evéno, and an̲evázo, an̲evéno (for AGk kata+bibázo:, ana+bibázo:), as also in MGk θa peri+sin+e̲+léksun.
h) The unstressed augment is found in MGk with literary loans such as:
e-stáli, e-prókito, e-léxθi.
cf. 'internal' immediately prestressed position with derivational prefixes as in:
eks-e̲-pláji, sin-e̲-lífθi.

i)There is some sporadic and speaker specific tolerance for the augment even further from the stress, as in: e-varéθika.

---

[2] Notice that the evidence (cf. Alexiadou-Anagnostopoulou (1995) shows that constructions with a post-verbal subject, as in iparxi enas nanos ston gipo, do not involve a null (expletive?) subject either.

[3] Cf Alexiadou &Anagnostopoulou (1995) among others.

[4] Survivals are reflected only in relic allomorphs with initial stem-vowel alternation: elpízo – ílpiza, érxome – íltha.

Yet there is an important prediction implicit here. viz. that a Greek-dialect with a stable/robust/rich independent augment paradigm will exhibit the syntactic construction referred to, through activation of the debated SpecTns position for that dialect. We briefly recapitulate the history and the dialectology of the Greek Augment, emphasising the degree of P-robustness of the paradigm for each case. First, the history[5].

Mycenean is problematic, perhaps because of scribal conventions, showing practically no augment[6] even though the script always indicates word-initial vowels. So since even in earliest Gk the verbal endings always show fusion rather than separation of Tns & P/N, one might reasonably conclude that no SpecTP need (and thus could) occur. On the other hand, Homer and the lyric poets are hard to judge. They usually omit the augment – or exploit it for metric purposes. It may be that what they exploit is simply a still-current option on the augment[7]. If this was so, then no TP need (hence, may) be postulated. However, Classical Greek is an excellent candidate. Classical Greek from Herodotos is traditionally said to show an obligatory overt augment, regardless of stress placement or other sub-paradigm variation. The span includes

a) syllabic é-λυσα, ε-λύσαμεν, ε-λυσάμην, ε-τε-τιμήκη.
b) 'temporal' ἤλπιζον, ηλπίκη, ι:κετεύκη.

Overall, the augment paradigm in AGk is thus quite robust, perhaps even more consistently so than other (allomorphically richer) inflectional elements[8].

---

[5] Setting aside here the question whether or not such a particle (originally a stressed adverbial injunctive particle to which the verb cliticised) existed in the Indo-European background – partly depending on how the Mycenean data is interpreted, see below.

[6] The one surely attested augmented form is: a-pe-do-ke from New Pylos (PY305), plausibly interpreted as apo-e-doke. The attempt has been made to dismiss this form by reinterpreting it as ap-ek-doke. But since IE seems to have had (the origins of) the augment, as attested also in Sanskrit and Armenian, the null hypothesis would be that earliest Greek certainly had an incipient form of it. We thus suggest the non-occurrence of further examples results from a scribal convention concerning the empty/default one-mora (unspecified) vowel realised as [e] in the augment elsewhere. This [e] is not normally written in Mycenean: certainly not with V-initial verbs, where length is not transcribed; but also not even where it would make up the appropriate prosody for stressing eg. 'doke' *e-do-ke. It is thus only written where it makes an open syllable (our a-pe-do-ke), and even there this vowel is in competition with the prefix-final vowel, as seen in the a-pu-do-ke alternant. Thus we predict the Mycenean augment can only show with complex verbs. The point remains, that the augment is certainly not P-stable in Mycenean.

[7] The augment was never omitted however if a short monosyllable would have resulted (Schwyzer 1939. GG i, 651). Cf Armenian where the augment is kept in the 3sg. aorist, but only when a verb with initial consonant would be monosyllabic without it (Meillet 1936, 123f, cited in Szemerenyi 1996:296-7)

[8] We emphasize below the gaps and opacities, concluding that the augment paradigm was thus not robust (enough) even in AGk.

In late Koine, the unstressed augment survived. But with the loss of the vowel-length distinction, vowel-initial verbs could no longer show a phonetically overt moraic augment, even if it continued to be written and a few relics survived. And Byzantine Greek similarly shows a persistent unstressed augment[9].

Now to the contemporary dialects. Some of the modern dialects show a partially P-robust paradigm - i.e. with the syllabic augment obligatory, regardless of stress, but of course mainly only relic forms (of course as stem allomorphs) with the 'temporal' augment. For examples see the data below for Cyprus, Pontus and Chios.

