8. SYNTHESIS: THE STORY OF *pu*

In the foregoing, I have detailed at some length the developments *pu* has undergone in the sundry dialects of Modern Greek, as well as its Ancient antecedents. This has been done as a survey, so that many disparate elements have been brought up at various points. In the following, I attempt to integrate these elements into a diachronic narrative (a 'Book of the generation of *pu*') which draws together the major developments in the Modern diatopic variants of Greek. Some of the possible diachronic links between different functions of *pu* have already been discussed; in the following, I draw these and other threads together, to give a coherent and encompassing account. This is not the definitive narrative of *pu,* as three crucial groups of evidence (Early Modern Greek, other Balkan languages, and the distribution of *pu* in collocation) are missing from this exposition.[1] A diachronic story can still be told on the basis of diatopic data, however; and the regional range of this data is unlikely to be matched in the EMG data, which appears to be predominantly of Eastern Greek provenance.

Having assembled a narrative for the development of *pu* as much as current evidence allows, I then proceed to a critique of the claims on the diachrony of *pu* in Papadopoulou's (1994a) dissertation, which is the most cogent presentation of the localist hypothesis with regard to *pu*. My dissertation has unearthed a wealth of data unavailable to either Papadopoulou or Christidis (1986) before her, and it is valuable to outline how this new knowledge forces us to revise earlier conclusions on the development of *pu*. I conclude by outlining some of the consequences of my findings for grammaticalisation theory in general.

8.1. The diachronic story

> Βίβλος γενέσεως Ἰησοῦ Χριστοῦ υἱοῦ Δαυεὶδ υἱοῦ Ἀβραάμ. Ἀβραάμ ἐγέννησεν τὸν Ἰσαάκ, Ἰσαὰκ δὲ ἐγέννησεν τὸν Ἰακώβ, Ἰακὼβ δὲ ἐγέννησεν τὸν Ἰούδαν καὶ τοὺς ἀδελφοὺς αὐτοῦ...
> *The Book of the generation of Jesus Christ, the son of David, the son of Abraham. Abraham begat Isaac; and Isaac begat Jacob; and Jacob begat Judas and his brethren...*
> (NT Mt I 1–2)

In the remote beginning, *hópou* was a **stationary locative relativiser**, innovated in Proto-Ionic (§5.1.4). This means that, in its begetting, *hópou* was un-

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[1]I have already completed a draft study on the Balkan languages and *pu* (Nicholas 1998a) and on *pu* in collocation (Nicholas 1998b). I am yet to do any substantial work on Early Modern Greek.

characteristic of grammaticalisation in two ways. First, it started life as a function word, and not a content word. Grammaticalisation focusses on content words, and the manner in which they become part of the grammar as function words. So *hópou* is atypical as the starting point of a grammaticalisation: it is not a movement from the concrete to the abstract, but from the already grammatical to the more grammatical (and more abstract).[2] This means that any claim of metaphoricity in the development is tenuous: even if the concrete arguably aids in the conceptualisation of the abstract, *hópou* is abstract to start with, and unlikelier to be conscripted as an aid in conceptualisation.

The other complication with *hópou* is that it started life entirely as an analogical formation.[3] Grammaticalisation theory is of no use to us in accounting for the origins of the form (Joseph 1997).

hópou wends its way in Classical Greek (§5.1.5), expanding to an adjunct marker introducing causes, circumstances, and times. These meanings originate from the locative, and constitute separate developments from the subsequent development of *pu*. Other developments take place amongst the Ancient Greek dialects; in particular, the Cretan *hópaːi* develops into an irrealis purposive, through its formal merger with the instrumental (§5.1.4).

The development of real interest to us, although we have little direct evidence of it, is the generalisation of *hópou* from a locative relativiser to a **general oblique relativiser** in Late Middle Greek (§5.2.2); this development is reminiscent of French *dont* 'oblique relativiser' < Latin *de unde* 'whence'. This generalisation, itself typologically plausible, continued on until around 500 AD, when *hópou* started being used as a **general relativiser** (§5.2.2).

The relativiser function of *hópou,* rather than its locative origin, is what informs its subsequent distribution. As argued repeatedly in this work (§5.1.6, §7—and recapitulated in the next section), the localist opposition set up by Christidis between *na* and *pu* is illusory, and there is nothing inherently localist about the factivity of most *pu*-functions. Ample counterevidence to a localist factivity of *pu* is given by other, non-locative relativisers—both outside Greek, and Pontic *ndo* (§B.2)—which have a similarly factive range of functions to *pu*.

Furthermore, the conscription of a locative for factive purposes is such a schematic metaphorical transfer, divorced from both real-language metonymy and plausible straightforward metaphoric conceptualisations, that it would necessitate a deliberate, problem-solving approach to expressing factivity. One should be sceptical about such problem-solving as an end in itself in language;

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[2]Of course, this is a development we know Kuryłowicz (1965) to have admitted in his definition of grammaticalisation. Most recent work on grammaticalisation, however, has concentrated on the movement from the concrete to the abstract—particularly with regard to metaphoricist accounts. The conclusions drawn from such studies do not necessarily apply to *hópou> pu*.

[3]I have had the misfortune at dinner parties to explain my thesis topic to Greek-speakers, only to be asked with bemusement "So, what, do you investigate where each letter of που came from, or something?" As it turns out, we do know where each phoneme of *hópou* (*> pu*) came from— and each phoneme is analogical in origin.

the deliberateness of such a metaphorical leap is belied by the linguistic evidence, which suggests a piecemeal accretion of factive functionality, and by the frequent excursions of *pu* outside the realm of factivity. To be sure, these excursions are isolated phenomena, without any forethought of problem-solving or preserving factivity; but there is no reason to think any of the other reanalyses and analogical extensions *pu* has undergone were any more foreplanned.

All developments of *pu* follow from the relativiser without any need to appeal to localist effects; the only exception to this is the **discourse connective** (§7.5), which is phonologically closer to the locative ˈopu than the relativiser *pu,* and for which the localist metaphor SPACE > DISCOURSE makes sense. Even with this construction, one cannot rule out the influence of functions of *pu,* such as the resultative and the relativiser.[4]

The **locative** *hópou* itself, the parent of *pu,* survives in Greek as ˈopu (§7.1). In archaic dialects, it has undergone the same apocope as the relativiser, and appears as *pu* (alongside ˈopu). In Italiot, the development is phonologically regular; in Tsakonian and the Anatolian outliers (including Cypriot), it indicates rather that there has been a merger of the locative and the relativiser. If this is an archaic feature, then it points to a time when the locative and the relativiser were still felt to be variants of the same word, and thus precedes a definite phonological split between the two.

EMG *opu* had a **free relativiser** function alongside its bounded relativiser function (§7.2.3). The locative etymon *hópou* is both a free and a bounded relativiser; there is no reason to doubt that this duality was carried on directly from the locative to the relativiser. The free relativiser is thus the twin of the bounded relativiser *opu*. *opu* became the animate free relative of EMG, in complementary distribution (±animacy) to the other EMG free and bounded relativiser, *to;* this development was entirely a result of paradigmatic opposition with *to,* and did not inhere in the etymology of *opu* or its diachrony. Grammaticalisation theory may set out to annul the absolutism of the Saussurean dichotomy between synchrony and diachrony; yet the Saussurean persective is still valuable in our diachronic account. Saussure regards diachrony as a succession of synchronies, and some of the diachrony of *pu* can only be explained in terms of synchronic oppositions, rather than as diachronic processes running in isolation. Meaning inheres in the etymology of a form only to some extent, and the paradigm remains a potent source of meaning for the grammaticalising form.

