we expect word order to act as a reliable syntactic signal, poetry where we expect these signals to be distorted by rhetorical and aesthetic pressures. We should perhaps be wary of our expectations in these matters.

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Sound Law and Analogy

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Amstadom: Attanta Podepi

1997 (19-130

Gathic Avestan cikōitərəš

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One of the most puzzling verbal forms in the Gathas is the hapax 3 pl. cikōitərəs, found at Y 32.11. The passage is given by Kellens and Pirart as follows:¹

taēcit mā mōrəṇdən jiiōtūm, yōi drəguuaṇtō mazbīš cikōitərəš aŋ²hīšcā aŋhauuascā, apaiieitī raēxənaŋhō vaēdəm yōi vahištāt aṣaonō, mazdā rārəšiian manaŋhō

'Ils corrompent ma substance, les (mauvais) maîtres et maîtresses qui se signalent comme des partisans de la Tromperie par de grands (torts) ..., s'éloignant ainsi, ô Mazdā, de la très divine Pensée et de l'Harmonie.'

Similar interpretations – at least as far as the nuclear relative clause yōi cikōitərəš is concerned – are offered by Insler ('who appear as')² and Humbach ('die ... glānzen').³ All these scholars take cikōitərəš to be the 3 pl. perfect of the root cit- (= Ved. cit- 'understand, appear'). Independent evidence for a perfect of this root in Indo-Iranian comes from Vedic (cf. cikéta, cikitúr, cikité, cikit(ri)ré, etc.), Younger Avestan (ptcp. ciciθuš-), and Gathic itself (ptcp. ciciθβā Y 43.2). The meaning 'appear' (≅ 'se signaler', 'glänzen'), though not otherwise found in Avestan, recurs in the perfect middle forms in Vedic (cf. prá nú yád eṣām mahinā cikitré 'now that they have appeared in their grandeur' RV I 186.9, ṣākáṃ náro daṃsánair á cikitrire 'all at once the men have appeared in (all) their wondrousness' I 166.13).⁴

Yet cikōitərəš (i.e., /cikaitṛš/),⁵ if it is indeed a 3 pl. perfect, is a very peculiar one. The other 3 pl. perfects in Avestan are GYAv. āŋharð (: ah-), GYAv. ādarð (: ad-), GAv. cāxnarð (: kan-), YAv. †cāxrarð (?) (: kar-), YAv. dāðarð (: dā-), YAv. baβrarð (: bar-), YAv. bābuuarð (: bū-), vaonarð (: van-), YAv. vīðarð (: vid-), YAv. irīriθarð (: riθ-), YAv. °šastarð (: stā-). All these forms, unlike cikōitərðš, show the zero-grade that is regular in the perfect plural in Indo-Iranian and the other early IE languages (cf. Ved. cikitúr, dad(h)úr, vidúr, tasthúr, etc.; Gk. οίδα: ἴδμεν, Go. wait: witun, etc.). The ending -ðrðš < *-ṛs is also exceptional. The normal ending of the 3 pl. perfect in Avestan is not -ðrðš but GAv. -arð, YAv. -arð, continuing IIr. *-ar < *-ṛ, with the same

¹Cf. Kellens - Pirart (1988: 121). I am grateful to James Benson, Stanley Insler and Stephanie Jamison for their help during the planning and writing of this paper. I owe a special debt to Professor Beekes, whose comments on an oral version delivered in Leiden in April, 1996 did much to clarify my presentation here.

²Cf. Insler (1975: 47).

 ³Cf. Humbach (1959: 98).
 ⁴Translations after Insler (1975: 206).

⁵As correctly interpreted by Beckes (1988: 24).

phonological treatment of word-final *-; as in yākarə 'liver' (= Gk. $\tilde{\eta}\pi\alpha\rho$) and Ved. áhar 'day'. IIr. *-ṛṣ, which gave the regular 3 pl. perfect in -ur in Vedic (cf. gen. sg. pitúr < *-tr-š), is otherwise found in Avestan only in the 3 pl. optative (cf. YAv. daibiiārəš beside daibiian (: dā-), jamiiārəš beside jamiian (: jam-), buiiārəš beside buiian (: bū-), °šaciiārəš (: hac-)). This "optative" use of *-ṛṣ, which is also regular in Vedic (cf. gamyur, bhūyur, etc.), was clearly an Indo-Iranian feature. What is unclear is how *-rs and *-r were distributed in the perfect itself, where the Vedic evidence points to *-rs, but where Avestan has both *-rs and *-r -- the former in the apophonically deviant cikoiteres, the latter in every other perfect in the language.

