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A Revised History of the Greek Pluperfect

For a few decades, the dominant view of the origin of the Greek active pluperfect – if enough attention was paid to this category for any view to be called dominant – was that of Nils Berg, who in an article published in 1977 claims that the so-called alphathematic endings in Homer, 1sg. -εα (e.g., πεποί-θεα 'believed, trusted in'), 2sg. -εας,[1] and 3sg. -ει (e.g., ἐπεποίθει), as well as thematic 3sg. -ε (e.g., (ἐ)γέγωνε(ν) 'called out, shouted'), derive from an undifferentiated perfect-*cum*-pluperfect in Proto-Indo-European. Berg's scenario, which makes crucial use of a sleight-of-hand analogy with the sigmatic aorist, has many problems, as one of us (Katz) points out in a 2006 paper before proposing an alternative account based on the idea of an athematic pluperfect in PIE itself – a hypothesis most fully developed by the other author (Jasanoff) in his 2003 book. Among the attractions of setting up a pluperfect for the protolanguage is that it allows a unified tale to be told about the complex Greek data, one in which the PIE pluperfect is the ultimate parent of both the alphathematic singular and the athematic dual and plural forms (e.g., 1pl. ἐπέπιθμεν) of the "normal" pluperfect in Greek. As will be seen in what follows, the pluperfect paradigm of the verb 'to know' (PIE *$\underset{\smile}{u}$eid-), with its unique Homeric 3sg. ᾔδη, can be explained in these terms as well.[2]

But Katz's scenario suffers from a problem of its own, as anyone who so much as glances at his paper will see. In a footnote that takes up more than a page, Katz (2006, 13-15 n. 30) twists and turns and ultimately fails to dispel doubts about an issue of meter, explained below, that is serious enough to raise questions about the solidity of the overall analysis. The purpose of the present contribution, which we dedicate with affection and respect to our distinguished friend José Luis García Ramón, is to propose an improvement that maintains

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[1] Outside the verb 'to know', on which see below, no 2sg. active pluperfect is actually attested in Homer, though note the unmetrical *varia lectio* ἐτεθήπεας reported by Eustathius for *Od.* 24.90, where the standard reading is θηήσαο 'would have marveled'.

[2] Rather than use space in the pages that follow to repeat many ancillary facts, proposals, and references (textual and scholarly) that can be found in Katz (2006), we refer readers to that paper. Schwyzer (1939, 776-779) provides the best starting point for information about the range of attested pluperfects.

the core of the Katz/Jasanoff account of the rise of the early Greek pluperfect while avoiding the metrical pitfall.

We begin by noting that Rigvedic forms such as 1sg. *avedam* 'knew', 2sg. *ájagan* 'came', and 3sg. *(á)dīdhet* 'looked', as well as GAv. 3sg. *urūraost* 'reject-ed, repelled', which are described in the grammars as pluperfects or perfect in-junctives, can be formally understood as imperfects of the perfect. According to Jasanoff (1994, 153-154 and *passim*; 1997; 2003, 34-43 and *passim*), late PIE itself formed a tense of this type, the function of which was to serve as the pret-erite to the perfect in its role as a stative present. On this view, for which there is trace evidence in Germanic (Go. *ogs*) and possibly Anatolian (Hitt. *wewakta*),[3] as well as in Indo-Iranian and (as claimed here) Greek, the PIE pluperfect was built from the perfect by substituting the secondary active endings of the present and aorist systems (1sg. $*$-m, 2sg. $*$-s, 3sg. $*$-t, etc.[4]) for those of the perfect "ac-tive" (1sg. $*$-h_2e, 2sg. $*$-th_2e, 3sg. $*$-e, etc.).[5] To the extent that a middle of the perfect is recognized for the protolanguage (see Jasanoff 2003, 43-45), the pro-cess here was the same: the secondary middle endings (1sg. $*$-h_2e, 2sg. $*$-th_2e,

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[3]   Hitt. *wewakta* is the irregular 3sg. preterite corresponding to 3sg. pres. *wewakki* 'demands (repeatedly)'. Jasanoff (2003, 11, 36-38) traces these forms directly to a PIE pluperfect ($*\underline{u}e\underline{u}\acute{o}\acute{K}$-$t$) and perfect ($*\underline{u}e\underline{u}\acute{o}\acute{K}$-$e$), respectively. As several schol-ars have pointed out, however, there are problems with this analysis: the accent of the verb *wewakk-* is probably on the reduplication syllable (see Kloekhorst 2008, 1011), and the root $*\underline{u}e\acute{K}$- was not of a semantic type to form a resultative-stative perfect (see García Ramón 2006, 32-33). For these reasons we now group *wewakk-* with the "intensive" formations that partly share the morphology of the perfect in Indo-Iranian (e.g., Ved. *nónāva* 'roars') and Greek (e.g., μέμῡκε 'lows'). Forms of this kind had normal h_2e-conjugation imperfects rather than true plu-perfects in the parent language (see below) but often – as was perhaps the case with *wewakta* – acquired pluperfect-like preterites analogically.