Cypriot (Newton 1972)
The syllabic augment is obligatory regardless of stress in Cypriot texts
What 'temporal' augments survive? Relic forms only, which of course are synchronically only stem-allomorphs. The only survival reflects the AGk a: > e: alternation.
Thus a-initial verbs show free alternation with e-, as in:
agórasen~ egórasen.
But o,e,i-initial verbs show no augment-effect whatever, as in
órpisa, erotéftin, ipóferen.
Thus, one may hardly speak of a P-robust augment in Cypriot.

Pontic (Drettas 1997)
a) the syllabic augment is again obligatory regardless of stress, as in: pézo é-peza, kalačévo e-kaláčeva.
b)even with Prep-prefix + augment + cons-initialVerb, as in:
ana-stenázo en-e-sténaza (with the usual Turkish stem-to-affix vowel harmony)
c) the 'temporal' augment is again seen as stem-allomorphy, with a-initial as well as o-initial verbs, as in:
axparázo - expáraza, orgóno – érgona.
Thus Pontic can also hardly be said to show a robust augment paradigm.

SE peripheral
According to Triandafyllides (1936), both augment variants survive in Chios, as also in parts of the Cyclades and Dodecanese.
In S.Chios (Pernot 1946) all verbs show the augment. C-initial verbs have augment allomorphy under stress, as in í-grapsa vs e-grápsame. But V-initial verbs have stem allomorphy for Past, as cf. agorázo egórase.
Thus -- the augment paradigm is again just as defective as before.

[9] At least one text (Horrocks 1997:255) as late as the beginning of the 9th. century AD shows survival of the (syllabic) augment in unstressed position. For the period 11th-15th century, Manolessou-Nifadopoulos (1999) show that while most V-initial prepositions in complex verbs take both internal and external augments, it seems that external (hence unstressed) augments continue to be common.

Conclusions on the augment · istory and dialects)
As we saw, the degree of robustness of the augment paradigm varies over the span from full (only AGk) lamed in later Greek and some dialects (as above, Cypriot > Pontic> Chios) to prosodically bound (Standard MGk), to perhaps zero (Mycenean). Nevertheless neither classical nor Standard MGreek, nor indeed any of the contemporary dialects shows a single one of the syntactic consequences of the projection of SpecTnsP: no Transitive Expletive Construction is found, in either SVO or VSO structures.
We might conclude, as some did for Standard MGk, that this again constitutes massive evidence for the impact on syntax of the 'strong vs. weak' features referred to, rather than of concrete morphological paradigms. And it would follow that Greek simply lacked and still lacks the strong N-feature on TnsP, regardless of the degree of robust concreteness of the M-paradigm.
But of course this is by no means the only way to interpret the evidence[10]. We now indicate alternative lines of approach. First, we will question the P-robustness of the augment paradigm in even the best case, i.e. Agk. And second, we will even question the traditional assumption that the Greek augment is inflectional, and this in terms of a grammaticalisation hypothesis, whereby the augment was only a clitic or tense-stem-derivational morpheme in AGk; it remained so for some later dialects, while others like Standard MGk grammaticalised it further to Infl.

Reinterpretation 2.
On the down side, the AGk augment paradigm is good but not immaculate, as follows:

a) the (poetic) choruses of Attic tragedy sometimes omit the augment, recalling the option in Homer.
b) There are exceptions to obligatoriness, viz. Attic V-initial stems with e-initial Pluperfects lack a length-augment e.g. Smyth (1956:446, 447aN, 566).
   Perf om-o:moke: Pluperf o:-m-o:moka.
   But elegk^{h}-o: e-le:-leg-mai not *e:-le:-leg---
c) Attic reduplications always omitted the augment.
d) Also important are not a few cases of opacity, whereby the forms originally having initial digamma (W-) or s- show the higher vowel e^: (<ei>) as in
   Wergazomai cf. eirgasame:n 'work', *serpo: cf. eirpon 'creep'.
e) And further cases of variation concern verbs with intial diphthongs: thus
   eurisko: cf. eureθe:n ~ e:ureθe:n 'find'.

The AGk augment paradigm was far from fully robust. In addition, recall here that the Agreement side of the contrast Tns vs Agreement is not uniform either: although the semantic distinction past vs. non-past is nearly always present (see Sec. 3 below), the

[10] We recall that concrete-morphology (viz. full paradigms of verb inflection for P/N) does in fact correctly predict the potential occurrence of both pro-Drop and verb-raising not only in much of Romance but also throughout the history of Greek. On the other hand, it must be granted that a similar treatment of Germanic Scrambling across Icelandic, Dutch, etc. (Roberts 1997, Rohrbacher 1999) has proved problematic. Roberts resigns himself to abstract strength for this latter case, though in a sense abstract strength could discourage further research in our case.

primary vs. secondary endings are syncretistic as between P/N and Tns. We will let the syntactic reflexes decide, as the child must, taking only the strongest case, that of AGk -- with a full augment paradigm (syllabic and 'temporal'). If the augment was inflectional, then there was a (one-sided) concrete-morphological contrast between Tns and P/N. This independence of Tns would have constituted the proper trigger for an independent SpecTenseP. But the syntactic consequences mentioned above are simply not found in AGk either.