As the twin of the bounded relativiser, the free relativiser contributed much of its own semantics to the development of *opu;* this makes its elimination in mainstream Greek dialects at the hands of *opios* a disruptive turn—as if the core of the prototype diagram has been torn out. There are several contemporary constructions which bear the imprint of the erstwhile free relative: the relic

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[4]There are also occasional instances where *pu* forms a discourse connective in collocation with verbs of saying (Nicholas 1998b), and whose reanalysis involves nothing more complex than the severing of a relative clause from its matrix.

form ˈopu fiɣi fiɣi 'whoever flees, flees', optative and exclamatory free relative constructions. In addition, the free relative is fertile ground for *opu* to be followed by **PERFS** tense (§7.6), and to enter domains of indefinite, if not irrealis meaning. And *pu*-constructions comparable to the free relative continue to use PERFS in Greek dialects. With the free relative gone, it is much more difficult (though not impossible) for *pu*-constructions to take PERFS and enter irrealis semantic domains. The near-absolute factivity of *pu* in CSMG may well be an artefact of the survival of the factive bounded relativiser at the expense of its indefinite free counterpart.

Sundry other functions are closely related to the relativiser, and may be considered derived from it. **Discourse collocations** (Nicholas 1998b) are merely conventionalised relative clauses. The **pseudo-relativiser** (§7.2.2) follows from the ability of the general relativiser to relativise demonstrative adverbs, and corresponds to demonstrative–correlative adverb pairs. It includes the special case of the locative *eki pu;* this form may be older than the relativiser, since *pu* functions as a locative correlative, and it is entrenched enough in the language to have acquired temporal and contrast meanings—emulated by the manner connective *etsi pu,* which has also acquired temporal meaning. Pseudo-relatives are restricted in Anatolian Greek, but fully-fledged in all other dialects.

The **cleft** (§7.2.4) is another feature derived from the relativiser, through topical dislocation; it is universally used outside Cappadocian, and in Cypriot has undergone prodigious development, being used much more frequently than in other dialects, admitting a wider range of constituents, and occasionally manifesting zero-copula clefts.[5]

The **exclamatory cleft** (§7.7.5) is presumably derived from the cleft by analogy: both emphasise a constituent through dislocation. There is no copula in the exclamatory, and the zero-copula cleft of Cypriot has not been as widespread as the cleft exclamatory, which has diffused as an areal feature into (or from) Albanian. Furthermore, the two constructions do not extract the same kinds of constituent. It is implausible that the cleft exclamatory is a reanalysis of the normal cleft in some way; *pu* has rather been applied to it from the normal cleft as a dislocation marker; the absence of the cleft exclamatory in Anatolian Greek shows it to be a relatively recent innovation.

As an **adjunct connective** (§7.4), *pu* can be derived from relative clauses uniformly.[6] Relative clauses in Greek can contain resumptive pronouns (and even on occasion, for emphasis, resumptive full noun phrases), and thus can appear syntactically autonomous, without the relative gap which would preclude their grammaticality as clausal adjuncts. The reanalysis to clausal adjuncts is thus quite plausible. *pu* covers the gamut of factive adjuncts, and there is fre-

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[5]A particular instance of the cleft, the *qu'est-ce que*–collocation (*inda m bu* 'what is it that'), has become succesful to the point of univerbation over the restricted area of southern South-Eastern Greek (Nicholas in prep.)

[6]This is is not to preclude other concurrent pathways; e.g. from optative free relatives to Justify-*pu.*

quently ambiguity between the various functions. But the extent to which it is used, and to which the adjunct is autonomous of any putative head or (as a consequence) its linear ordering varies from dialect to dialect, and from function to function. Thus, it is barely used at all as a concessive, while it is prosperous as a resultative; it is frequently preposed as a temporal in Tsakonian, but only rarely in CSMG; and it is absent as a resultative in Anatolian Greek. There is also some semantic diversification: *pu* as a temporal, for example, is non-punctual in Othoni, Apiranthos, and Apulia.

This lack of uniformity suggests that, while speaking of *pu* as an underspecified factive connective is attractive synchronically, and allows for synchronic ambiguities, it is not informative diachronically or diatopically. The connective has prospered to different extents in different paradigms, with analogical levelling tidying things up to only a limited extent, and it seems to have been routed in the literary language by an increased requirement for semantic explicitness—the only *pu*-connective surviving in CSMG, the resultative, is explicitly signalled textually by a correlative.

As a **complementiser** (§6), *pu* has at least three independent origins in the paradigm. After EMOTIVES, the *pu*-complement is causal in nature, and presumably resulted from a reanalysis of causal-*pu;* the distinction between internal and external cause that arises with emotives (*θimosa **pu** efiγes,* **yiati** *mu ixes pi pos ðe θa fiγis* 'I was angry **that** you left, **because** you had told me you wouldn't') profitted from the difference in scope between *pu* and *γiati,* and the advanced grammaticalisation *pu* had already undergone. After PERCEPTION predicates, *pu*-complements are direct, and almost always involve object raising; the reanalysis here is clearly one involving relativisation (*iða to γiani **pu** erxotan* 'I saw John **who** was coming' → 'I saw ∅ John coming'). After *θimame* 'remember', *pu* is strongly temporal: *θimame **pu** erxomun kaθe pasxa* 'I remember **how** I used to come each Easter' involves the recollection of an event rather than a fact, but events are entities situated in time, and the Greek can be glossed as 'I remember *[the time]* **when** I used to come each Easter'.

At this point, it is instructive to digress into a comparison with the development of Biblical Hebrew *'asher*. Givón (1991 [1988]) identifies three relativiser > complementiser pathways for this particle. These are each considered as syntactic blends of the relativiser and complementiser, and susceptible to reanalysis:

> We call these intermediates 'blends' for cogent reasons: In each case, an *intermediate syntactic pattern* exists that may be interpreted as coding either one context—relative clause—or the other—verb complement. In other words, the two variant contexts are—semantically or pragmatically—so close that the syntactic 'blend' structure may aptly receive *either* interpretation.
> Putative syntactic blends of this type are created, presumably, via analogic extension of one form to a new functional context that is *sufficiently similar* to the form's original context. [...] One may consider our 'syntactic blends'—or 'intermediates'—*analogical bridges* that span otherwise unbridgeable gaps between functionally-dissimilar points along a change continuum. In this case, the initial

> functional gap between the prototype REL-clause and the prototype V-complement
> is by itself substantial. (Givón 1991 [1988]:287–288)

The pathways Givón identifies are:

I. The **accusative-propositional** blend, used in perception and cognition verbs. In this blend, a relativisation describing the object nominal is reanalysed as a clausal complement.