[4]   It should be noted that the 3pl. of the PIE active pluperfect was aberrant, with *e*-grade rather than zero grade of the root and the ending $*$-$\underline{r}s$ rather than $*$-nt; the diagnostic form is GAv. *cikōitərəš* 'appeared (*vel sim.*)', with analogical reten-tion of -*k*- (see Jasanoff 1997; 2003, 39-40 and *passim*). Though interesting for what they tell us about the history of the perfect system within the protolanguage, the special features of the 3pl. are of no importance for Greek, where they were lost without a trace.

[5]   Compare now Weiss (2010, 110): "The resultative [i.e., perfect] stem developed a past form with the secondary endings and the prefixed augment (at least) in the form of Indo-European ancestral to Greek and Indo-Iranian."

3sg. *-*o*, etc.), optionally accompanied by the augment, were substituted for those of the perfect middle (1sg. *-h_2er, 2sg. *-th_2er, 3sg. *-*or*, etc.).[6]

In early Greek, the unmarked active pluperfect is alphathematic in the singular and athematic in the plural. The much rarer thematic pluperfect (e.g., Hom. 1sg./3pl. ἄ/ἤνωγον [cf. Cypr. 3pl. *a-no-ko-ne*] 'ordered', 3sg. ἄνωγε(ν), 3sg. (ἐ)γέγωνε(ν), and 3pl. (ἐ)μέμηκον 'bleated') constitutes a class apart, being largely associated with the "intensive" perfects of *verba dicendi vel sonandi*. Despite the potential appeal of deriving the thematic pluperfect from the same source as the alphathematic/athematic forms (as per Katz 2006), we now (compare note 3) prefer to regard intensive perfects of the type ἄνωγα, γέγωνα, and μέμηκα as reflecting reduplicated h_2e-conjugation presents rather than perfects *sensu stricto* in the parent language, with preterites that were not properly speaking pluperfects at all, but normal h_2e-conjugation imperfects in 1sg. *-h_2e, 2sg. *-th_2e, 3sg. *-*e*[*t*] (see Jasanoff 2003, 86-90; 2016).[7] On this view, the 3sg. h_2e-conjugation imperfect in *-*et* would have been the source of the Greek 3sg. thematic "pluperfect" in -ε and the point of departure for the creation of the thematic pluperfect as a whole.[8] We will not discuss these forms further here.

In Homer, the active non-singular and the entire middle of the normal pluperfect are formed according to the template *(augment +) weak perfect stem + secondary endings*. Athematic pluperfect forms of the type 3du. ἐΐκτην 're-sembled', 1pl. ἐπέπιθμεν, and 3sg. mid. (ἐ)πέπυστο 'understood' are thus in close accord with their Indo-Iranian and proposed PIE counterparts. The problem from a historical point of view is the active singular, in which the strong perfect

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[6] Dag Haug, a student of Berg's who does not accept our view that the pluperfect is an inherited category (see most recently Haug 2008, 298), discusses the semantic development of Greek perfects and pluperfects in a couple of recent papers and has interesting things to say about the relationship between time and diathesis in the (plu)perfect system. We note, though, that if García Ramón (1990, 13-15, with notes on 19-20) is right to understand 3sg. ἔφθιεν at *Il.* 18.446 as an old pluperfect (< *ἐφθίε(ε) 'was wasting away'), then Haug (2008, 299) is not correct to state that "not a single verb in Homer has both an active and a middle pluperfect" (cf. 3pl. ἐφθίαθ'(ο) [*Il.* 1.251] 'died' and, with the prefixes ἀπ- and ἐξ-, 3sg. -έφθιτο).

[7] The distinction is important: h_2e-conjugation presents, like presents of the more familiar types, had a well-entrenched distinction between primary and secondary endings (e.g., 1sg. *-h_2ei vs. *-h_2e and 3sg. *-*e* vs. *-*e*[*t*]); the perfect, until very late in the day, did not. When the need was finally felt for secondary perfect forms, recourse was had to the secondary endings of the *mi*-series: e.g., 1sg. *(e)u̯óid-m̥*, 2sg. *(e)u̯óid-s*, 3sg. *(e)u̯óid-t*, etc. 'knew'.

[8] Though starting from very different assumptions, our interpretation of these forms presents obvious points of contact with the classic treatment of Tichy (1983). The "super-thematic" type in 1sg./3pl. -εον is briefly discussed below.

stem is followed by the distinctive endings -εα, -εας, -ει. Synchronically, these endings were interpreted by speakers of Greek as consisting of the perfect endings preceded by -ε-, an analysis that led to the post-Homeric spread of -ε- to the plural as well (1pl. -εμεν, 2pl. -ετε, 3pl. -εσαν; cf., e.g., Attic ἐπεποίθεσαν and, with the familiar -κ-, ἐλελύκεσαν 'had loosened, undone').[9] The source of this vowel, however, is unclear.