As I have argued elsewhere, the 3 pl. perfect ending had three formal variants in the parent language. The allomorph *-rs appears in cikoiteres, the Vedic 3 pl. perfect in -ur, and the Indo-Iranian optative forms just discussed. The byform *-r, which gave Av. -ar5, appears outside Indo-Iranian in the Old Irish 3 pl. preterite ending -(a)tar < *-ontar, which shows the addition of *-r (> *-ar), the ending of the 3 pl. perfect, to the *-ont of the thematic agrist (cf. 3 pl. lotar 'went' < *ludontar < * h_1 ludhónt (= Gk. ἤλυθον) + *- \mathfrak{x}). The third variant was *-er, which appears in Lat. -ere (i.e., *-er + hic et nunc *i) and probably also underlies the Hittite 3 pl. preterite in -ēr (ti-i-e-er '(they) put', ú-e-er '(they) came', etc.). The patterning of these forms suggests that the original shape of the 3 pl. perfect ending was *-(é)rs, structurally parallel to the active ending *-(é)nt. The zero-grade variant *- is was retained into the dialectal period, giving *-rs in Indo-Iranian. Full-grade *-érs, on the other hand, was converted to *-ér by an inner-IE sound change - the phonological rule, familiar from the nominative singular of r- and n-stem nouns (cf. *ph2-tér 'father' < *ph2-tér-s, *uks-én 'ox' < *uks-én-s, etc.), that took sequences of the form *-VRs to *-VR in word-final position.7 The s-less zero-grade variant *-r probably arose as an early compromise between *-rs and *-er (< *-ers). At some time after the creation of *-r, but still within the common period, the 3 pl. middle endings *-ro (cf. Ved. sére '(they) lie', impf. ásera[n]) and *-ēro (cf. YAv. ånhaire '(they) sit' (= Skt. āsate)) were created or reformed on the basis of the *-r and *-er of the perfect.8

⁷The rule is best known from its statement by Szemerényi (1970: 155). The parallel change of word-final *-VRH to *-VR is discussed by Nussbaum (1986: 129f.).

PIE *-er was lost in Indo-Iranian, but both *-rs (> IIr. *-rs) and *-r (> IIr. *-ar) are unambiguously continued in Avestan. Both endings, therefore, must have been present in Proto-Indo-Iranian, where they were presumably distributed in some principled way. *-rs was evidently the regular r-ending in the 3 pl. optative (cf. above). *-r, on the other hand, was regular in the 3 pl. of the perfect indicative - or at least in the apophonically normal variety of perfect indicative with zero grade in the plural (see below). This ending survived in Avestan (vīdarə, etc.) but was replaced, here and elsewhere, by *-rs in Vedic (vidúr, etc.). A trace of the 3 pl. perfect in *-ar < *-r in Indic is perhaps detectable in the 3 du. ending Ved. -atur (: YAv. -atarə; cf. also Ved. 2 du. -athur), the -a- of which is best explained by assuming a reanalysis of *-ar as *-a- (union vowel) + *-r (desinence).9 In cikōitərəs, which is clearly not a perfect of the apophonically "normal" type, the rationale for the appearance of *-rs rather than *-r is unclear.

The isolation of cikōitərəš in Avestan is so complete that it may come as a shock to realize that the addition of -ur < *-rs to the "strong" perfect stem is fairly well attested in Vedic Sanskrit. Significantly, most of the forms of this type are augmented - that is, they are pluperfects. A typical case is adidhayur '(they) appeared' (V 40.5; also úd ádīdhayur 'looked up' VII 33.5). The Indo-Iranian root *dhī-'look, think' originally formed a stative perfect with present meaning, direct reflexes of which are found in Ved. 1 sg. didhaya, 1 pl. didhima, 3 pl. dīdhiyur, etc. and in YAv. 3 sg. dibaiia, ptcp. dibuua. The corresponding preterite is the pluperfect ádīdhet 'appeared' (X 98.7), which has an associated "perfect injunctive" dīdhet (X 144.3); forms of this kind are also found in Iranian (e.g., YAv. 1 sg. odioaem Vyt. 43). Ved. ádīdhayur, likewise a pluperfect, is simply the 3 pl. counterpart of ádīdhet. Forms like ádīdhet and ádīdhayur have often been misinterpreted, in part because stative perfects of the type IIr. *dhīdhāja, influenced by pluperfects of the type *ádhīdhajt. show a tendency in both Indic and Iranian to be replaced by back-formed presents of the type *dhīdháiti. Thus, e.g., Vedic substitutes the present participle dídhiat- for the inherited perfect participle *dīdhīvāms-, while Avestan has a 3 sg. present YAv. dibāiti (for *dibaēiti; Yt. 10.13 etc.) and a present participle YAv. daibiiaņt-. Note that the creation of the secondary present *dīdhéti would automatically have entailed the reanalysis of the 3 pl. pluperfect adddhayur as an imperfect. 10

Parallel to ádīdhayur are the post-Rigvedic forms ábībhayur (: bhī-'fear'; Kh. I 7.5) and acikayur (: ci-'observe'; MS I 10.15, etc.). ábībhayur is the

⁹Compare, e.g., the spread of -u- in the plural and dual of the strong preterite in Germanic (Go. 1 du. witu (< *-uwe), 2 du. wituts, pl. witum, -ub, -un), where the only phonologically regular form was the 3 pl. in *-un < *-nt.

10 On the Avestan forms, and the 3 sg. *diôaēiti in particular, see Insler (1971: 583f.), followed by Kellens (1984: 183). The process by which presents were back-formed to pluperfects is described at greater length by Thieme (1929: 35ff.), elaborating on Wackernagel (1905: 305ff.).

⁶Most recently in Jasanoff (1994: 150).