(1a)　　　אַתֶּם רֹאִים֩ הָרָעָה֨ אֲשֶׁ֤ר אֲנַ֙חְנוּ֙ בָ֔הּ **אֲשֶׁ֤ר** יְרוּשָׁלַ֙͏ִם֙ חֲרֵבָ֔ה

ʾatem	rōʾîm	hā-rāʿā	ʾăšer	ʾănaḥnû	b-āh	ʾăšer	yərûšālami
ʔatem	roʔi:m	ha:ra:ʕa:	ʔäʃer	ʔänahnu:	ba:h	ʔäʃer	jəru:ʃa:lami
you	seeing/3P	the-evil	REL	we	in-it	SUB	Jerusalem

hărēḇā
häre:βa
ruined/FS
you see the misfortune we are in ***that*** Jerusalem is destroyed
*You see the trouble we are in, **how** Jerusalem lies in ruins* (BH Neh II 17)[7]

The equivalence with Greek direct perception raised complements is obvious (*iða to ɣiani pu erxotan* 'I saw John who was coming' → 'I saw John coming/I saw John that he was coming'). In Hebrew the development has proceeded further. Examples such as (1a) involve an accusative blend with the parataxis of an object nominal and an object clause. But Hebrew can also have a dummy nominal and object clause (1b); an accusative marker, empty nominal and object clause (1c), and finally the object clause on its own.

(1b)　　　זְכָר־נָא֙ **אֶת־הַדָּבָ֔ר אֲשֶׁ֥ר** צִוִּ֖יתָ אֶת־מֹשֶׁ֣ה עַבְדְּךָ֣ לֵאמֹ֑ר

zḵăr-nā	ʾet-	hadāḇār	ʾăšer	ṣiwwîtā
zxärna:	ʔet	hada:βa:r	ʔäʃer	sˤiwːi:ta:
remember/IMP-IMP	ACC	the-saying	SUB	order/PERF/2MS

ʾet-mošeh	ʿaḇdə-ḵā	le-ʾmōr
ʔet moʃe	ʕaβdəxa:	leʔmo:r
ACC-Moses	slave-your	to-say

remember ***(the thing) that*** you have ordered your servant Moses:...
*Remember **the word which** thou didst command thy servant Moses, saying...* (BH Neh I 8)

(1c)　　　שָׁמַ֙עְנוּ֙ **אֵ֣ת אֲשֶׁר־**הוֹבִ֜ישׁ יְהֹוָ֗ה אֶת־מֵ֤י יַם־סוּף֙

šāmaʿnû	ʾēt ʾăšer-	hôḇîš	y(ə)hw(ā)h	ʾet-mēy
ʃa:maʕnu:	ʔe:t ʔäʃer	ho:βi:ʃ	jhwh	ʔet me:j
hear/PERF/1P	ACC-SUB	dry/PERF/3MS	YHWH	ACC-water/of

yam-	sûp̄
jam	su:ɸ
sea/of	Suf

we've heard ***that*** God had dried up the waters of the Red Sea
*For we have heard **how** the Lord dried up the water of the Red Sea* (BH Jos II 10)

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[7]Givón cites Hebrew in Modern Israeli pronunciation; I have used Biblical Hebrew transliteration.

So Hebrew gradually empties the object nominal of its content, until the clause is left on its own. This has not occurred in Greek: *pu* has not displaced *pos* as a general perception or cognitive complementiser, and is largely restricted to 'accusative-blend' contexts, as Givón would term them, with the nominal object present. The emptying of the nominal object/relativisation head is highly characteristic of the relativiser > complementiser transition (cf. the Germanic demonstrative-complementiser: *I know **that**: he went > I know **that** he went*); yet it happens not to figure in Greek, which has avoided emptying its object in the perception context, and whose other complementiser instances appear not to derive directly from relativisation. The development of Greek thus diverges from a near-universal of complementiser development.

Hebrew uses *'asher* more widely in this context than Greek uses *pu,* and since both originate as locative relativisers, this demonstrates that the CSMG limits on the distribution of complementiser-*pu* are contingent.

II. The **purpose-subjunctive** blend, used with Action verbs.

(2)   וְאַשְׁבִּיעֲךָ֗ בַּֽיהוָה֙ אֱלֹהֵ֣י וֵֽאלֹהֵ֣י הַשָּׁמַ֔יִם הָאָ֑רֶץ **אֲשֶׁ֣ר** לֹא־תִקַּ֤ח אִשָּׁה֙ לִבְנִ֔י
מִבְּנֹות֙ הַֽכְּנַעֲנִ֔י

wə-ʾašbîʿā-kā	ba-yhw(ā)h	ʾĕlōhēy	ha-ššāmayim
wə ʔaʃbiːʕäxaː	ba jhwh	ʔeloːheːj	ha ʃaːmajim
and-swear/IMPF/1s-you	in-YHWH	God/of	the heavens

wēʾlohēy	hāʾāreṣ	**ʾăšer**	lᵊʾō-	tiqqaḥ	ʾiššā
we: ʔlohej	ha:ʔaːresˤ	**ʔäʃer**	lʔoː	tiqːaħ	ʔiʃːaː
and-God/of	earth	SUB	NEG	take/IMPF/2MS	wife

libnî	mibbnôt	hakənaʿănî
livniː	mivːnoːt	hakənaʕäniː
for-son-my	from-daughters/of	the Canaanites

and I enjoin you in the name of YHWH God of the heavens... ***that*** you should not take a wife for my son from the daughters of the Canaanites
and I will make you swear by the LORD, the God of heaven and of the earth,
that *you will not take a wife for my son from the daughters of the Canaanites*
(BH Gen XXIV 3)

This pattern involves the irrealis use of *'asher* as a purposive or deliberative marker; the purposive in particular is reanalysed as an irrealis complement ('you swear ***in order*** not ***to*** take a wife' > 'you swear not ***to*** take a wife'). This is of course exactly how *na* became a complementiser in Middle Greek. This pathway has not prospered in Greek for *pu,* however: it requires *pu* to do irrealis work, and the only way this can happen in Greek normally is in the collocation *pu na*. Yet *pu na* has not become a complementiser; its terrain is already covered by *na* alone. This restriction on *pu na* is, as the counterexample of Hebrew shows, a contingent result—caused by the fact that *na* had grammaticalised as a modal marker rather earlier than *pu,* so that it could not be displaced by *pu* as a complementiser, but was rather adjoined to it.

III. The **because-factive** blend, used with Emotive verbs: this involves the reanalysis of causal adjuncts to causal complements of emotives. This change

has apparently taken place twice in Hebrew, with *she* recapitulating the earlier locative-turned-complementiser *ki*.