Complicating the interpretation of the standard pluperfect paradigm in -εα, -εας, -ει is the partly distinctive pluperfect of the verb 'to know', forms of which are attested in Homer in 1-3sg. and 3pl. In the three plural persons, the predicted forms – aside from the surprising long augment, on which see below[10] – are preserved in Classical Attic: 1pl. ᾖσμεν, 2pl. ᾖστε, 3pl. ᾖσαν.[11] All these go back to *ēwid-, with -σ- for -δ- in the first and third persons (cf. already unaugmented Hom. 3pl. ἴσαν [4×] for expected *(ϝ)ίδα(ν) < *-n̥t) based on the other instances in the paradigm where the *-d- of the root directly preceded another dental (e.g., ᾖστε < *ēwid-te). In the singular, however, the paradigm is notably irregular. The Homeric forms are 1sg. ἤδεα and/or εἴδεα (4×); 2sg. ἠείδης (Il. 22.280) and ᾔδησθ' (α) or εἴδησθ' (α) (Od. 19.93); and 3sg. ᾔδη and/or εἴδη (21×), ἠείδη (Od. 9.206), and ᾔδεε(ν) and/or εἴδεε(ν) (6×).[12] This confusing array has three interesting properties: (1) e-grade of the root (ἠειδ- [and presumably also ᾐδ-, with contraction] < *ἠϝειδ- and/or εἰδ- < *ϝειδ-); (2) the

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[9]   There is one instance of 3pl. -εσαν already in Homer: ἐοίκεσαν (Il. 13.102). By post-Classical Attic the leveling had gone one step further, with -ει- throughout the entire paradigm: -ειν, -εις, -ει, -ειμεν, -ειτε, -εσαν (Koine -εισαν).

[10]   And aside from the lack of reduplication in the entire perfect system of this verb, for a possible explanation of which see Jasanoff (2003, 228-233).

[11]   The alternative forms ᾔδεμεν, ᾔδετε, ᾔδεσαν are secondary.

[12]   See Katz (2006, 10 n. 25 and esp. 25 n. 59) for an overview of the textual details; compare also Hackstein (2002, 254-277, esp. 254-265), though we disagree with this scholar on a number of important points. The one issue that requires discussion concerns our hedging conjunction "and/or" between three pairs of alternative forms, among them ᾔδη (the best-known of all Homeric pluperfects) and the comparatively unfamiliar εἴδη, which is not found in the manuscripts. The unaugmented versions are what Martin L. West, following J. Wackernagel, prints throughout his recent Teubner edition of the Iliad (West 1998-2000), a choice he discusses in West (1998, xxxiii). (West has not yet finished editing the Odyssey, but we presume that he will prefer to print the traditional ᾔδησθα as εἴδησθα.) In view of the initial digamma in the verb that the meter requires in the verse-initial collocation usually printed #ὃς ᾔδη … (Il. 1.70, 6.351) 'who knew …', we are inclined to believe that it is wise to read (ϝ)εἴδη at least here – and very likely elsewhere too. Even so, we have deemed it sensible to continue to print the forms as they appear in most texts and handbooks.

unexpected 2sg. endings -ης and -ησθα; and (3) the unexpected 3sg. ending -η rather than -ει.

Put in the most concrete terms, our task is to explain how partial paradigms of the type

1sg.	$*(e)pep\acute{o}it^h\underset{\circ}{m}$	became	(ἐ)πεποίθεα
2sg.	$*(e)pep\acute{o}is(s)$ $(< *-t^hs)$	"	(ἐ)πεποίθεας
3sg.	$*(e)pep\acute{o}is(t)$ $(< *-t^hst)$	"	(ἐ)πεποίθει

and how the specific partial paradigm

1sg.	$*(e)w\acute{o}id\underset{\circ}{m}$	became	$*(ἠ)ϝείδεα$
2sg.	$*(e)w\acute{o}is(s)$ $(< *-ds)$	"	$*(ἠ)ϝείδησ(θα)$
3sg.	$*(e)w\acute{o}is(t)$ $(< *-dst)$	"	$*(ἠ)ϝείδη.$

In both cases, it is easy to see why the preforms on the left would have been natural candidates for replacement: the historically expected second- and third-person forms were morphologically opaque, and the unaugmented first-person form – the syllabic nasal of which would have developed into $*-a^n$ (i.e., [ã]) and then $*-a$ – would at an early date have fallen together with its correspondent in the perfect proper.

For the main paradigm Katz (2006) proposes a three-step analogical scenario:

(1)   "clarification" of 2sg. $*(e)pep\acute{o}is(s)$ and 3sg. $*(e)pep\acute{o}is(t)$ to $*(e)pep\acute{o}it^hes(s)$ and $*(e)pep\acute{o}it^hes(t)$, respectively;

(2)   extension of the new quasi-stem $*pepoit^hes-$ to 1sg. $*(e)pep\acute{o}it^hes\underset{\circ}{m}$, whence $*(e)pep\acute{o}it^he(h)a/*(ἐ)πεποίθεα$; and

(3)   extension of alphathematic inflection to 2sg. $*-e(h)as/*-εας$ and 3sg. $*-e(h)e/*-εε$.