Reinterpretation 3

We now suggest that a way out of this dilemma for AGk (returning to the dilemma for Standard MGk and the dialects in a moment) is to claim that the AGk augment was not part of the Inflectional system at all. Rather, considering its source as an injunctive adverbial, in grammaticalising along the cline Word-Clitic-Affix, the AGk augment had not reached the univerbation[11] stage of inflectional marker. It is however not clear whether it had thereby only become a clitic or advanced to the status of a derivational-morpheme[12].

Reinterpretation 4. Later history: Stress domains and grammaticalisation

We just suggested a reanalysis of the early augment in terms of grammaticalisation. This idea we now explore wrt its later history. To facilitate this, however, we will appeal to the notion stress domain: this notion was first exploited for Greek in Drachman & Malikouti-Drachman 1994 (and recall the Polish case cited above). It is clearly exemplified in pairs such as miso-anixtó vs. mis-ánixto, and even showing semantic constrast as in Imperatives like para-grápse 'writing again and again!' (para as word) vs. idiomatic parágrapse 'cross it out!' (para as clitic or a derivational prefix), or compounds like paljo-fílos 'lousy friend' vs. idiomatic paljófilos 'buddy'. We claim that stress domains are thus diagnostic of the

---

[11] cf. the Polish example in Andersen (1987), and the commentary on that case of univerbation of verb and clitic in Hopper & Traugott (1993:136-8)

[12] Digression on criteria: Are there any sure stigmata in favour of clitic vs. derivation?

a) As clitic

i) clitics are supposedly unstressable: but the AGk augment was stressed if it fell within the stress-domain of the verb, viz. if antepenultimate with a final light syllable

ii) where 'past' is indicated, the augment is obligatory, even if unstressed.

iii) with unambiguous semantics descended from its adverbial history.

iv) its position is fixed, as left-edged in the (complex) verb.

v) As inflexional, it would be 'outermost', and should thus close off the word to further affixation. But then what of the sequences Prep+augment+verb?

b) as stem-deriver

Could the shift from the adverbial 'past' word [e] have skipped the clitic stage, so that the augment became a derivational morpheme in AGk, with the status of a past-stem-maker? Then:

i) there is no independent word of which the augment is a short form.

ii) the prefixed augment is in complementary distribution with the traditional suffixed present-stem-formatives –t-, -N-, and –sk-.

iii) as left-edged the derivational augment would 'include' the reduplicating aspectual (Perfect) marker (e-le-lu-ke:).

iv) as derivational, it would allow for further deriving Prep+Aug+verb

distinctive stages of gramm .calisation, and offer us a dimension or cline of change through the trichotomy {word-clitic-inflection}.
Now for the augment paradigm. In such an analysis, dialects retaining the obligatory augment -- -é-kana and e-skupísamen (Pontic, Chios) have only cliticised/ derivationalised the augment, while Standard MGk (and Zagori, etc. see below)-- with é-kana and skupísame but NOT e-skupísame -- have gone further, with full grammaticisation under Infl. But reaching the stage of inflection carried a heavy price, viz. the augment-as-inflection became almost fully constrained by prosody. As a result, paradoxically enough, in Standard MGk and other relevant dialects, the augment paradigm became seriously non-P-robust. (For the problems of stress-alternation as an exponent of Past tense, see Sec. 3 below)

Conclusion to Part I
Thus, for all stages of history and for all Greek dialects: where it remained non-inflectional, say as a derivational prefix, the augment paradigm is irrelevant to the projection of SpecTns; and where it became inflectional by grammaticalisation, the paradigm is non-robust. In either case it fails to activate the projection of a SpecTnsP position. The negative consequences for the syntax of Greek follow.
Notice in passing that we have in effect re-interpreted Joseph & Janda (1988): they assumed that phonologisation as in Kaisse (1982) constituted a putative degrammatic-alisation, and were concerned to counter this move -- which they did by emphasising the exceptions. We agree that this was not a case of degrammaticalisation. Indeed, so much so that our re-interpretation in fact turns the case into one of successive grammaticalisations. However, Part II deals with the verbal endings in Greek, indeed in terms of de-grammaticalisation.