⁸The term "perfect endings" is technically a misnomer, albeit a convenient one. *-h,e, *-th_e, *-e, *-(é)rs, etc. were originally the endings of a pre-PIE category which, for want of a better term, I have called the "protomiddle" (cf. Jasanoff 1994: 163f.). Protomiddle paradigms which became "true" middles in late Proto-Indo-European underwent a series of inner-IE formal renewals, including a) the elimination of paradigmatic ablaut, b) the introduction of the middle hic et nunc particle *r, and c) the generalization of o-timbre in the third person endings (e.g., 3 sg. *-o(r), later also *-to(r)). Protomiddle paradigms which were not renewed as middles, on the other hand, retained their "perfect" endings and ablaut, yielding a) perfects proper, characterized by e-reduplication, *o: zero ablaut, and resultative stative meaning; and b) actives of the "h_e-conjugation," built to a variety of stem types and functionally indistinguishable from "mi-conjugation" actives in *-m(i), *-s(i), *-t(i), *-(é)nt(i), etc. Strictly speaking, the 3 pl. middle endings *-ro and *-ēro were probably

influenced not by the perfect endings as such, but by the hae-conjugation active endings *-r and *-ër, just as the 3 pl. middle ending *-(é)nto was influenced by the mi-conjugation active ending *-(é)nt. Cf. note 16.

3 pl. pluperfect corresponding to 3 sg. plpf. abibhet (X 138.5), 3 sg. perf. bibhāya, and 3 pl. perf. bibhyur (bhī-'fear'). Here, as in dhī-, there is a nascent present system: the participle bibhyat- occurs already in the Rigveda, and finite forms of the present bibhéti begin to appear in the Atharvaveda. In the case of acikayur, properly the 3 pl. corresponding to 3 sg. plpf. áciket (X 51.3; cf. 3 sg. perf. cikáya, 3 pl. perf. cikyúr), a secondary reduplicated present appears in the participle cíkyat- (RV) and in the 2 sg. cikéşi (AV). From the synchronic perspective of late Vedic, the pluperfects ábībhayur and acikayur are imperfects – a mechanical consequence of the fact that the corresponding perfects were renewed as reduplicated presents. It was such "neo-imperfects" as these that gave rise to the synchronic rule – rarely noticed or commented on by Indo-Europeanists – that the reduplicated presents built to roots ending in *-Ĭ-, *-ŭ-, and *-Ṭ- take guna before the -ur of the 3 pl. imperfect. Forms of this type (abibharur, ajuhavur, asusavur, etc.) are canonical in Classical Sanskrit (cf. Whitney 1889: 246-7).

The list of 3 pl. pluperfects attested in the Rigveda is not confined to add add advar. Other forms of interest include the following:

- a) avivyacur (: vyac- 'encompass'; X 56.4), historically the 3 pl. pluperfect (: 3 sg. ávivyak VII 18.8, 63.1) corresponding to the perfect vivyāca (2 sg. vivyáktha); cf. also augmentless vivyacur (IX 80.1). A secondary present appears in 3 du. viviktáh (2×). 12
- b) ámamadur (: mad- 'rejoice, delight'; VII 18.21), properly the 3 pl. pluperfect corresponding to 3 sg. perf. mamāda; a secondary present appears in the 2 sg. form mamatsi (IV 21.9). Note the contrasting 3 pl. perfect mandúr < *me-md- (VII 33.1, VIII 12.13), traditionally assigned to the collateral root mand-.
- c) anonavur (: nu- 'roar, praise'; I 80.9, VIII 59.4), the 3 pl. pluperfect/imperfect corresponding to the "intensive" perfect nónāva (I 79.2), 3 pl. nonuvur (VI 47.25). The 3 sg. counterpart of anonavur is (á)nūnot (V 45.7, VI 3.7), occupying the place of expected *ánonot (cf. návīnot VI 3.7). The relationship of the intensive perfect nónāva, nonuvur to the ordinary intensive present nónavīti is formally the same as that of bibháya, cikáya, etc. to bibhéti, cikéti.
- d) ásisrayur (: śri- 'direct, lay'; VII 2.5, etc.), ácucyavur (: cyu- 'move, stir'; V 53.6, etc.), and asusravur (: śru- 'hear'; X 94.12), pluperfects in form but not in meaning. ásisrayur, the 3 pl. counterpart of 3 sg. ásisret (III 38.8, VII 38.1), has the same preterital value as the perfect sisráya (X 42.6). 14

¹²Here too belongs the 3 du. form áviviktām (X 12.4), probably not an old pluperfect, but a productively formed preteritalization of viviktáh.

¹³See Narten (1981: 4) and the references there cited.

Both the hapax aśuśravur (: perf. śuśrāva) and ácucyavur (9×; cf. also 3 sg. acucyavīt, 2 pl. acucyavītana), the commonest pluperfect form in the Rigveda, pattern synchronically as reduplicated aorists.

e) viveśur (: viś- 'enter'; IV 23.9), probably the augmentless pluperfect (cf. 2 sg. plpf. áviveśīh III 32.10) corresponding to 3 sg. perf. vivéśa. The true 3 pl. perfect is viviśur (3×), with zero grade.

Although several of these forms allow more than one interpretation, the evidence as a whole – and in particular the pairs didhiyur: ádidhayur, bibhyur: ábibhayur, cikyúr: acikayur, mandúr: ámamadur, and nonuvur: anonavur – makes it abundantly clear that in Vedic Sanskrit the 3 pl. pluperfect was made from the strong form of the perfect stem. There are no exceptions to this rule in the Rigveda.