For the verb 'to know', on the other hand, Katz starts from a stem $*ϝειδη-$ that is not a "stative" akin to Lat. *uidēre* and OCS *viděti* 'see', as many scholars would have it,[13] but rather, as suggested by Jasanoff (1991, 117 n. 34 and esp. 1997, 125 n. 20; 2003, 36 n. 20), a back-formation from the paradigm of the perfect optative ϝειδείην, -είης, -είη on the model of the aorist passive (e.g., (ἐ)φάνην, etc. 'appeared'). Specifically,

aor. pass. opt. φανείην, -είης, -είη : aor. pass. indic. (ἐ)φάνην, -ης, -η
   : : pf. opt. ϝειδείην, -είης, -είη : X,

where X = $*(ἠ)ϝείδην$ (unattested), (ἠ)ϝείδης, (ἠ)ϝείδη.

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13   For a conspectus of other views see Katz (2006, 26, with n. 61).

The final -η of 3sg. ᾔδη/εἴδη and ἠείδη and the -η- of 2sg. ἠείδης and ᾔδησθα/εἴδησθα are thus for Katz quite separate from the usual pluperfect ending -ει. He attributes the 3sg. variant ᾔδεε(ν) and, by implication, 1sg. ᾔδεα (for expected *ᾔδην or *(ἠ)είδην) to the influence of the standard (ἐ)πεποίθεα paradigm.

As Katz himself admits, none of this is straightforward, depending as it does on a phonological development specific to dental-final roots, the so-called dental + dental rule (the choice of the perfect stem πεποιθ- [< PIE *$b^h eid^h$-] is thus not accidental), and on a non-proportional analogy to generate the sigmatic 2sg. in *-es(s) and 3sg. in *-es(t). The latter forms are needed to account for the 1sg. in *-esm̥/*-e(h)a, which serves in turn as the basis for the creation of the alphathematic 2sg. in *-e(h)as/*-εας and 3sg. in *-e(h)e/*-εε. But herein lies the fatal problem – the metrical issue to which we alluded above. In principle, the -ει of (ἐ)πεποίθει, etc. could indeed go back to *-εε, direct evidence for which is traditionally seen in Hom. ᾔδεε(ν) and in the corresponding pluperfect ending in Herodotus (ᾔδεε, ἐληλύθεε 'came', etc.). These forms, however, can also be explained analogically – and (as we now recognize) they *must* be so explained in the light of a striking distributional fact. In Homer, as is well known, the 3sg. active pluperfect shows a strong predilection for verse-final position (see, e.g., Chantraine 1958, 437); it is no accident that the specific form ἐπε-ποίθει makes its sole epic appearance at the end of *Il.* 16.171. Yet verse-final position is the one place in the hexameter where the metrical sequence – ◡ ◡ is disallowed. Despite the conventional wisdom, therefore, and whatever the merits of Katz's – or, for that matter, Berg's – analogical scenario,[14] it is highly unlikely that forms like (ἐ)πεποίθει do go back to *(ἐ)πεποίθεε.

In what follows, we offer what we believe is the required revision of the Katz/Jasanoff solution, which we continue to regard as fundamentally correct. In particular, we continue to explain the (ἐ)πεποίθεα and ᾔδεα partial paradigms sketched above as inner-Greek replacements of, respectively, *(e)pe-póit^hm̥, etc. and *(e)wóidm̥, etc. We also continue to interpret the stem *ϝείδη- as a back-formation from the optative and to assume analogical interaction between the historically distinct paradigms of (ἐ)πεποίθεα and ᾔδεα, the second of which – and only the second of which – originally had forms in *-ē-. The main difference between the account below and the theory Katz published in 2006 lies in the greater role we assign to the verb 'to know', and in particular to 1sg. ᾔδεα.

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14   For Berg, too, the source of -ει is *-εε, only this is for him a last-minute inner-Homeric extension of the supposedly temporally indifferent inherited (plu)perfect ending *-e.

As we have seen, the inherited 1-3sg. pluperfect of the root *$\underset{\sim}{u}eid$- would at some stage of Greek have had the structure *$(e)w\acute{o}ida^{(n)}$, *$(e)w\acute{o}is$ ($<$ *-ss), *$(e)w\acute{o}is$ ($<$ *-st), with merger of the 2sg. and 3sg. forms. An early response to the homophony was perhaps the optional extension of the 2sg. ending *-$(s)t^ha$ from the perfect proper into the pluperfect, giving rise to a new *$(e)w\acute{o}ist^ha$ that then became the locus of the spread of -σθα to other secondary forms (e.g., 2sg. impf. ἦσθα 'were' and impf./aor. (ἔ)φησθα 'said' beside ἦς and (ἔ)φης).[15] For the purposes of the discussion that follows, we take the "initial setting" of the singular pluperfect paradigm of οἶδα to have been

1sg. *(ἔ)ϝοιδα$^{(n)}$
2sg. *(ἔ)ϝοις ~ *(ἔ)ϝοισθα
3sg. *(ἔ)ϝοις.[16]