Part II. The Typology of Affixes
We now consider whether a dialect typology based partly on de/grammaticalisation and extended to endings and post-clitics can deliver an integrated account of the relevant affixations. The Polish case mentioned above, showed the grammaticalisation process of Aux-Verb > inflectional endings, as seen in their incorporation into the canonical 'penultimate stress' domain. The claim here is, that the status of the verb endings in Greek show cross-dialect variation parallel but complementary to that we showed for the augment; in this case the stress facts shows us that P/N affixes behave sometimes as inflectional but sometimes as non-inflectional. We will suggest (against conventional wisdom) that the latter case is reasonably interpretable as de-grammaticalisation.

Taxonomy
Now compare the verb-forms below, showing the wide spectrum of surface behaviour of endings and post-clitics in the dialects (cf. Malikouti-Drachman & Drachman 1992), where we see that the distinction between endings and clitics is a very fluid one.

a) inflectional endings (taking 1sg. vs. 1pl. forms) respect the non-final-trochee constraint, whereas clitics (illustrated with the Imperatives below) show a further troc hee:

Standard MGk: Active: táraza tarázame.
Medio-Passive (M-P) tarázome tarazómaste.
Imperative (Imper.) táraze! tarazé-to!

b) inflectional endings do not respect Non-Finality. Like clitics, they show further stressings in some Northern dialects (e.g. Siatista, Meleniko):
táraza tarazàmi M-P tarázumi tarázumèsti cf. Imper. tarazè-tun!

c) inflectional endings may behave like clitics wrt stress domain, but without provoking further stressing (e.g. Aetolia):
táraza tárazaman MP tarázumi tarázumasti cf. Imper. táraks-tuni!

d) ditto, provoking further stress, and destressing of the stem:
(Samos) kéumi kiumásti (showing the raising of the unstressed vowel)

e) post-clitics behave like inflectional endings:
pés-te-mu > pé-m-ti from Katafigio, and cf. Pashto & Portugese cases cited in Drachman (1998) -- the clitic –m(u)- is attracted to the stress, preceding the ending

f) some dialects (W. Macedonia) even show the analogical influence of the clitic paradigm on the segmental makeup of M-P imperative inflectional endings (Thavoris 1977):
Standard MGk Imper. sg. kimí-su! pl. kimiθíte! but
Dialect forms kimí-su! but kimí-sas! Cf clitics 2sg -su, 2pl –sas.

We propose to interpret the variation on the right edge of the stem, as we did with that on the left: for the augment, prosodification was seen as grammaticalisation, and now for the endings, de-prosodification will be seen as de-grammaticalisation. First consider the stress system in MGk. Reflecting the heavy finals of the AGk present tense, MGk present is now stressed on the stem-final syllable (e.g. of consonantal-stem verbs); and, reflecting the short syllables of the AGk past, past now shows the default Non-Final Trochee constraint, the so-called tri-syllabic stress. Thus where the Non-Final trochee constraint holds, the stress domain potentially includes verbal augment, stem, and also the endings. But there is an opposed force, the Metrical Consistency constraint (rizotonic stress), by which stems which are morphologically related in paradigms should be identical (cf. Bybee 1985, Benua 1997, Burzio 1997). This detaches the endings from the main stress domain via deprosodification, seen here as degrammaticalization. Now consider the consequences of Metrical Consistency, wherever it occurs. Metrical Consistency neutralises Non-final trochee (in Med-Pass, Zagori below, or for Active and Passive, in Northern dialects, Velvendos below). Or it may even neutralise stress-position as a tense exponent (see Pontic below). Note that, as distinct from the endings, pronominal post-clitics **always** constitute a separate stress domain, outside the influence of Non-Finality. They may or may not trigger recursive stressing, cf. Standard MGk (as also Spanish) with clitic stress, vs. Cypriot (as also Italian) without. Detached endings behave in an exactly parallel fashion to pronominal clitics – they may or may not trigger recursive stress.

We come at length to our comparison between the contemporary dialects, for which see also the tabular overview 'Parameter Variation across Dialects', further below.

For Standard MGk, the augment as discussed above is now an inflectional element, whose phonetic appearance depends on the syllable-count of the individual verb form. Non-Finality is dominant, so that Metrical Consistency can play no role. Thus while the clitics trigger recursive stressing, the endings themselves stay in the main stress domain. We now take some representative dialects, to show not only the parallels between grammaticalisation of the augment and degrammaticalisation of the inflectional endings, but also the variation in the latter -- seen as a scale or cline of degrammaticalisation.