How is this peculiarity to be explained? In principle, the full-grade root of the 3 pl. pluperfect could either have been an Indic innovation or an inheritance from Proto-Indo-Iranian. The first possibility is unlikely, since there was no verbal category in early Indic that could have provided a model for the replacement of 3 pl. forms of the type *ádīdhivur, *ábībhivur, etc. by the attested ádīdhayur, ábībhayur. The vocalism of ádīdhayur, ábībhayur, etc. is therefore probably an archaism. The evidence from Iranian is consistent with this conclusion. We know from GAv. 3 sg. urūraost (Y 51.12) 'rejected' < *rurau(t)st < *rurauds-t, a form related to YAv. 1 sg. perf. ourūraoδa (Y 1.21), that the pluperfect was an Indo-Iranian category. There are no independently assured instances of the plural of the pluperfect in Iranian; we therefore cannot tell by simple inspection whether the 3 pl. equivalent of ururaost would have had full or zero grade of the root, or whether it would have ended in -arō, -ərəš, -at (< *-nt) or -ən (< *-ent). But the indeterminacy of the Iranian material makes it tempting to assume that the rule for the formation of the 3 pl. pluperfect in Avestan was the same as in Vedic Sanskrit, with the ending *-rs added to the "strong" perfect stem. If the Indic and Iranian pluperfects were in fact identically formed, the 3 pl. counterpart of urūraost would have been *urūraodərəš (i.e., /ruraudrš/). Precisely such a 3 pl. form, I suggest; is attested in cikōitərəš, which is best taken not as a perfect but as a pluperfect.

From a semantic point of view there can be no objection to the interpretation of cikōitərəš as a pluperfect or perfect injunctive. The gloss 'appeared/ se signalaient/ glänzten' gives as good a reading of Y 32.11 as 'appear/ se signalent/ glänzen' – at least if we follow Insler (cf. above) in taking mōrəndən, the verb of the main clause, as a preterite (= augmentless imperfect) rather than as a present injunctive. If, on the other hand, we take mōrəndən as an injunctive with the force of a general present ('ils corrompent', 'they destroy', etc.), then cikōitərəš can just as easily be read as a perfect injunctive – i.e., as a stative present of general or indefinite temporal reference ('appear from time to time', 'se signalent de temps en temps', etc.). It is significant that in the structurally parallel preceding verse (Y 32.10), where the main clause verb is 3 sg. mōrəndət (matching mōrəndən in Y 32.11), the position of cikōitərəš is

¹¹The long reduplication of ábībhayur is secondary and not confined to the pluperfect; a perfect bībhāya is found in the Aitareya Brāhmaṇa.

¹⁴ Note also abhí asisrayur (: śrī- 'mix'; IX 11.2, 86.17), probably also a pluperfect, but without a securely attested perfect active.

occupied by the imperfect/ present injunctive aogoda.15

If cikōitərəš is in fact a pluperfect or perfect injunctive, then the Indo-Iranian system can be envisaged as follows:

3 sg. 3 pl.

perfect indicative *čikáit-a *čičit-f (> *čiki-)

pluperfect/ perfect injunctive *čikáits-t *čikáit-rš

The form *čikáit-rš is from every point of view an anomaly. Yet peculiar as the above array may seem, it has a logic of its own. *-rs, as opposed to *-r. patterns specifically as a secondary ending in Indo-Iranian - not only in the pair *čičit-į: *čikáit-įs, but also in the optative, where the s-less ending *-į does not occur. In both the pluperfect and the optative, moreover, the role of *-rs is that of an ordinary active ending, paradigmatically associated with a 1 sg. in *-m, a 2 sg. in *-s, and a 3 sg. in *-t. The rationale for the use of *-rs in the active optative has been discussed elsewhere (cf. Jasanoff 1991: 111ff.). As I have there argued, the PIE optatives corresponding to the active presents and agrists of the "hae-conjugation" - the formal types represented, e.g., by *mólh₂/ *mélh₂ (pres.) 'grind' and *uón-/ *uén- (aor.) 'strive for' - were probably originally characterized by the hoe-conjugation (i.e., perfect) endings. 16 This situation is not directly continued in the daughter languages; at some point prior to the breakup of Proto-Indo-Iranian, and probably within the parent language itself, forms of the type 1 sg. *mélh₂-ih₁-h₂e, *yén-ih₁-h₂e, 2 sg. *mélh₂-ih₁-th₂e, *yén-ih₁-th₂e, and 3 sg. *mélh₂-ih₁-e, *yén-ih₁-e, which were functionally active, were regularized to 1 sg. *mélh2-ih1-m, *uén-ih1-m, 2 sg. * $m\acute{e}lh_2$ - ih_1 -s, * $u\acute{e}n$ - ih_1 -s, and 3 sg. * $m\acute{e}lh_2$ - ih_1 -t, * $u\acute{e}n$ - ih_1 -t (= YAv. vainīt), with the ordinary active endings. 17 Only in the 3 pl., for reasons that are still unclear, did the inherited perfect ending survive. Eventually, 3 pl. forms of the type *mélh₂-ih₁-ṛs, *uén-ih₁-ṛs became the point of departure for the (originally optional) extension of IIr. *-ṛš to all athematic optatives.¹⁸