Very little of this survives in quasi-attested *(ἠ)ϝείδεα, etc. One of the major innovations of historical Greek, and the easiest to discuss because it is the most self-contained, is the long augment, on which see Chantraine (1958, 479-481). According to Chantraine and others, ἠ- is the usual form of the augment before digamma. But this is not an explanation, and it conspicuously fails to hold for εἶδον $<$ *ἔϝιδον, the aorist built to the same root as οἶδα. The best evidence for the long augment before digamma, in point of fact, comes precisely from what are sometimes considered to be unreduplicated pluperfects: e.g., ἤϊκτο and ἐῴκει (: pf. (ϝ)έ(ϝ)ικται and (ϝ)έ(ϝ)οικε, respectively), ἐώλπει 'hoped' (: pf. (ϝ)έ(ϝ)ολπε), and ἐώργει 'did, worked' (: pf. (ϝ)έ(ϝ)οργε), the last three with quantitative metathesis.[17] These forms, in our opinion, illustrate the effects of an

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[15] This is perhaps the easiest way to explain the non-trivial spread of -σθα as a secondary ending. A mechanical proportion would have been possible if the 1sg. ending *-a of the perfect and the 1sg. ending *-a^n of the pluperfect had already merged.

[16] The line between giving Greek preforms in Roman letters and in Greek ones is subjective, but from here on, most constructs from the not-too-distant past will be given in Greek.

[17] Chantraine (1958, 479-480) is hesitant about these forms: "Ailleurs la graphie présente une métathèse de quantité comme en attique […]. Certains plus-que-parfaits sont peu clairs: ἐῴκει (B 58, etc...); la forme comporte un ϝ initial, ainsi δ 654 πάντα ἐῴκει qui peut recouvrir soit πάντα (ϝ)ε(ϝ)οίκει sans augment, soit πάντ' ἐ(ϝ)ε(ϝ)οίκει, la graphie avec ω serait un atticisme; mais il a pu exister un *ἠϝοικει sans redoublement, cette forme est supposée par ἐπ[εῴ]κει (ω 295) et par ἐῴκει attesté en attique Thucydide VII 75, Xénophon *Hellen.* VII, 5, 22." In the "Addenda et Corrigenda" to the 5th edition (1973), however, he writes, "Il faut renoncer à l'hypothèse d'un augment long et d'une forme sous [*sic*; read 'sans'] redoublement pour expliquer ἐῴκει tiré de *ηϝοικει, et de même pour

early Greek sound law that contracted the sequence *$ewew$-/*$ἐϝεϝ$- to *$ēw$-/*$ἠϝ$-. By this development, which must have been earlier than the standard rules governing the loss of digamma in Attic-Ionic, pre-Greek *$ἐϝεϝοιϰ$- (< PIE *$u̯eiḱ$-) became the superficially unreduplicated pluperfect *$ἠϝοιϰ$- (> $ἐῳϰ$-), *$ἐϝεϝοργ$- (< PIE *$u̯erǵ$-) became *$ἠϝοργ$- (> $ἐωργ$-), and so on. With *$ἠϝ$- established in the "unreduplicated" pluperfects of all roots in initial digamma *other than* *$ϝειδ$-, it was analogically extended to the pluperfect of *$ϝειδ$- itself, where the absence of reduplication was genuinely old.[18]

The first step in the replacement of the inherited pluperfect of $οἶδα$ by the etacized stem *$ϝειδη$- may have been the partial encroachment of the formally transparent perfect optative *$ϝειδειη$-, which in the manner of optatives generally would have been potentially employable as an iterative preterite (cf. Eng. *would*), on the territory of the opaque pluperfect indicative *$(ἔ/ἤ)ϝοιδα^{(n)}$, *$(ἔ/ἤ)ϝοισ(θα)$, *$(ἔ/ἤ)ϝοις$. The optative stem *$ϝειδειη$-, it is hardly necessary to add, was not the phonological reflex of PIE *$u̯id$-$i̯eh_1$- (> **$ϝιζη$-) or even of its "improved" Lindeman-variant version *$u̯id$-$i̯i̯eh_1$- (> **$ϝιδιη$-), as in Ved. *vidyā́t*, GAv. *vīdiiāt̰*, and Go. *witi*. Virtually all expected instances of the optative sign *-$ιη$- were replaced in Greek by -$ειη$-, -$αιη$-, or -$οιη$-, with the first being the unmarked choice.[19] The full grade of the root in *$ϝειδειη$- simply copied the vocalism of the subjunctive *$ϝειδε/ο$-.

With the optative *$ϝειδειη$- functioning as what might be called the "modally colored" preterite of *$ϝοῖδα$, the stage would have been set for the backformation of a more convenient *non*-modally colored preterite. Jasanoff, as we

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$ἐώργει$ et $ἐώλπει$" (518; compare now Chantraine 2013, 463) – but the alternatives he offers are not uniformly satisfactory.