Take first Cypriot. The 'syllabic' augment is obligatory here, as also e.g. in Chios and Pontic (below). Non-Finality dominates Metrical Consistency, so that the endings remain in the main stress domain, as for Standard MGk

Active: xorízo e-xórizen.
M-P: xorízete Pres. 3sg exorístin Aor. 3sg., exorizúmastin Imperf. 1pl.

But by contrast with Standard MGk, a post-clitic remains unstressed, as in egórasen-to.
And the verbal extension –te similarly remains unstressed, as in (Newton 1972:83):
na tes klépsumen-te

For Chios in turn, Non-Finality dominates generally. The Non-Finality stress alternation between sg. and pl. (íxasa but e-xásame) blunts the force of Metrical Consistency, which however is still seen in plural forms.

Active Aor. í-xase í-xases í-xase : pl. e-xásame e-xásete e-xásan.
M-P érkome érkese érkete pl. erkómaste erkósta erkónda.

Clitic stressing is recursive as in e-fónazén du, é-kusá-ton. Detachment of the endings from the main stress domain in Chios does appear, in the optional CV-extension; however (unlike its parallel in Cypus) it behaves like a clitic, provoking further stressing. Cf. agapithíkame but also agapithíkaméne, and not *agapithikámene.

For Zagori, the augment is prosodified, as also in Velvendos below. Characteristic is that Non-Finality and Metrical Consistency alternate across Voice. Thus:

Active has dominant Non-Finality, cf. Aor. Tím()sa t()mísaman.
But M-P has dominant Metrical Consistency and thus detached endings:
Pres. 1st. sg. pidévumi, but 1st/2nd pl. pidévumasti pidévusasti.

Where Metrical Consistency applies, in M-Pass, detached endings remain unstressed. Notice that the maximal application of Metrical Consistency would neutralise Non-Finality altogether and so wipe out the tense opposition (cf. Pontic below). Suppose we claim that this is why it under-applies in the Active past – we still get tím()sa vs t()mísame. But what about the M-Passive? Here we find the past identical with the same sub-paradigm of the present.

Taking now Pontic, where Metrical Consistency dominates Non-Finality. The resultant detached endings do not undergo stress recursion (a) , and neither do clitics (b) below.

a) é-pleks-amen.
b) é-legan-aton.

Note that when Metrical Consistency dominates Non-finality, giving rizotonic stress, as in a) below, it could in principle apply maximally and thus neutralise the stress alternation not only within but also across the tense (non-past vs. past) paradigms. This however proves to apply to only a small class of verbs such as pérno, fázo, rúzo etc. (Drettas 1997:213) -- compare the more general case of pléko as in a) below, where Metrical Consistency across tenses is under-applied. The critical forms to compare are under b). Resonant-final verbs on the other hand have Metrical Consistency for each aspect paradigm (pres/imperf. vs. aorist) as in c). In a word, Pontic represents stage 3 of the detachment of endings (cf. Velvendos, see further below).

Active	Present	Imperf.	Aorist	
1sg.	a) pléko	épleka	é-pleksa	1pl épleksamen
	b) péro	e-pérna,	e-péra	
	fázo	e-fázna	e-fása	
	c) stílo	e-stílna	é-stila,	
	sírno	e-sírna	é-sira	

The (synchronic) preference for maximal Metrical Consistency applies only to a small class of verbs in Pontic (as mentioned) and not more generally, even though the stress alternation is here only part of the concord set, and not the main carrier of 'tense, 'as we show below. Moreover, where it does apply maximally, this depends on the nature of the stem-final consonant– it must be a Resonant. Thus the arbitrary sacrifice of the stress-alternation and hence the tense distinction without compensation/repair demonstrates convincingly that Metrical Consistency is not a constraint e.g. 'especially adapted to ease in acquisition' as Benua 1997 claimed, as distinct from an entirely arbitrary constraint such as Non-finality. For Non-Finality and Metrical Consistency each has its pros and cons. Non-Finality preserves the integrity of verbal endings, yet leads to tense-neutralisation in Med-Passive paradigms, as in Standard MGk M-P Pres/Imperf. 1 & 2 pl. erxómaste erxósaste. On the other hand, Metrical Consistency might make first language acquisition simpler by unifying paradigms metrically, yet complicates the grammar, by degrammaticalisation of verbal endings from their stems. What is crucial in comparing dialects, then, is only the dominance relation between the two constraints; this determines dialect variation but seems to vary across dialects, a topic to be discussed elsewhere.

We complete our mini-survey with a typical Northern dialect, viz. Velvendos (Boundonas 1892). Here Metrical Consistency is dominant. In addition, both detached endings (a) and clitics (b) below are recursively stressed:

a) 1sg.vs. 1pl. Imperf. éfaga éfagámi, érxumun érxumástun.
b) kítaksétin.