A comparable replacement of the perfect endings by the active endings seems to have taken place in the pluperfect. Although the relevant forms are often overlooked, a pluperfect of the Indo-Iranian type is attested in a number of other IE languages. In Greek, for example, the plural and dual of the Homeric pluperfect are formed by adding the normal active secondary endings to the perfect stem (cf. 1 pl. (ἐ)πέπιθμεν 'we believed', 3 du. ἐίχτην (< *FεΓίχταν) 'they (two) resembled', etc.), exactly as in Vedic and Avestan. 19 The still unexplained Greek pluperfect singular in -εα, -εας, -ει/-εε (1 sg. (ἐ)πεποίθεα 'I believed', etc.) is probably a late replacement of the inherited singular in *-m, *-s, *-t - endings which would have led to inconveniently shortened surface forms in the 2 sg. and 3 sg. (e.g., 2 sg. *(ἐ)πέποις < *-th-s, 3 sg. *(ἐ)πέποις < *-th-t; 2 sg. *(ξ)λέλοι ψ < *-k\(\mu-s, 3 sg. *(ξ)λέλοι < *-k\(\mu-t, etc.). In Hittite, an old pluperfect was probably the source of the irregular Middle Hittite form wewakta (< *ueuók-t), which patterns synchronically as the 3 sg. preterite of the perfecto-present 3 sg. wewakki 'demands' (< PIE 3 sg. perf. *yeuók-e 'wishes'; cf. Ved. ptcp. vāvasāná- 'desiring'). 21 Further afield, Germanic preserves a pluperfect in the isolated and irregular Gothic prohibitive ni ogs (bus) 'fear not!' The 2 sg. form ogs, a derivative of the preterito-present (< perfect) ogan 'fear' (< *\bar{a}gh-), is usually referred to a "short-vowel" perfect subjunctive in *-e-s. 22 But no other trace of the PIE subjunctive remains in Germanic, and prohibitions in the parent language were expressed not with the subjunctive but with the unaugmented secondary tenses of the indicative, i.e., the present, aorist, and perfect injunctive. The simplest interpretation of ogs, therefore, is as a pluperfect/ perfect injunctive *āgh-s; compare Ved. mā bibheḥ (AV), also meaning 'fear not!'

Proto-Indo-European would thus seem to have had a pluperfect in *-m, *-s, *-t (*kuekuóit-m, *bhebhóidh-m, *yeuók-m, etc.), which contrasted with the

¹⁵ The line is huuō mā nā srauuā mōrəndat yā acištəm vaēnajhē aogədā // gam ašibiiā huuarəcā, rendered 'Il corrompt mes hymnes, l'homme qui en prononce un très mauvais pour voir de ses yeux la Vache et le soleil' (Kellens-Pirart), 'Each such man has (also) ruined Thy teachings: the one who has professed the worst in order to see the cow and the sun with his eyes' (Insler), 'Derjenige Mann verdirbt die Verkündigungen, der gar Schlimmes ausspricht, um die Kuh und die Sonne mit seinen Augen zu schauen' (Humbach).

¹⁶ Cf. note 8. h₂e-conjugation acrists of the type *yon-/ *yen-, which employed a suppletive sigmatic stem (*yen-s-, etc.) in the 3 sg. indicative, eventually gave rise to s-acrists of the classical type in Indo-Iranian, Greek and other branches of the family. Significantly, however, the optative paradigm corresponding to the s-acrist indicative was never sigmatized in Indo-Iranian (cf. Hoffmann 1967: 31f.), where the root acrist optatives that replace s-acrist optatives (e.g., Ved. 3 sg. vanyāḥ (: indic. văṃs-, subj. váṃsa-), YAv. vainīt (: GAv. subj. vāṃsh-)) can be shown to have had an acrostatic paradigm different from that of "normal" root acrist optatives (Jasanofi, loc. cit.).

¹⁷I here depart from the chronology of my 1991 article, where I interpreted the replacement of forms of the type 3 sg. * μ én- ih_1 -e by * μ én- ih_1 -t as a purely Indo-Iranian development and saw the Greek s-aorist optative in *- σ (α , *- σ (α) as an inner-Greek sigmatization of older 1 sg. *- σ (α) as α . *- σ (α) as α . *- σ (α) as α . *- σ (α) as an inner-Greek sigmatization of older 1 sg. *- σ (α) as α . *- σ (α) as α , *- σ (α) as α , *- σ (α) as an inner-Greek sigmatization of older 1 sg. *- σ (α) as an inner-Greek sigmatization of ol

¹⁸ Pre-IIr. *-ih,-rs, of course, would regularly have given *-i(y)ur in Vedic; the attested scansion -yur shows the influence of the -yā- of the other active forms. The *-jā- of YAv.
-ijārəš is likewise analogical.

¹⁹ So too in the 3 pl., where -σαν (e.g., (Γ)ίσαν '(they) knew') is synchronically simply an active secondary ending. The pluperfect middle (e.g., 3 sg. (t) πέπυστο 'understood', είμαρτο 'was fated', etc.) is formed in the same way as the plural and dual of the active.