(3a)   וַיִּשְׂמָחוּ **כִּי** הָאֱלֹהִים֙ שִׂמְּחָם֙

       wayyiśmāḥū   *kî*   *hā-ʾĕlōhîm*   *śimmḥām*
       wa jːiçmaːħuː   **kiː**   ha: ʔeloːhiːm   çimːħaːm
       and-rejoice/IMPF/3MP   SUB   the-God   gladden/PERF/3MS-them
       and they were happy **that/because** God has gladdened them
       and rejoiced, ***for*** *God had made them rejoice* (BH Neh XII 43)

(3b)   וְשָׂנֵאתִי אֲנִי֙ אֶת־כָּל־עֲמָלִי שֶׁאֲנִי עָמֵל תַּחַת הַשָּׁמֶשׁ שֶׁאַנִּיחֶנּוּ לָאָדָם
                                                                 שֶׁיִּהְיֶה אַחֲרָי

       wəśānēʾtî   *ʾănî*   *ʾet-kol-*   *ʿămāl-î*   *šeănî*   *ʿāmēl*
       wə çaːneːʔti   ʔäni: ʔet kol   ʕämaːli: ʃe äni: ʕameːl
       and-hate/PERF/1S   I   ACC-all   work-my   REL-I   doing/MS
       tahat   *haššāmeš*   *šēʾannîḥe-nnû*   *lāʾādām*
       tahat   haʃːaːmeʃ   *ʃeː* ʕanːiːħenːu   la:ʔaːdaːm
       under   heaven   REL-leave/IMPF/1S-it   to-man
       šeyyihyeh   *ʾaḥărāy*
       ʃejːihje   ʔaħäraːj
       REL-live/IMPF/3MS   after-me
       and I hated all the toil that I toiled under the sun **that/because** I will leave (it)
       to some man who would come after me
       I hated all my toil in which I had toiled under the sun, ***seeing that*** *I must*
       leave it to the man who will come after me (BH Eccl II 18)

This is the same as Greek Emotive-*pu,* and Givón postulates that "the new morphology is eventually transmitted to the complements of other factive verbs in the cognition-utterance paradigm" (p. 297).

Just as posited for Modern Greek, Hebrew admits multiple causation in the penetration of its relativiser into the complementiser paradigm;[8] and just as for Greek, analogy is seen as doing much of the work of spreading the relativiser through the paradigm. Indeed, because of its subjunctive use (II), *'asher > she* spreads much more succesfully in Late Biblical Hebrew than *pu* does anywhere in Greek.

There is another kind of perception *pu*-complement; whereas direct perception typically involves a distinct nominal referent, and results from a reanalysis of a relative clause, **evidential perception**, which also uses *pu,* does not. We could derive it from the same analogical generalisation as with semi-factives; but there is a parallel between cognitive perception-*pu* and another *pu*-category—deictic collocations like ˈ*na pu* 'behold that…; look!' (Nicholas 1998a). The two classes are tantamount in function: they foreground a claim, and they do so by presenting it to an addressee. Evidential perception-*pu* does this by inviting the addresee, either by jussive or interrogative, to perceive ('see') the claim.

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[8]It is increasingly being admitted that linguistic change can admit multiple causation (Harris & Campbell 1995:53); so the claim made here for the origin of complementiser-*pu* should no longer be surprising.

Deictic particles do this by inviting the addressee to notice the claim, without any more explicit specification of modality. The two classes are close enough in function that their wording can coincide: compare the (somewhat infrequent) imperative evidential perception verb *ðes,* preceded by the hortative *γia* (4a), with the Eastern Greek deictic particle *γiae,* derived from the same collocation *γia ðes:*

(4a) **Gia des poy** ua prepei twra na kanoyme kai syzhthsh gia na peisoyme
kosmo pws o Hgeths htan trelos kai palabos.
Για δες που θα πρέπει τώρα να κάνουμε και συζήτηση για να πείσουμε κόσμο πως ο
Ηγέτης ήταν τρελός και παλαβός.
γia ðes pu θa prepi tora na kanume ke sizitisi γia na pisume kosmo pos o iγetis
itan trelos ke palavos.
Look, ∅ ('Do see that') now we have to have a discussion to convince people
that 'The Leader' (= *Hellas-L* personality Dimitris Samaras) was a fool and a
madman! (Leonidas Irakliotis, Re: Gia tov Kara0eodwrn; Hellas-L, 1996–11–
10)

(4b) *Για 'ε κ*υνήι το 'καμα ετούτητ την ημέρα.
γia e kinii to kama etutit tin imera.
See what a hunt I had today! (Mih-Nou 102; Elymbos, Karpathos, Dodecanese)

Given this equivalence, it is likely that one form is an extension of the other. The question is, which form came first. Since deictic particles do behave as predicates, taking direct objects, and the deictic particles are so close to perception, it may be that they were counted as perception predicates at the start, and that evidential perception-*pu* and deictic-*pu* arose simultaneously. Yet it is also possible that deictic-*pu* came first (by analogy to some other collocation), and that evidential perception arose by analogy in turn.

Once *pu* gained a stronghold in the complementiser paradigm through these reanalyses, the rest was analogical levelling. Analogy brought *pu* to the other semi-factives in Standard Greek; and the semantic differentiation between *pu*- and *oti*-complements—so elusive to track down, I suggest, precisely because it was cobbled together after the event, as a sort of exaptation[9]—draws on the factivity of *pu* in its functions so far, and the eventhood of *pu* as a temporal connective. This was not a preordained development for *pu;* nor was it an endpoint. A large number of dialects have independently followed the cross-linguistic pattern of generalising *pu* to all realis contexts, primarily down the Evaluation Modality axis, but secondarily also across the Information Modality axis. Furthermore, as the inconsistencies between various instances of Thracian show (§6.1), this analogical generalisation occurred very much piecemeal, and as lexical diffusion. Most of these dialects also have the slightly older complementiser *pos,* and it seems that Constantinopolitan at least retains an Evaluation Modality-based differentiation between the two complementisers, although in that dialect *pos* is marked as dubitative, rather than *pu* marked as factive.

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[9]i.e. the reuse of obsolete morphological or syntactic material left over in the language for novel linguistic purposes (Lass 1990).

It is doubtful that Standard Greek is somehow more privileged than e.g. Thracian in restricting *pu* to factives; the restriction of a similar relativiser-turned-complementiser (*što*) in Serbian and Macedonian Slavonic to true factive (emotive) contexts may be somehow causally related to mainstream Greek factivity, given that all the regions where *pu* has expanded lie outside the Greek mainland.[10] The distribution of the Standard Albanian relativiser-turned-complementiser (*që*) is even closer to that of Standard Greek; indeed, it appears it is used more widely than *pu,* although I have not been able in my preliminary research to identify clear trends. This may also be relevant to mainstream Greek complementiser factivity; the prospect is certainly worth exploring.[11]

Normally *pu* is factive, and when an irrealis meaning is to be introduced by a *pu* clause, the **subjunctive marker** *na* is interpolated (§7.7), with *pu na* arguably fusing into a novel linguistic sign. This does not occur indiscriminately, for all possible irrealis adjuncts, but only for those which already have an established factive *pu*-version: it is the existence of *pu*-functions that drives the emergence of *pu na*-functions. Thus, *pu na* introduces irrealis relative clauses—intensional, purposive, or optative; irrealis concessives; irrealis resultatives; and optative clauses. The last have attained a very advanced stage of grammaticalisation, being often quite autonomous of any putative matrix, and introducing matrix clauses. (The reason for its semantic restriction to imprecation is not clear.) Here too there is some degree of categorial fluidity; resultatives can be ambiguous with optatives, for instance.

In the entire process, *pu* has frequently acquired **irrealis** (§7.6.4) meaning on its own. Examples include irrealis temporals (merging into conditionals) in Ulagaç, Calabria, Cythera, Apiranthos, and Tsesmes; irrealis *san pu* 'like = as if' in several outliers (Nicholas 1998b); a possibly one-off use of *pu* as an optative marker in Italiot; and the irrealis imprecative *pu θa-* and *pu*-constructions. Of these, *pu θa* is apparently volitive in origin; bare *pu* is probably a extension of the former from future (formerly volitive) to non-future contexts, although Justify-*pu* may also have contributed to it.