Velvendos thus reaches yet a fourth stage on the scale of detachment, and this a clear case of degrammaticalisation.

PARAMETER VARIATION ACROSS DIALECTS

	AUGMENT	NON-FINALITY/ METRICAL CONSIST	STRESS RECURSION ENDINGS	CLITICS
SGK. Prosodified		N-FIN	--	YES
Cyprus Obligatory		N-FIN	--	NO
			Ext-end	NO
Chios Obligatory		N-FIN		
		MC for Plur	--	YES
			Ext-end	YES
Zagori Prosodified		N-FIN in Active	--	?
		MC in M-Pass	NO	
Pontos Obligatory		MC ea Tns	NO	NO
		MC across Tenses		
Velvendo Prosodified		MC	YES	YES
Etolia		MC	NO	NO

To come full circle, we revert to the parallels with our treatment of the augment, viz. parallels and contrast between the grammaticalisation by prosodification that we mentioned earlier from the Polish studies in Andersen (1987) and illustrated in some detail from the transition from AGk to MGk. Comparing now the prosodic detachment of endings, we note a gradient: fully in Velvendos, half-way in Zagori (only in M-P), minimal in Chios (only extended endings), and none at all in Standard MGk. These differences surely show us the hierarchies or cleavage lines of change, on which more research is required. Here we will rest the argument on cases of full detachment, where endings behave like Standard MGk clitics, viz. where they are recursively stressed. These are the clearest candidates for degrammaticalisation, as found in Northern dialects like Velvendos.

Now if we indeed have to do with degrammaticalisation, it would of course contradict the U-grammaticalisation directionality hypothesis of Hopper & Traugott (1993), Lehmann (1995) among others. And this case can hardly be assimilated to Roberts and Schlonsky (1996)[13], cf. Roberts & Roussou (1999). So consider whether degrammaticalisation can be branded as simply a complication of the grammar, as implied in Roberts and Roussou 1999;

[13] Roberts & Schlonsky showed for Welsh and Semitic, and Doyle 1999 for Irish that such a reversal of directionality may indeed obtain, and without contradiction: provided the shift is one from lexical (affixation, as for infl and derivation) to functional (projection, as for clitics) –, the shift may in fact be looked on as grammaticalisation. The present case does not readily fall into this framework, largely because we lack syntactic data relevant to assigning a projection status to these 'clitic'-like endings.

notice that although Metrical Consistency truly isolates endings, but it also guarantees at least metrical uniformity in the stem. As for the syntactic consequences, the requisite rich syntactic analyses of Velvendos-type Greek which one might query are unfortunately not yet available.

Part 3. On Concord-Chains

We now take up the topic of exponency and (de)grammaticalisation -- and a reappraisal of 'past'. The parallel between the early augment and the later verbal endings as affix types invites us to consider finally the relation between these affixes and other exponents of 'past' in history and the dialects, looked on as a mutually enhancing one. Although Greek supposedly shows multiple exponents for tense, we want first to claim that the augment (whether as clitic or derivational) was in AGk the dominant syntactic exponent of Past, while other morphemes also representing 'past' constituted its concord (or enhancing) set. Consistent with our position on concrete morphology in Part I above, the 'dominant' exponent is that with the most robust (concrete) morphological paradigm. For the diachronic change in the relation 'dominant' to 'concordant', the members of the concord set may be neutralised, or the relation dominant vs. concordant may even be reversed – one degrammaticalised and another grammaticalised. We consider the following potential past-tense exponents: augment, stress-alternation, endings -- setting aside here the question of the enhancement function of theme-vowels as in gráps-o-me vs gráps-a-me, the past-tense morphemes as in agap-ús-ame vs. agap-ág-ame, or stem allomorphy as in páo píge, béno bíke, vjéno vjíke etc. We illustrate this perhaps novel approach informally, from AGk and Standard MGk only.

For Ancient Greek

The augment was obligatory, and we believe either a clitic or a stem-forming derivational morpheme. In the balance between the multiple exponents of Past, the augment was dominant by virtue of its robustness and semantic uniqueness, being even on occasion the sole exponent of past (Joseph-Janda 1988 cite paidéu-omen vs. e-paidéu-omen). The (fused) endings only show concord, the primary and secondary complex exponents corresponding to non-past (no tense, thus purely P/N), and past (P/N and tense), but with the aorist and Imperfect endings showing an additional, aspectual element in the allomorphy in Past/P/N concordance. These constitute the worst scenario, and in fact we predict the endings could never alone distinguish tense; thus we have:

AGk lú:o: é-lu:on (never *lú:on); nomíz-o: e-nómizon (never *nómizon).