²⁰The endings -εα, -εας, -ει/-εε will be discussed in a forthcoming study by Joshua Katz. The unique pluperfect singular of the verb 'to know', which rests on a stem *($\tilde{\epsilon}$)weid- $\tilde{\epsilon}$ - (cf. especially 2 sg. $\tilde{\eta}(F)$ είδης, $\tilde{\eta}$ δησθα), is best explained, in my view, as a back-formation from the optative (F)είδει $\tilde{\eta} = 1$ itself an inner-Greek replacement of the inherited perfect optative *(F)ίζην (= Ved. vidyām).

²¹ The forms are discussed by Oettinger (1979: 432f.), where two occurrences of wewakta are quoted; only the citation at KUB XLIII 23 Rs 12', however, is valid, as Gillian Hart points out to me. Oettinger's attempt (p. 433) to refer wewakki and wewakta to a PIE present *uéuok-ti is prima facie improbable, since such a present ought to have yielded a mi-verb in Hittite. The accent of the Vedic 2 sg. present vaváksi shows it to be a neologism like mamatsi (cf. above), back-formed from a pluperfect *ueuok-s.

²²So, e.g., Bammesberger (1986: 89), Krause (1968: 227).

familiar perfect in *- h_2e , *- th_2e , *-e (* $k k k k k \acute{o}it - h_2e$, * $bhebh\acute{o}idh - h_2e$, * $ueu\acute{o}k - h_2e$). The endings *-m, *-s, *-t, etc. served, in effect, as the "secondary" perfect endings; their introduction into the perfect system was presumably motivated by a need to distinguish between the use of the perfect as a stative present and its ancillary pre-PIE use as a stative preterite. *^23 As IIr. * $\check{c}ik\acute{a}it - \iota\check{p}s$ shows us, however, the use of the active secondary endings for this purpose was not quite universal. The 3 pl. of the nascent pluperfect seems never to have passed through a stage * $k k e k k it - \acute{e}nt$ or * $k k e k k it - \acute{e}nt$, with the active ending *-(e)nt. Rather, as the Vedic and Avestan evidence suggests, the 3 pl. pluperfect retained its original r-ending, which here, as in the h_2e -conjugation optative, took the form *- $\iota\check{e}s$.

The r-ending of *cikáitṛš, which contrasts with the other pluperfect endings, is thus probably an archaism. But what of the other notable peculiarity of *čikáitrš - its ablaut grade? Our decision in the preceding discussion to treat the full grade of Ved. ádīdhayur, ábībhayur, etc. as an Indo-Iranian, rather than as a purely Indic, feature was made necessary by the impossibility of motivating a replacement of the type *ádīdhiyur \rightarrow ádīdhayur within Vedic. Yet the prospects for explaining a replacement of the type *(\acute{a})čikitr $\ddot{s} \rightarrow *(\acute{a})$ čikajtr \ddot{s} at the Indo-Iranian level are not much better. We must therefore consider the third logical possibility, namely, that the full grade of IIr. *čikáitṛš, like its ending, was inherited from Proto-Indo-European itself. Seen from the vantage point of the parent language, the vocalism of *čikájtrš is not altogether surprising. The canonical *o: zero ablaut of the perfect, though often discussed as if it were a typical IE alternation pattern, was actually quite exceptional within the PIE system. Alternations of *e with zero, *e with *e, and *o with *e are all well attested in IE paradigms, both nominal and verbal.²⁴ On the other hand, apparent cases of *o: zero ablaut are usually replacements of an older *o: *e pattern, as, e.g., in root nouns (type * wóik-s 'clan', gen. * wik-és (cf. Ved. viśáh), replacing older gen. *uéik-s), 25 suffixed nouns (*dór-u 'wood', gen. *dr-éu-s (cf. Ved. droh), replacing older gen. *dér-u-s). 26 and root presents (*konk-e hangs',

3 pl. *knk-énti (cf. Hitt. kankanzi), replacing older 3 pl. *kénk-nti).²⁷ Only in the perfect does *o: zero ablaut appear to have been genuinely ancient, and even here, given the productivity of zero grade as the PIE "weak" vocalism par excellence, it cannot be proved that this was the original pattern.²⁸

It is precisely the evidence of the pluperfect, in fact, that suggests that the attested *o : zero ablaut pattern of the perfect may be secondary. As we have seen, the PIE perfect: pluperfect contrast probably reflects a prehistoric functional split. A form like 1 sg. ${}^*u\acute{o}id$ - h_2e , which primitively meant both 'I know' and 'I knew', came to be represented at a later linguistic stage by two forms $-{}^*u\acute{o}id$ - h_2e 'I know' and ${}^*u\acute{o}id$ -m 'I knew'. ²⁹ We can represent this development by a diagram:

Similarly, in the 2 sg.:

and in the 3 sg.:

In the 3 pl., there is good reason to believe that the late PIE representative of the perfect proper was *yid-ér (< *-érs) 'they know', with zero grade of the root and the accented full-grade variant of the underlying ending *-(é)rs. In the pluperfect, on the other hand, the Indo-Iranian evidence points to a preform of the type *yoid-rs or *yeid-rs, with an indeterminate full grade. Leaving the unknown elements unspecified, we obtain the schema

- where the simplest "solution" is plainly

²⁹This example, atypical in its lack of reduplication, is chosen purely for convenience.