Furthermore, although the free relative *pu* is long gone, the analogy between free and bounded relativisation means that *pu*-collocations with indefinite denotation ('whenever, as soon as, as') are frequently treated as free relatives themselves, and have subjunctive modality (PERFS) as a result. Again by analogy with free relatives, intensional relative clauses—which also have indefinite denota-

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[10]This claim is admittedly somewhat tenuous for Corfu and Tsakonia; the former is likelier to have been influenced by Albanian if any Balkan language, and I have ruled out Slavonic influence on the complementation paradigm of the latter (§6.2).

[11]Arvanitika, which uses the more archaic relativiser-turned-complementiser *çë,* is of no use in this question: as far as I can tell from my Arvanitika corpus, complementiser-*çë* is distributed identically to mainstream Greek *pu*.

tion—can appear with PERFS without an interceding *na;* this is another blow to the factivity of *pu,* and results from purely analogical phenomena.[12]

Competitor forms to *pu* are present in Cappadocian, Pontic, and Italiot (§B); in Pontic in particular, the competitor *ndo* has developed to overlap and overtake the functional range of *pu,* and this makes suspect any localist claims about *pu*—although it is true that overall *pu* is more factive as a complementiser than *ndo* (not that a textual frequency of 0.08‰ makes *pu* much of a presence in the Pontic complementiser paradigm.)
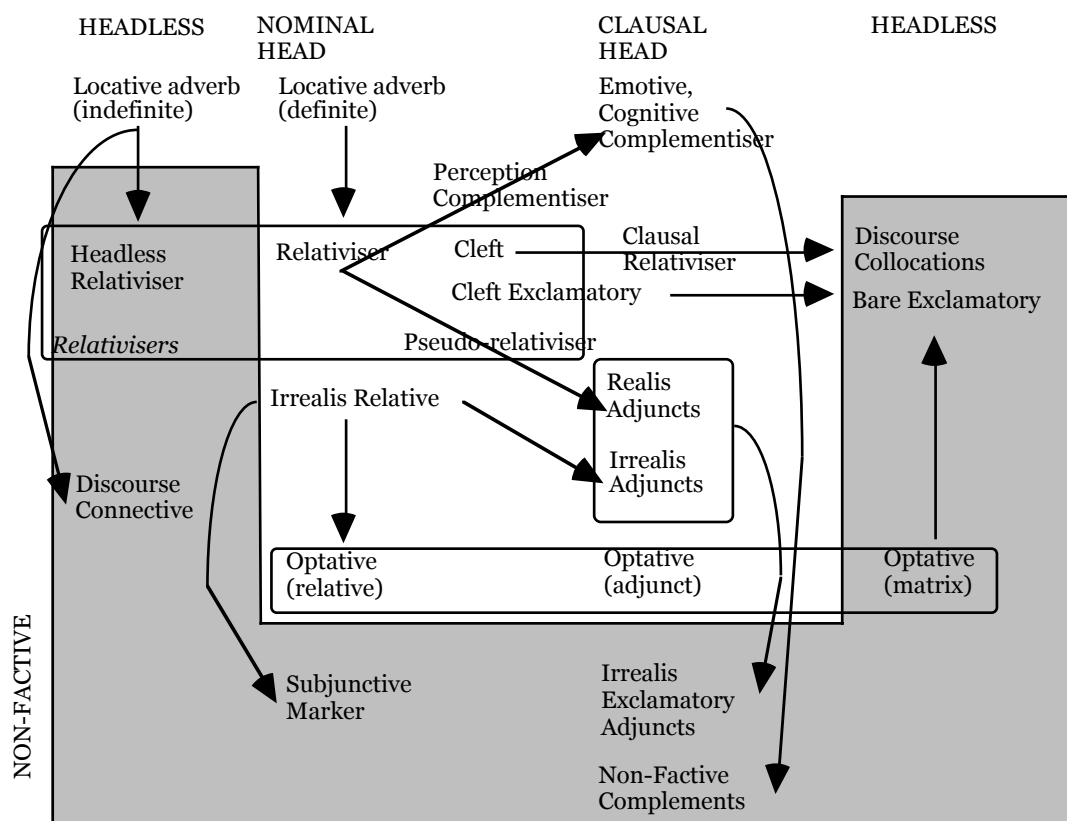

Figure 1. Developments in functionality of *pu*

While the foregoing account isolates distinct functions, two interrelated processes lead to the synchronic situation, whereby functions are difficult to distin-

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[12]*pu* also engenders a plethora of **collocations**, discussed in detail in Nicholas (1998a). For the most part, these are connectives, although in two instances (Apulian *steo pu* and Lesbian *exo pu*, covered in this work), *pu* moves from a complementiser to aspect marking. The collocations are of two types. The first is diffuse, and involves *pu* in several functions, including relativiser (discourse connectives), adjunct connective (VERB *pu* VERB), and cleft marker (*qu'est-ce que*–collocation). The second involves *pu* as a nominaliser, a straightforward extension of its complementiser role. This includes prepositional collocations, and as an extension from these, redundant-*pu* collocations, where *pu* is extended from following grammemes with nominal scope to following grammemes with clausal scope. One prepositional collocation whose development has been prodigious is *ospu,* along with the other 'until'-collocations; its success and wide diffusion may parallel that of *eki pu,* in that *pu* in both can be considered locative, and may thus predate the relativiser. Some collocations also display demonstrable language contact influence—particularly *me to pu* 'as soon as', where *to pu* (a marginal construction in Greek) calques the Albanian participle.

guish, and one can properly speak of underspecification in the semantics of *pu*. **Contamination** between various functions leads to one function informing the semantic particulars of another; for instance, much of the semantics of causal- or discourse connective-*pu* may be explained by reference to temporal- or emotive-*pu* and resultative- or relativiser-*pu,* respectively. **Analogical levelling**, and more generally **actualisation** (Harris & Campbell 1995:77) smooths out the semantic discrepancies between semantically close classes of *pu,* forming out of them unified semantic domains; we have already seen it at work in the complementation paradigm.

These processes are the aftermath of the reanalyses bringing the various functions into being; they obtain because, while each reanalysis may be distinct, they all relate to the same grammeme, and restore a notion of linguistic system to that grammeme. These regularities, along with the common inheritance of persistence, are what synchronic analysis tries to capture in identifying underlying semantic commonalities; yet they are not causally primary, and should not be considered such in a diachronic account.

The role of these processes, nonetheless, is paramount in establishing how little of *pu* in Greek is non-factive. As Figure 1 (repeated here) shows, there are in fact two characteristic features of Greek *pu,* which have been preserved in the vast majority of its function: its factivity, and its headedness or semantic subordination. These constraints—characteristic of the relativiser, it should be noted, and not of locative *hópou*—are rarely violated in Greek; any violation seems to need to involve a semantically salient class of expressions. This is the reason, I would suggest, why optatives and imperatives are the only such violations entrenched in CSMG.[13]

8.2. Previous accounts

> *Life's just a bunch of stuff that happens.*
> —Homer J. Simpson.

Papadopoulou's (1994a; 1994b) account of the grammaticalisation of Greek complementation continues the research effort mapped out by Christidis (1986) in tracing the *pu/na* opposition through their etymology and a localist approach to their semantics. Papadopoulou's work is the only substantial piece on the diachrony of *pu* conceived of within a modern linguistic framework; that is why it deserves scrutiny in light of the findings made in this research.[14]

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[13]My thanks to my colleague Leslie Layne for asking me the right question on what was distinctive about irrealis *pu*-exclamatories.