[18] It is not impossible that the change of *$ewew$- to *$ēw$- is related to the loss of *w- before a labial in the famously digamma-less $ἐμέω$ 'vomit' (vis-à-vis, e.g., Skt. *vam^i*- and Lat. *uomere* < PIE *$u̯emh_1$-; see, e.g., Chantraine 1958, 156). Here, too, may belong $ὀπυίω$ 'be married', if, as Katz has suggested in a talk titled "Greek $ὀπυίω$ and its digamma", the verb is connected to Ved. *vápuṣ*- 'wonder', *vapuṣyà*- 'wondrous', and the root *vap*- 'strew' (< PIE *$h_2u̯ep$-). The most recent and fullest published account of a similar kind of dissimilation in Greek is Nikolaev (2007, 169 and *passim*), not all of whose conclusions we necessarily accept.

[19] Prominent loci for the replacement of *-$ιη$- (i.e., *-$ι(ι̯)η$-) by *-$ειη$- (i.e., *-$ει(ι̯)η$-) would have included (1) the verb 'to be', where PIE *h_1s-$i̯eh_1$- (Lindeman variant) would first have given *$ehi(y)ē$- and then *$hei(y)ē$-/*$εἰ(ι̯)η$- (analyzed as *h-$ei(y)ē$-, with later analogical elimination of the rough breathing); and (2) the aorist of the root *d^heh_1- 'put', where *$θι(ι̯)η$- (< PIE *d^hh_1-$i̯eh_1$-) blended with 1-2pl. $θεῖμεν$, $θεῖτε$ (< *d^heh_1-ih_1-) to yield $θει(ι̯)η$-. On the latter development see further Jasanoff (1991, 106-108).

have seen, formerly invoked the aorist passive for this purpose, and Katz followed him. But a semantically more appropriate model would have been the verb 'to be':[20]

pres. opt. εἴην, εἴης, εἴη : impf. ἦα, ἦσ(θα), ἦς[21]
  :: pf. opt. Ϝειδείην, -είης, -είη : X,

where X = *(ἠ)Ϝείδηα, *(ἠ)Ϝείδησ(θα), *(ἠ)Ϝείδης.[22]

The proportion did not operate in the plural, where the inherited pluperfect forms *(ἤ)Ϝιδμεν, etc., unlike the hypershort 2-3sg. *(ἔ/ἤ)Ϝοις, presented no special difficulties of parsing or processing. Of the newly etacized forms, 1sg. *(ἠ)Ϝείδηα and 2sg. *(ἠ)Ϝείδησ(θα) would have been stable; the latter is effectively attested in Hom. ἠείδης (*Il.* 1×) and ᾔδησθ(α)/εἴδησθ(α) (*Od.* 1×). But 3sg. *(ἠ)Ϝείδης, with its synchronically unmotivated final -ς, would have cried out for further fixing.[23] Under pressure from such pairs as 2sg. aor. pass. (ἐ)φάνης : 3sg. (ἐ)φάνη, 2sg. impf./aor. (ἔ)φησ(θα) : 3sg. (ἔ)φη, 2sg. impf. ἐτίθης : 3sg. ἐτίθη 'put',[24] and (only slightly further afield) 2sg. impf. ἔφερες : 3sg. ἔφερε 'carried', the final consonant was lost, yielding

1sg. *(ἠ)Ϝείδηα	1pl. *(ἤ)Ϝιδμεν
2sg. *(ἠ)Ϝείδησ(θα)	2pl. *(ἤ)Ϝιστε
3sg. *(ἠ)Ϝείδη	3pl. *(ἤ)Ϝιδαν.

This is the paradigm we posit for Proto-Attic-Ionic; it is probably even older (see below).

The normal pluperfect (*(e)pepóit^{h}m̥/*(ἐ)πέποιθα[(n)], etc.) would not have been directly affected by these developments.[25] But once the endings *-ηα,

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*-ησ(θα), *-η had established themselves in the pluperfect singular of the common verb 'to know', they would have proved useful elsewhere. Without analogical repair, roots ending in a stop would have been subject to severe truncation in the 2-3sg. pluperfect. We have already seen this in the case of 2sg. **(e)pepóis* < *-*t^hs* and 3sg. **(e)pepóis* < *-*t^hst*; the reduction would have been still more dramatic when the root ended in a labial, velar, or labiovelar, giving rise to forms like *(ἐ)λέλοιψ, *(ἐ)λέλοι (: pf. λέλοιπε 'leaves (behind)' < PIE **leik^u*-) and *(ἐ)τέτρηξ, *(ἐ)τέτρη (: pf. τέτρηχε 'is in an uproar' < PIE **d^hreh₂g^h*-), etc. Our proposal is that to eliminate the inconvenience of such forms, the 1-3sg. endings of the pluperfect of the verb 'to know' – *-ηα, *-ησ(θα), *-η – were generalized to the active pluperfect as a whole. The result was a pluperfect paradigm recognizably ancestral to the one we know:

1sg. *(ἐ)πεποίθηα	1pl. *(ἐ)πέπιθμεν
2sg. *(ἐ)πεποίθησ(θα)	2pl. *(ἐ)πέπιστε
3sg. *(ἐ)πεποίθη	3pl. *(ἐ)πέπιθαν.