Changes in Standard Modern Greek

This sub-system underwent a shift as the augment-as-past paradigm wasted away, first through the loss of vowel length and thus disappearance of the 'temporal' version. This decay was furthered by the rise of new Tense-dependencies of prosodic nature. First, the presence of the augment became prosodically bound. Second, the stress-positions automatically dictated by the different weights of the primary (heavy) and secondary (light) endings in AGk were faithfully inherited in primary language acquisition despite the loss of vowel length. Thus a further exponent of Tense arose, viz. stress-alternation, and this became the dominant exponent of 'past' for many dialects, including Standard MGk. The endings, even though more unified since the merger of the Imperfect and Aorist in most

dialects, remained concordant owing to their semantic non-uniqueness. In turn the augment, thoroughly degrammaticalised in many dialects, was left as a poor relation, a third concord particle subject for its presence to the vagaries of word-length interacting with the (non-final trochee) stress system. The dominance vs. concord configuration had in effect been inverted, the augment made occasional, even its enhancing function having become quite insecure[14].

It might now be feasible to formalise this change in terms of shifts in the concord-chain, as for the negative cycle in Roberts & Roussou (1999). For English and French, they propose three historical stages for the syntactic concord-chain. Thus:

	Stage I	II	III
English:	ic NE sege >	I NE say NOT >	I say NOT
French:	jeo NE dis	Je NE dis PAS	Je dis PAS

As against the syntactic concord of the English and French cases, the Greek case involves what we will call a morphological concord-chain, whose history might in turn be represented as follows:

I PAST=Augment + Stem + endings(concord)
II > Aug (conc) + PAST=stress-alternation + endings (conc)
III > Aug~0 (conc) + PAST=stress-alternation + endings (conc)

Notice that while the scope-commanding element might be P-reduced even to zero for both English and French, for Modern Greek the concord-augment, when present, would now lie outside the scope of the dominant Past-as-stress-alternation, as in skupíz-o e-skúpiz-a. This suggests of course that scope-considerations cannot be applied to morphology.

And finally, though we claimed in Pt I that the Standard MGk augment is in Infl, we have now shown the semantics of 'past' in Standard MGk to lie dominantly in the stress alternation. We do not yet see how to reconcile these two claims. We may relate the output problem 'Past as stress-alternation' to the definition of the relevant concrete M-paradigm via the stress algorithm already mentioned: but augment and the stress-alternation exponent can hardly both stand under Infl-Tns. We thus foresee the need to distinguish between semantics (say, of past) and its sometime-corresponding morphology (here, the augment).

Concluding remarks

First, there was and is no independent SpecTense position in Greek. Even where the augment is obligatory (AGk, Pontic) it constitutes a clitic or a derivational morpheme and not an inflectional head. On the other hand, the prosodified/gramaticalised Infl augment of

[14] Cf. MGk conditionals like makári na éleges tin alíθya 'if only you would tell the truth', θa éleges óti X 'You would say that X'. Further evidence is seen in occasional (singular) Imperative forms such as ipégrapse edó!, or apèdiksé mu! The latter phenomenon may be analogical to the optional absence of the augment in aorist forms like ipógrapse xthes 'he signed yesterday'. But the umbilical cord to prosody remains evident; the alternation, in both imperative and aorist, occurs only in the singular, with unmarked (non-final trochee) stressing.

later MGk constituted a non-robust paradigm which was thus subordinated to stress-alternation as the dominant exponent of tense. Neither Tns nor Agr trigger subject positions, which explains the lack of expletives (transitive and otherwise), as also the fact that Subjects in SVO structures in Greek are necessarily Topics.

Second, the dialects may be grouped not only in terms of grammaticalisation, for the augment; where Metrical Consistency dominates Non-Finality it may cause degrammaticalisation of the verbal endings, creating complementarity in the synchronic status of the augment and endings.

And finally, on the dominant Pasts and their concord sets, the overall function/meaning vs. concord configuration has been reanalysed in Standard MGk and some dialects. Here we speculate on the very general need to distinguish semantic functions from their putative morphological realisations.

References

Alexiadou, Artemis, & Elena Anagnostopoulou 1995. SVO and EPP in Null Subject languages and Germanic. *Papers In Linguistics*. **4**. 1-21. FAS Berlin

Andersen, Henning. 1987. From auxiliary to desinence. Martin B. Harris & Paolo Ramat (eds). *Historical development of Auxiliaries*. 21-51. Mouton.

Benua, Laura. 1997. Transderivational Identity: Phonological relations between words. U.Mass. Diss.