[14]Christidis' (1983; 1986) account came first, but is programmatic, and its implications are fully mapped out only by Papadopoulou. Christidis (1983) mentions localism as an afterthought in the conclusion of his paper, and Christidis (1986) dedicates only one page to diachrony, his major claim being that *pu* is a definite clause nominaliser. As to diachrony, Christidis does little more than point out the localist etymologies for *na* and *pu,* and claim that such etymologies are consistent with current grammaticalisation theory. Christidis does not even mention metaphor; it is Papadopoulou who has attempted to fully elaborate the notions of metaphor involved.

The major thrust of Papadopoulou's contention is sound: the changeover from Ancient to Modern Greek is caused by a general typological shift from OV to VO, engendering a shift from synthetic to analytic morphology. As part of this shift, the ancient infinitive and participle were supplanted as indices of complementation by *na* and *pu*. The particles *na* and *pu* have a chain of meanings which can be tied together by appeal to their diachrony, and can be encompassed within a prototype relation, set out according to diachronic development, and the core of which can shift in time—as has happened e.g. with the French subjunctive (Winters 1989).

My major disagreement with Papadopoulou is as to how this transition happened. Papadopoulou takes a metaphoricist approach to the development of *pu,* as a complementiser in particular. The complementiser-*pu,* she maintains, is an instance of the metaphor DISCOURSE-IS-SPACE, and the Modern Greek complementation paradigm is localist overall: *na* derives from a directional, and encodes dynamic situations, while *pu* derives from a stationary, and encodes static situations. (This claim has already been made in those terms by Christidis (1986).) Papadopoulou considers this an instance of Lakoffian conceptual metaphor:

> As associative mechanism underlying grammaticalization, metaphor can thus account for such polysemies, that may be the synchronic manifestation of diachronic overlaps of grammaticalization stages. For instance, the polysemy of the Modern Greek relative pronoun and factive complementizer, *pou,* arose from the metaphorical interpretation (SPACE-AS-DISCOURSE) of physical stasis as pragmatic/textual presupposition, the latter perceived as both relative function and presuppositional complementation. (Papadopoulou 1994a:23)

This implies that the stationary locative *hópou* was conscripted to do factive work in Greek, by virtue of the stationary/factive analogy.

This approach is redolent of 'grammaticalistion as problem solving', an approach I have already expressed disagreement with (§2.4.3). It sits uneasily with the data: if *hópou* was conscripted explicitly to do factive work, and factivity is the core of the *pu*-prototype, then why is *pu* non-factive so frequently in Greek dialects? Admittedly, prototype cores do shift in time, as Winters finds; but what sort of shift trajectory can account for what has happened in these dialects? It seems more straightforward to analyse the career of *pu* as incidental reanalyses all the way; most of them preserve factivity through persistence, and synchronically factivity certainly encompasses most of the meanings of *pu,* but this prototypical meaning cannot be more than an epiphenomenon, and conceptual metaphor cannot be invoked as a causal factor in itself.

Besides, the certain instances of SPACE-IS-DISCOURSE in language are hardly opaque or complex; being conceptual metaphors, they are by definition easy and appealing to grasp. The commonality in most languages of discourse deixis

and spatial deixis (*I say* **this** ~ *I eat* **this**) is trivial.[15] The fact that deictics engender relativisers and complementisers is likewise no surprise, although it seems much more secure to invoke it for Homeric Greek (with its underdeveloped complementation scheme—see Monteil (1963) for details) than Modern Greek, as Papadopoulou (1994a:200, 206) attempts to. An instance of SPACE-IS-DISCOURSE involving *hópou* is readily available: it is the discourse connective *opu*. But there is no evidence that this connective engendered the complementiser. There is definitely no evidence that

> this polysemy [of *pu*] is interpreted as a case of divergence, whereby the source relative locative *ópou*, develops on the one hand as a relative, on the other, as a factive complementizer, its static inferences becoming conventionalized as presuppositionality. (Papadopoulou 1994a:246)

There is phonological evidence for discourse connective *opu* < locative ˈ*opu;* but none for the complementiser. There is no salient reanalysis of a locative that could give a complementiser, except for the very specific case of perception complements: 'I saw him **where** he stood > I saw him standing'; cf. Serbo-Croatian *gde* (Dmitriev 1964). Even the nature of the proposed metaphor is problematic: while SPACE-IS-DISCOURSE is straightforward as a conceptual metaphor, the same cannot be said for 'I remember **where** you came' = 'I recall that you came', or 'I was happy **where** he came' = 'I was glad he came', with 'where' selected explicitly to mark givenness: this is schematic and abstract, not at all like what conceptual metaphors usually are. The account I have given, with the relativiser as the driving force behind the factivity of *pu,* is much more satisfactory; in admitting the pervasive role of analogy, it also allows for the fact that, in so many dialects, complementiser-*pu* is not factive.

Furthermore, the complementary localist distribution appealed to by Christidis and Papadopoulou for *pu* and *na* is false: there is nothing localist about the development of *hína* > *na,* which can be explained entirely in terms of its diachronically first *salient* function, as a purposive, rather than its ultimate etymology, either as a directional (as has been erroneously postulated), or an instrumental (as appears to have actually been the case). This conclusion also holds for *pu:* the majority of its functions have little to do with its ultimate etymology as a stationary locative, but a lot to do with its diachronically first salient function, as a relativiser.

This is a significant, though hardly surprising conclusion for grammaticalisation theory. Persistence does occur, and grammemes do have a diachronically inherited meaning, additional to the structuralist meaning they acquire through

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[15]It would be interesting to see whether it constitutes a universal; the artificial language Lojban (Cowan 1997) is the only counterexample I know of (proximal spatial deictic `ti`, proximal discourse deictics `di'e` (cataphoric) `di'u` (anaphoric)).

functional opposition.[16] Yet persistence is not an exercise in etymology: the meanings and grammatical functions that persist are themselves a product of structural opposition and paradigm. And the functions *hópou* acquired as a relativiser, or *hína* as a purposive, are much more salient in their further development than their original meanings—because it was as a relativiser and purposive that these particles became significant grammatical markers to begin with. The parallel development of non-locative relativisers in Italiot and Anatolian Greek (and of course other languages, like Romance *que*) supports this conclusion.[17]

A second problem area is the way Papadopoulou addresses the continuity between the Ancient and Modern complementation paradigms. It is quite clear that the ancient participle and modern *pu* have a lot in common: both cover the same three major functions—complements, noun adjuncts, clausal adjuncts; both are factive in the complementation paradigm; both are (in the Givónian (1973) sense) time-stable and relatively static, rather than dynamic. Indeed, in my research I have unearthed further evidence of the close relation between *pu* and the participle: *pu* calques the Albanian participle in the *me to pu* construction (Nicholas 1998b), the Italian participle in the Italiot *steo pu* VERB construction (§6.7), and the equivalent relativiser *to/tu/ndo* calques the Turkic personal participle in Anatolian Greek (§6.3). The identity between the participle and *pu*-clauses was indeed pointed out in the very first Modern Greek grammar:

> Thus our common tongue, not seeking out other ornaments in this respect, naturally analyses all the participles of the old Greeks with the indicative verb of the tense the participle has, and with ˈopu, which is either a subordinating article, or an indeclinable relative nominal, which is used in each gender and tense and person; so that this participle *ho grápʰon* 'the (one) writing' you analyse thus: ˈopu ɣrafi 'that writes' (Sofianos 1977 [1544]:244)

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[16]In fact, while Papadopoulou (1994a:29) claims persistence "contradicts" the structural tenet of meaning through functional opposition, I would say it supplements it: there are certainly instances in Greek where *pu* and *na* still acquire meaning through paradigmatic opposition.