Forms such as the new 3sg. *(ἐ)πεποίθη, with the metrical sequence (◡) ◡ – –, would have been ideally suited for use in verse-final position. The ἐπεποίθει of *Il.* 16.171, in our view, recovers just such a form. More generally, the reason why 3sg. pluperfects tend to cluster in verse-final position in Homer, we suggest, is that at the time the poems were composed, they ended not in -ει < *-εε but in monophthongal *-η.[26]

The final steps in the emergence of the attested pluperfect were the change of *-ηα to *-εα by quantitative metathesis, the analogical adjustment of *-εᾱ to *-εᾰ to conform to the normal form of the 1sg. ending elsewhere,[27] and

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[25] This is the simplest assumption. In principle, the perfect optative as a whole could have played the role that is here attributed to *ϝειδειη- alone. In that case, perfect optatives of the type *πεπ(ε)ιθειη- and *λελ(ε)ιπειη-, etc. would have given rise to the back-formed pluperfects *(ἐ)πεπ(ε)ίθηα and *(ἐ)λελ(ε)ίπηα, etc., after which, as an extra step, the new forms would have an acquired analogical *o*-grade from the perfect indicative.

[26] A conclusion anticipated by Chantraine (1958, 438): "Il n'est pas impossible qu'elle [= 3sg. -ει] recouvre un plus-que-parfait ancien en η, qui serait issu du plus-que-parfait fréquent de οἶδα […]. Si l'on met à part le cas de οἶδα, ce qui a été usuel chez Homère c'est une troisième personne notée -ει et dont le -ει ne semble pas reposer sur une contraction." Chantraine's suggestion is explicitly rejected by Berg (1977, 229).

[27] In the verb 'to be', Homer has two or three instances of 1sg. impf. ἔᾱ alongside ἦα (see, e.g., Chantraine 1958, 71, 287-288); Herodotus has ἔᾰ (2.19), to judge from occasional other apparently alphathematic forms, such as 2pl. ἔατε. A form of the type *(ἐ)πεποιθέᾱ would not, of course, have fit into the hexameter.

the generation of analogical alphathematic forms in the 2sg. (-εας) and 3sg. (-ει < -εε).[28] It is not without interest that the "contest" between the hiatal 1sg. in -εα and the monophthongal 3sg. in *-η was resolved in favor of the former; other things being equal, it would have been just as natural, and perhaps more so, for the 3sg. form to remain *(ἐ)πεποίθη and the 1sg. to be remade as **(ἐ)πεποίθην. Perhaps the ending *-η was too strongly associated with the aorist, while -εε/-ει, with its implication of an "epsilon-contract" quasi-present stem of the shape πεποιθε-, aligned better with the past stative value of the early pluperfect – which is to say, made sense as an imperfect of the perfect. It is probably no accident that, quite separately, 3sg. impf. ἐτίθη, mentioned above, was refashioned to ἐτίθει.

How old were these developments? Since quantitative metathesis was a purely Attic-Ionic development, the full sequence of events set forth above would have to have been confined to this dialect group. But there is no reason why the remade pluperfect of οἶδα (i.e., *(ἠ)Ϝείδηα, *-ησ(θα), *-η, etc.) could not have been pandialectal or why the 1-3sg. endings *-ηα, *-ησ(θα), *-η could not have been extended to the normal pluperfect (*(ἐ)πεποίθηα, etc.) at an equally early date.[29] The most interesting occurrence of a normal pluperfect outside Attic-Ionic is 3sg. απολωλη 'died' in a fourth-century B.C. inscription from Heraclea. Schwyzer (1939, 778) cites απολωλη as proof of a Doric paradigm – "dor. -η, -ης, -η (aus -εε: herakl. ἀπολώλη)" – for which, however, it is the *only* evidence. And despite the confidence with which Schwyzer and Ringe (1984, [II.]509; compare also [I.]272) state that its ending goes back to *-εε/*-ει, Dor. -η can just as well come from *-ē. In principle, therefore, απολωλη can – and we suspect does – reflect a paradigm in *-ηα, *-ησ(θα), *-η, with the same endings as the pluperfect of οἶδα.

Beyond this there is very little. If we leave aside one super-thematic Phocian form, 3pl. εφεστακεον (4c B.C.) 'were in charge', on which see immediately below, there may well be no evidence at all for interesting dialectal pluperfects. Such late Phocian forms as 3sg. ειλαφει (2c B.C.) 'received', 3sg. ηιδει (1c A.D.), 1pl. ηιδειμεν (1c A.D.), and 3pl. παραγεγονεισαν (2c B.C.) 'were near' are

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[28]   It is worth noting that all Homeric pluperfects of the shape (ᴗ) ᴗ – – (e.g., (ἐ)πεποίθει) that are *not* verse-final are found at the bucolic diaeresis, which implies that they should be scanned (ᴗ) ᴗ – ᴗ ᴗ, i.e., with -εε (see Katz 2006, 14 n. 30, with references). These are respectably old forms as well, representing the second stage in the progression *-η → -εε > -ει.