 $^{^{24}}$ The *e: zero pattern is familiar, e.g., from root nouns of the type *diéu-/ *diu-' 'sky' and root presents like *h₁és-/ *h₁s-' 'be'; the * \bar{e} : * \bar{e} pattern is found, e.g., in nouns of the type * $j\acute{e}k$!-j-/ * $j\acute{e}k$!-j-- 'liver' (cf. Schindler 1975: 5f.) and "Narten" presents like * $st\acute{e}u$ -/ * $st\acute{e}u$ - 'praise' (cf. Narten 1968). The *o: *e pattern, originally identified and described in root nouns of the type * $p\acute{o}d$ -/ * $p\acute{e}d$ - 'foot' (Schindler 1972: 32ff.), is further exemplified in the following discussion.

²⁵Cf. Schindler (1972: 34ff.). ²⁶Cf. Schindler (1975: 7).

²⁷According to Melchert (1994: 139), the PIE e-grade *kenk- would have given *kink- in Hittite. Starting from roots of the structure TERT-, where -R- gave -aR- by regular sound change, the vowel -a- (never -ā-) enjoyed a considerable secondary productivity in Hittite. The Hittite "morphological" zero-grade in *-ă- will be discussed at greater length in Jasanoff (to appear).

²⁸ Another category with secondary *o: zero ablaut is the Indo-Iranian aorist "passive" (type Ved. ábodhi 'awoke', pl. abudhran; cf. Jasanoff 1992: 143ff., Insler 1968). The spread of zero grade at the expense of e-grade in "weak" position is not, of course, confined to categories with *o: *e ablaut, but is also found in paradigms of the type Ved. stáuti (< *stéu-ti), pl. stuvánti (for *stavati < *stéu-ți; cf. Narten op. cit., 15ff.).

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*<u>ué</u>id-<u>rs</u> 'they know/knew'

*<u>uíd-ér</u> 'they know' *<u>ué</u>id-rs 'they knew'

I suggest, therefore, that e-grade, and not zero grade, was the original "weak" vocalism of the perfect. By late PIE times, of course, the system had changed: zero grade had clearly been introduced into the forms of the plural, as shown by Ved. vidúr, Gk. Ioãoi, Go. witun, etc. But in the 3 pl., at least, the replacement of e-grade by zero grade seems to have been an innovation confined to the perfect proper. In the 3 pl., and perhaps originally throughout the whole plural and dual of the pluperfect, the pluperfect was distinguished from the perfect by its retained accented e-grade, the relic of an older acrostatic paradigm with *o: *e ablaut.30

If this explanation of the 3 pl. pluperfect is correct, we can refine our account of the distribution of *-ēr, *-ṛ, and *-ṛš in late Proto-Indo-European and Proto-Indo-Iranian (cf. above). Apophonically "normal" 3 pl. perfects like * μ id-ér, *k!*ek!*it-ér, etc. were oxytone at the time of the breakup of the parent language and took the accented full-grade form of the ending *-(é)rs. But alongside the normal perfect, the parent language also had a number of marginal perfect types, including an acrostatic "Narten" class with * \bar{o} : * \check{o} ablaut (cf. Gk. εἴωθε 'is accustomed', γέγωνε 'shouts') and a second acrostatic type with * \bar{a} : * \check{a} ablaut (cf. Gk. (cè) λ έλ \bar{o} θε 'is unnoticed (by you)', OIr. ro-lámair 'dared', Lat. sc $\bar{a}b\bar{a}$ 'scratched', etc.). In perfects like these, the root was always accented, and both the perfect and pluperfect would regularly have ended in *-ṛs in the 3 pl. In tabular form:

"normal" perfect stems

"elong-vowel" perfect stems

"ormal" perfect stems

*-er

*'-rs

*'-rs

We can now see why *-ēr and *-ŗs were eventually joined by the analogical s-less variant *-ŗ. *-ŗs was the ending of the 3 pl. pluperfect in all stem types; *-ŗs also occurred in the perfect proper, but only in the small minority of perfect sterns that belonged to one of the two "long-vowel" types. It would have been very natural, therefore, for speakers to reanalyze the final *-s of *-ŗs as a morphological mark of the pluperfect, and to replace *-ŗs by *-ŗ in the

31 The weak stem corresponding to λέλαθ- appears in forms like 3 sg. mid. λέλασται, ptcp. λέλασμένος, etc. The existence of a weak stem in *-δ- in the type εἴωθε (< *sesμōdh-) is purely conjectural.

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comparatively few perfects where *-rs was etymologically justified. The result would have been the system reconstructible for the latest stage of Proto-Indo-European:

perfect proper pluperfect
"normal" perfect stems

*-ér

*'-ŗs

"long-vowel" perfect stems

The extension of *-r to the oxytone 3 pl. of "normal" perfects - the process that culminated in the generalization of *-r (> GAv. -arē, YAv. -arē) at the expense of *-ēr in Indo-Iranian and elsewhere - must have been a development of the dialectal period.³²