[17]One might profitably compare this to Givón's (1991 [1988]) account of the development of *'asher > she* in Hebrew, mentioned above. This relativiser, like *pu,* ended up also as a complementiser and adjunct connective; like *pu,* it also appears to be a locative in origin (< *'athar* 'place'). Indeed, the development of *pu* and *'asher* is remarkably similar. However, nowhere in his account does Givón appeal to a localist view of *'asher.* (Nor is it clear how it could, given that *'asher* marks *inter alia* purposives.) His programmatic statement against wide-ranging analogies can indeed be considered also a condemnation of too wide-ranging a metaphoricist approach to grammaticalisation:

> But it also suggests that analogy in diachronic syntax most likely operates across relatively *narrow* inferential gaps, where either the structural or functional similarity between two constructions or their functional contexts is relatively *concrete* and *transparent*. This is not to suggest that the human mind is incapable of far-out metaphoric leaps, complex multi-step inferences, or poetic flights of fancy, or—more relevant in this case—recognizing highly abstract similarities. Diachronic change, however, is the cumulative product of the *averaged-out* behavior of an entire *population* in a relatively concrete speech-processing domain. During such a process, the creative or abstract inferential fancy of the few exceptional minds tends to be *cancelled out,* while more prototypical similarity judgements tend to be transmitted. (Givón 1991 [1988])

Now, Papadopoulou introduces in her thesis a notion of what she terms **function sustenance**:

> A primary assumption implicit throughout this thesis is that a given function does not disappear in language but only changes linguistic coding, or gains its own independent coding from previously being subsumed under the coding of another function. An exclusively diachronic account, for instance, of the presuppositional complementizer, *pou,* would attribute its factive function to its static locative source, *hópou*. It would not, however, explain why the factive/non-factive contrast came to be coded in Modern Greek, unlike in many other (Indo-European) languages. More importantly, it would obscure the continuity that exists between the various stages of a language if it were understood as acting on its own. Abstraction to the overall complementation system suggests that the particular feature [±presuppositional] was either preserved in a different coding, or was promoted to a category in its own right, from the periphery of another paradigm. (Papadopoulou 1994a:6–7)

The implication here is that Modern Greek has a factive complementiser in *pu* because Ancient Greek had a factive complementiser in the participle. But as a general claim, function sustenance is either vacuous or untenable. Any language can rephrase erstwhile grammatical distinctions. For example, Greek lost its dual number, but can still express duality with numerals. But if grammatical coding is at issue, the dual is an obvious disproof of any notion of function sustenance: the fact that Ancient Greek had a factive complementiser does not necessitate that Modern Greek have one.

Indeed, Modern Greek calquing participles from three unrelated neighbouring languages with a *pu*-clause suggests that the affinity between the Ancient participle and Modern *pu* is fortuitous; after all, no-one would suggest a connection between complementiser-*pu* and the English participle used as a complementiser. I should note that Papadopoulou does not explicitly claim direct continuity between the two; she speaks of "analogy" (Papadopoulou 1994a:230) and "functional parallel" (Papadopoulou 1994a:248). But for such a functional parallel to translate to real continuity, one must postulate a stage of the language in which both the supplementary participle and complementiser-*pu* were extant.

The supplementary participle has survived in Tsakonian and Calabrian Italiot, but seems to have already been dying out in mainstream Greek by *vi* AD, and I am not aware of any use of it in our EMG texts. The EMG situation seems better mirrored by Silliot and Mariupolitan: there was a gap between the supplementary participle dying out, and complementiser-*pu* being introduced (no earlier, according to my preliminary invesitgation, than *xiv* AD), during which time there was only one realis complementiser, *oti*. With a gap of up to eight centuries, one cannot sensibly speak of function sustenance; the affinity of participles and relative clauses is real, but is a fact about language, rather than Greek specifically. The semantic discrepancies between the participle and *pu*—the use of the former in non-factive contexts like predicates of effort, the avoidance by

the latter of manner adjuncts, and so on—underline that these are independent developments.[18]

Christidis' and Papadopoulou's accounts attempt to impose some order on the heterogeny of *pu* in Greek by invoking grammaticalisation. There are certainly trends to be observed, and grammaticalisation theory does shed light on the development. Yet there is also a lot of fortuitous development, which sidesteps the neat rules they attempt to circumscribe *pu* with. There is factivity, there is stativity; yet ultimately, each reanalysis of *pu* occurs on its own, and is liable to break out of these frameworks. Diachrony is a blinder beast than these linguists give it credit for.

8.3. Consequences for grammaticalisation theory

> *Well, you're entitled to your opinion—and every-
> body's entitled to my opinion!*
> —Jerry Lawler, wrestler and
> World Wrestling Federation commentator.

The account given in this research is a case study of a particular grammaticalisation in a particular language. It is an atypical grammaticalisation in several respects: it represents 'late' grammaticalisation in moving from the already grammatical to the more grammatical; it involves a form of analogical origin; there are limits on how far the grammaticalisation has progressed in the language; and the grammaticalisation has been subject to interference through language contact. Yet some observations may be made, at least at an impressionistic level, on how this account illuminates the more global concerns of grammaticalisation theory.

The primary lesson to arise out of this account, as summarised in §8.2 but alluded to throughout, is the danger in metaphoricist views of grammaticalisation. Metaphor has its place as a causal factor in grammaticalisation, particularly in its Lakoffian guise, involving basic conceptual metaphors. Yet for much of grammaticalisation, Heine's conclusion (stated in somewhat different terms by Givón above) holds: metaphor is a macrolevel, epiphenomenal result of minor, metonymic changes on the microlevel. Furthermore, where metaphor may be demonstrated to have had direct involvement in forming a grammaticalising form, that metaphor is of a straightforward, conceptual kind, rather than a more abstract, deliberate analogical transfer.

This is certainly the case for the grammaticalisation investigated here. The impetus for postulating a special, localist metaphor as the driving factor behind *pu* was the marked semantics of complementiser-*pu* in CSMG; yet as further investigation shows, the CSMG distribution of complementiser-*pu* is in no way privileged as an evolutionary endpoint. The broad semantic cohesiveness of *pu*

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[18]Although I have not had the scope to give extensive detail, I would contend the parallels between Ancient *ho:s* and Modern *pu* are even more compelling; yet *ho:s* barely survived into Middle Greek.

in Greek as a factive connective is a result of a conspiracy (to use a term beloved of functionalists) between persistence, analogical levelling, and contamination. Yet it is not a necessary result (as it would be, were grammaticalisation problem-solving and the semantics of *pu* a foreplanned, deliberate result). And quite frequently, local exceptions arise to the overall factivity, or other characteristic properties of *pu;* these belie any such necessity—as does the fact that in no less than seven independent dialects, complementiser-*pu* ranges far beyond that characteristic factive semantic domain which led researchers to postulate localism.