Boundonas, E. 1892. *Meléti perí tou glossikoú idiómatos Velventou ke ton perixóron aftou.* Athens. N.G.Inglesis.

Burzio, Luigi. 1997. Multiple Correspondence. MS. J. Hopkins University.

Bybee, Joan. 1985. *Morphology. A study of the relation between meaning and form*. John Benjamins.

Doyle, Aidan. 1999. Yesterday's affixes as today's clitics: functional heads and grammaticalisation in Irish. Paper at New Reflections on Grammaticalisation, an Int. Symposium at Potsdam University, Germany.

Drachman, Gaberell. 1999. Northern Greek Imperatives: a nearly ineffable asymmetry of morpheme-order. In Amalia Moser (ed). *Proc. 3rd. Int. Conference on Greek Linguistics.* 324-331. Athens

---------- 2000. What does Syntax owe to Morphology? To appear in *Melétes ya tin ellinikí glóssa.* Thessaloniki..

Drachman, Gaberell, & Angeliki Malikouti-Drachman. 1994. Stress and Greek Compounding. *Phonologica* 1992.

Drettas, Georges. 1997. *Aspects Pontiques*. ARP. Paris.

Hamp, Eric P. 1961. To ríma en ti simeriní omiluméni ellinikí glóssa. Athina 65, 101-128

Hopper, Paul J., & Elizabeth C. Traugott 1993. *Grammaticalisation*. Cambridge.

Horrocks, Geoffrey 1999. *Greek: A History of the Language and its Speakers*. Longman.

Joseph, Brian, & Richard D. Janda. 1988. The How and Why of Diachronic Morphologization and Demorphologization. M. Hammond & Michael Noonan (eds.) *Theoretical Morphology: Approaches in Modern Linguistics:* 193-210. Academic Press.

Keglevic, Sylvia. To appear. Topics in German Phonology. Ph.D. Diss., University of Salzburg.

Lehmann, Christian. 1995. *Thoughts on Grammaticalisation.* München: LINCOM EUROPA

Malikouti-Drachman, Angeliki. 1993. Kai páli dialektikí tonismí tou rímatos. *Melétes. ya tin ellinikí glóssa*: 340-354. Thessaloniki.

Malikouti-Drachman, Angeliki, & Gaberell Drachman. 1992. Síngrisi tou rimatikoú tonismoú kinís kai dialékton. *Melétes ya tin ellinikí glóssa*: 143-161. Thessaloniki.

Manolessou, Io, & Christos Nifadopoulos. 1999. I rimatikí áfksisi sta meseoniká eliniká: mia próti proséngisi me vási ta síntheta rímata. *Melétes ya tin ellinikí glóssa:* 303-314. Thessaloniki.

Meillet, Antoine. 1936. *Esquisse d'une grammaire comparée de l'arménien classique.* Vienna, 2nd. Revised ed.

Newton, Brian. 1972. *Cypriot Greek. Its Phonology and Inflections.* Mouton.

Pernot, Hubert. 1946. *Morphologie des parlers de Chio. Tome II. Morphologie. Etudes de Linguistique Néo-Hellénique*: Paris.

Roberts, Ian. 1997. Directionality and word order change in the history of English. In Ans van Kemenade, & Nigel Vincent (eds.). *Parameters of morpho-syntactic change.* 397-426 Cambridge UP.

Roberts, Ian, & Ur Schlonsky. 1996. Pronominal enclisis in VSO languages. In Robert D. Borsley & Ian Roberts (eds), *The Syntax of the CelticLanguages: A Comparative Perspective*: 171-200. Cambridge. CUP.

Roberts, Ian, & Anna Roussou. 1999. A formal approach to 'grammaticalization'. *Linguistics* **37-6**, 1011-1041.

Rohrbacher, Bernard Wolfgang. 1999. *Morphology-Driven Syntax. A theory of V to I raising and pro-drop.* John Benjamins.

Schwyzer, Eduard. 1939. *Griechische Grammatik. I.* München.

Smyth, Herbert Weir. 1968. *Greek Grammar.* Harvard UP.

Szemerenyi, Oswald J.L. 1999. (transl. from 1996 original) *Introduction to Indo-European Linguistics.* Oxford.

Thavoris, Antonis. 1977. *Morfologiká merikón idiomáton tis ditikís Makedonías. I'. Simpósio Glossologías tou Borioelladikoú Xórou.* Thessaloniki: IMXA:75-9

Triantafyllides, Manolis. 1936. I ellinikí áfksisi, o klonismó tis ke to ksexórisma ton omóixon rimatikón tipón. *Glotta* **35**.238-248.