We have come a considerable distance from cikōitərəs, and it may be useful to review our main findings. The "strong" vocalism of the 3 pl. pluperfect in Vedic (ádīdhayur, ábībhayur, etc.) invites the assumption that cikōitərəš was likewise a form of this type. But if this surmise is correct, then Proto-Indo-Iranian must have had 3 pl. pluperfects of the type *(á)čikaitṛš, *(á)uaidṛš, etc., which contrasted in both ablaut and ending with the corresponding perfect forms (*čičití, *uidí, etc.). The formal difference between the 3 pl. perfect and pluperfect can only be explained in the light of the pre-IE history of the pluperfect. While there is no way that the vocalism of *(á)cikaitṛš could have been generated in the pluperfect within Indo-Iranian, an inner-IE replacement of e-grade by zero grade in the plural of the perfect would have been in complete agreement with the general tendency of morphological change in late Proto-Indo-European. We are thus led to a conclusion of unexpected generality that the PIE perfect system was originally characterized by *o: *e ablaut, and that pluperfects of the type 3 pl. *kkekkéitrs/ *(á)čikaitrš/cikōitərəś preserve the inherited weak stem more faithfully than any of the attested forms of the perfect proper.

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³⁰ Although it would be reasonable to suppose that e-grade was once the general weak vocalism of the pluperfect, it is impossible to confirm this from the meager Vedic evidence (cf. note 12). In Greek, the zero grade of forms like ἐπέπιθμεν, ἐἰχτην, etc. is easily explainable as a transfer from the perfect; the same is true a fortiori of the heavily remade 3 pl. pluperfect (F)τοιν. As will be argued elsewhere, the paradigm of the verb 'to know' in Celtic (OIr. ro fitir 'knows, knew' (< *wid-r-), MW 3 sg. gwyr 'knows' (< *weid-r-), pl. gw(y)dant (< *wid-)) rests on an amalgam of the perfect *μοίd-/ *μid- and the pluperfect *μοίd-/ *μeid- (3 pl. *μeid-r̄s).

³²The same generalization of the zero-grade ending took place in Celtic (OIr. -(a)tar < *-ont-r) and probably Germanic, where *-r was subsequently replaced by *-rt (> Go. -un).

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L'accusatif pluriel des thèmes en -a- en avestique

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Les chapitres parallèles du début du Yasna présentent l'étrange divergence Y 3.2 aēsma āiiese yešti baoiôi xšnūmaine ... = Y 4.1 aēsmasca baoiôimca ... pairica daôemahī āca vaēôaiiamahī = Y 7.2 ašaiia daôami aēsma baoiôi xšnūmaine ... L'indépendance relative de Y 4.1 n'est pas surprenante: sa liste litanique est différente de celle des autres chapitres et, la coordination en fait foi, autrement structurée. Par contre, la disparité entre les chapitres 3 et 7, identiques à l'exception du groupe verbal, paraît anormale. Johanna Narten (ASA 134 n. 2), comme l'avait fait Bartholomae (AIW 27 et 918), diagnostique pourtant deux constructions distinctes: aēsma ... baoiôi allierait accusatif pluriel et instrumental comitatif, tandis que aēsma baoiôi serait un dvandva accusatif. Je reste persuadé qu'une variation syntaxique entre ces passages est une anomalie, d'autant que l'instrumental comitatif est toujours une solution de facilité et que le comitatif de l'objet n'est pas sûrement usité (Kellens, Second European Conference of Iranian Studies, Roma 1995, 354 n. 17, notant la pauvreté du matériel relevé par Kellens-Pirart, TVA II 6-7).

Il est préférable de reconnaître en aēsma ... baoibi un véritable dvandva combinant deux particularités plausibles: insertion de mots entre les deux termes¹, comme dans RS 7.42.5 à náktā barhíh sadatām uṣāsā (AIG II 1, 151 sq.), et désinence plurielle du terme impliquant une réelle pluralité, comme dans le vocatif indrāmarutah de RS 2.29.3 (ibid. 156). Mais pourquoi la désinence plurielle ne figure-t-elle pas dans Y 7.2?

aēsma n'est pas une leçon incontestable. La situation est la suivante selon Geldner: aēsma Pt4 Mf4 J5.6.7 H1 L13 K11, aēsmi J2 Mf1.2.3 B2, aēsme J3 L2, aēsmē K5 P6, aēsmahe L3. Certaines de ces leçons sont sans autorité réelle. aēsma de Pt4 et Mf4 ne s'impose pas, puisque Mf1, copie plus ancienne du même modèle, lit aēsmi. De même aēsmā de K5, car J2, qui descend plus directement du modèle commun, lit lui aussi aēsmi. aēsme de J3 est isolé au sein des trois traditions pehlevies. En fait, le choix se situe entre aēsma de la Vulgate (Vidēvdād et Yasna sāde indien) et aēsmi, qui est absurde, mais qui est la leçon originale commune aux traditions pehlevies indiennes et iraniennes et à la sāde iranienne.

Or, dans la phrase suivante, la même leçon absurde haomi, au lieu de haoma attendu et figurant effectivement dans Y 3.3, est si massivement représentée que Geldner se sent obligé de s'y tenir: haomi J2.3.6.7 K5.4.11 Pt4 Mf1.2.4 H1 L13.2 O1.2 C1 Bb1, haome K6, haoma J5 L20.5, haomahe L3. haomē n'est pas attesté et haome est négligeable, puisque K6 est une copie de J3,

¹Dans Y 3, le groupe verbal *aiiese yesti* suit toujours la liste des objets. Paradoxalement, son insertion entre ces deux-ci établit-elle entre eux une relation différente de la simple asyndète?