Language change does not seem from the evidence here to be foreplanned; it is serendipitous, and haphazard. Yet Kiparsky's[19] well-known dictum "languages practice therapy, not prophylaxis" holds for our data: language has mechanisms to impose order onto the chaos resulting from this haphazardness, and simplify the underlying linguistic system so that it can be more easily acquired. The mechanism is analogical levelling; as it turns out, levelling is intrinsic to analogical extension, as Harris & Campbell (1995:101) postulate:

> the process of extension is systematic, and the environment into which a rule may be extended is restricted by the nature of the rule in the particular language. Observed extensions generalize to a natural class based on categories already relevant to the sphere in which the rule applied before it was extended.

So whenever analogical extension occurs, it creates semantically cohesive domains ('natural classes'), which pre-existed in the grammar, but which nonetheless impose an increased orderliness on the semantics of the extending morpheme.

As a process removing rule exceptions, analogical levelling is of great importance in the history of linguistic forms, and this is something often under-emphasised in linguistic accounts. Out of reanalysis and analogy, reanalysis is more glamorous, in a sense: it involves linguistic creativity; it brings into being novel entities. Analogy, by contrast, is housekeeping; it propagates, but does not innovate. Yet the relative preponderance of the various elements of a grammatical paradigm is determined by the extent of analogical spread each element undergoes. Reanalysis determines functionality; analogy determines distribution.

The motivations for analogy vary as well; they can include contamination, the exploitation of salient linguistic categories in analogical extension, and the accomodation of novel signs in the paradigm. They also include extrasystemic motivations for simplification. A notion alluded to in both the present research and my research on *pu*-collocations (Nicholas 1998b), but which for the time being I must leave stated at an informal level, is that *pu* is overall more 'well-behaved' in Western Greek than in Eastern Greek: it is more frequently factive, more compositional in collocation, and less semantically diverse. This matches

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[19]See Harris & Campbell (1995:28) on the bibliography of the dictum.

the overall morphology of the two dialects, and a reason for the phenomenon suggests itself in the plurilingualism of the Greek mainland, compared to the monolingualism of the Greek islands. A region with extensive language contact has significant motivation towards making its linguistic systems more perspicacious and regular.

This hypothesis has been independently suggested by Tomić (1992), comparing Macedonian Slavonic and Serbo-Croatian; it motivates sweeping analogical levellings in the language, removing exceptions to overall tendencies in the distribution of particles, and it makes the language more analytical—and compositional—in how it uses those particles. If this is true, then the fact that CSMG *pu* is relatively uniform semantically is not, in fact, the historical inevitability it is implied to be. Quite the opposite: it is a result of extralinguistic factors, and the piecemeal divergent developments of *pu* in Eastern Greek and the outlier dialects represent a more 'natural' set of developments.

But even when such analogical levelling takes effect in a language, its effects are not as far-reaching as one might think. The result of analogical levelling, putatively, is semantic underspecification: analogy generalises from a heterogeny of meanings of a particle, to a single all-encompassing, semantically vague meaning. On face value, this has happened to *pu* as a realis adjunct connective. In tracing the semantic transitions *pu* has undergone, we have seen that this synchronic reality cannot also be a diachronic reality. It is implausible for a grammeme to lose all its salient semantic features at once; the grammeme must acquire distinct well-defined meanings, to be generalised over by analogical levelling. Yet even at the synchronic level, linguistic practice does not catch up uniformly to this levelling.

Realis concessive-*pu* (§7.4.5) is a good illustration of this: concession is a meaning that should be encompassed by the underspecification of adjunct-*pu*. Concessive-*pu* sentences are acceptable, as are their *ke pu*-counterpart, following the normal focussing of concessives in Greek. Yet *ke pu* is simply not a significant linguistic sign, compared to other realis concessives. In this instance, there are good reasons for this, to do with the narrow semantic niche *ke pu* must occupy by virtue of its compositionality (§3.4.5). Elsewhere amongst adjunct-*pu* functions, the reasons are not as obvious; yet dialects vary greatly in the extent to which they take up *pu* as a connective—particularly with temporals (§7.4).

And the generalisations set up by analogical levelling may also be violated by subsequent accretions. Irrealis *pu*- and *pu θa*-exclamatories in CSMG are a good illustration of this. These formations probably constitute a recent development, subsequent to the analogical levellings that generated the semantics of *pu* as we know it. Yet the semantics of these exclamatories is motivated by a completely different set of principles to the normal factivity of *pu:* we can trace the implicatures involved (quite clearly, in the case of controlled and uncontrolled *pu θa*), and they have been followed through to the point of semanticisation. Unlike the sundry Eastern Greek irrealis *pu*-instances, the irrealis exclamatories are a

novel exception to the factivity of *pu,* an accretion within a linguistic system in which all previous exceptions seem to have been long effaced. Any sweeping semantic generalisation applying to a linguistic form can be violated by the introduction of an exception. In this, grammaticalisation does not differ from any other linguistic system in being subject to perturbation: there is no endpoint in linguistic evolution which cannot be disrupted, and trigger evolution anew.[20]

One more facet of grammaticalisation obvious in this research, but which has not attracted much attention in the literature, is that grammaticalisations beget more grammaticalisations.[21] There are several instances in this body of research—without even considering the collocations in Nicholas (1998b)—where *pu,* as a grammaticalised sign, becomes involved in collocation with other signs, giving rise to novel linguistic signs which themselves embark on the familiar path of grammaticalisation. The pseudo-relative *eki pu,* univerbated to *tʃapu* in Pharasiot (§7.2.2), is only one such instance. This is not a surprising quality: the more grammatical a sign becomes, the more it is subject to grammatical collocation, of which new grammaticalisations are an inevitable consequence. It is, however, an interesting counterpart to cyclicity in grammaticalisation (§2.3).

There are some large-looming questions in grammaticalisation theory which I do not address here, and must await future elaboration. One is the issue of unidirectionality, and how it is realised. Clearly unidirectionality is not an after-the-fact clean-up as would be characteristic of analogical levelling; it inheres in the reanalysis process—so insights about analogy are not of help here. Unidirectionality has not been an important issue in this context; Traugott's (1982) semantic tendencies do not seem to apply well to a grammaticalisation as abstract as this. So this research does not offer significant evidence towards one or the other view of the actuation of unidirectionality.

The other issue this research does not offer significant input on is that of the historical pragmatics of grammaticalisation: the way in which metonymic semantic change is realised through the semanticisation of implicature. Irrealis-*pu θa* exclamatories offer a neat case study of such semanticisation; yet the account of semantic transitions given above, while outlining the broad pathways, does not give such specifics. I do not believe such an account is impossible; but I do not feel confident about giving it without first attempting a proper investigation of EMG data. At any rate, a full account of the mechanisms of diachronic implicature is still some way in the future.

There is clearly work yet to be done on the grammaticalisation of *pu;* the interim report given here does at least show the range and pertinence of the data such an account involves.

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[20]For some enlightening examples on the development of paradigms, their disruption and analogical therapy, see Hopper & Traugott (1993:150–156).
[21]This is, however, akin to both Lehmann's (1995 [1982]) *paradigmaticisation,* and Craig's (1991 [1988]) *polygrammaticalisation.*