[29]   Ringe (1984, [II.]508-510) gives an excellent overview of the scant evidence for active pluperfects in Greek inscriptions. Note that the evidence for such forms outside Attic-Ionic is entirely epigraphic.

probably Atticisms, as are late Doric 3sg. forms like εγεγϱαφει (2c B.C.) 'wrote' and εισχηκει (1c B.C.) 'had'.[30] As for εφεστακεον, *pace* Ringe (1984, [II.]509), this does not provide "independent evidence for the existence of an active pluperfect in -ε- outside of Attic-Ionic"; it is a "super-thematic" pluperfect (see Katz 2006, 11-12 n. 27) of the same type as 3pl. ἠνώγεον (*Il.* 7.394), 3pl. ἐμεμύκεον (*Od.* 12.395, *v.l.*), 3pl. *ἐλελήκεον (for ἐπελήκεον 'cheered (*vel sim.*)' at *Od.* 8.379; thus Nussbaum 1987), and above all 1sg./3pl. (ἐ)γεγώνευν (*v.l.* -εον at *Od.* 17.161), attested three times in the *Odyssey*. The hiatus in these forms, whatever their precise morphological history, has nothing to do with the hiatus in the normal pluperfect endings -εα, -εας, -εε/-ει. The super-thematic pluperfect is a formal expansion or renewal of the simple thematic pluperfect (ἤνωγον, etc.); it is significant that all four of the forms in -εον in Homer correspond to *verba sonandi* with intensive perfects (ἄνωγα, μέμῡκα, λέληκα, γέγωνα). Both the thematic and the super-thematic types spread at the expense of the normal pluperfect in the individual dialects. In formal terms, Phoc. εφεστακεον is simply the super-thematic counterpart of the 3sg. thematic plpf. επηστακε, attested three times in East Aeolic (see Katz 2006, 22, with references to Ringe).[31]

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[30]   See Ringe (1984, [II.]509), who, however, tries to make something of some of these forms: "The remaining non-periphrastic Phokian forms [besides εφεστα-κεον] are all late and have endings which *(aside from 3sg. -ει)* betray the influence of the Attic koine [...]. There are [also] a number of late Doric 3sg. forms in -ει which possibly corroborate the evidence of ἀπολώλη [...]. However, these can owe their ending to the influence of the Attic koine" (italics added). It is not apparent to us why Ringe believes that the Phocian 3sg. forms are native while the others are not. For details and some discussion of the forms in question see Ringe (1984, [I.]214-215, 218-219, 224, 225, 234-235, [II.]287, 297, 318).

[31]   A full account of these forms has yet to be written. Two facts are obviously significant: (1) as noted, the verbs that made super-thematic pluperfects also made intensive perfects and simple thematic pluperfects, so that that their 3sg. "present" (e.g., ἄνωγε(ν) 'orders') and (augment aside) "preterite" (ἄνωγε(ν) 'ordered') were identical; and (2) the specific verb γεγων- made a full-blown contract present γεγωνέω (see, e.g., Chantraine 1958, 347-348), with attestations in both literary and inscriptional sources (see Ringe 1989, 146-147 n. 13). We would speculate that the iterative present meaning 'call, make oneself heard' led to the creation of the morphological iterative present γεγωνέω (cf. also γεγωνίσκω), with an imperfect ((ἐ)γεγώνεον, -εες, -εε, etc.) that conveniently allowed a distinction to be made between the present and past readings of the ambiguous 3sg. γέγωνε. From γεγων-, and perhaps a few other verbs with the same profile, the imperfect in -εον became mildly productive. Compare Nussbaum (1987, 238 n. 23 and esp. 248-250) and Ringe (1989, 146-147 n. 13).

It is time to summarize our findings:

(1) Greek inherited a reflex of the PIE pluperfect, formed by optionally adding the augment and substituting the secondary active endings (1sg. *-*m*, 2sg. *-*s*, 3sg. *-*t*, etc.) for those of the perfect.

(2) At an unknown but probably early date, the hypershort pluperfect singular of the verb 'to know' was replaced by an innovated sub-paradigm in 1sg. *-ηα, 2sg. *-ησ(θα), 3sg. *-η (for earlier *-ης), back-formed from the optative *ϝειδειη- on the model of the verb 'to be'.

(3) The long augment in the new pluperfect *ἠϝειδ- was analogically imported from forms like *ἠϝοικ- and *ἠϝοργ-, where *ēw- was the phonologically regular reflex of *ewew-.

(4) Likewise at an unknown date, the endings *-ηα, *-ησ(θα), *-η were extended to the non-thematic pluperfect as a whole. Homeric forms such as verse-final ἐπεποίθει recover underlying *(ἐ)πεποίθη, etc.

(5) Following quantitative metathesis, an alphathematic singular paradigm in 1sg. -εα, 2sg. -εας, 3sg. -εε (> -ει) was created in Attic-Ionic. Homeric occurrences of (ἐ)πεποίθει, etc. at the bucolic diaeresis recover forms in *-εε (e.g., *(ἐ)πεποίθεε), which are old but not as hoary as those in *-η (e.g., *(ἐ)πεποίθη).

We hope that by restoring the pluperfect to full membership in the family of inherited verbal categories in Greek, we have closed a gap in the history of Indo-European morphology that our honorand has done so much to illuminate.

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