

The tenses of the Latin perfect system

Jay H. Jasanoff (Cornell University)

1. One of the most conspicuous features of the Latin verbal system is the contrast between the three tenses of the *infectum*, or present system, and those of the *perfectum*, or perfect system.¹ Thus, a typical primary verb like *tangō, -ere* 'touch' forms a present tense proper (3rd sg. *tangit* 'touches'), a future (*tanget* 'will touch') and a preterite or 'imperfect' (*tangēbat* 'was touching'), which together comprise its present system; systematically opposed to these are the perfect (*tetigit* 'has touched'),² future perfect (*tetigerit* (1st sg. *-ō*) 'will have touched') and pluperfect (*tetigerat* 'had touched'), which constitute the corresponding perfectum. This parallelism extends to the subjunctive, where the opposition between imperfect (*tangeret*) and present (*tangat* – better termed 'non-preterite') forms in the infectum is matched by the contrast between the pluperfect (*tetigisset*) and perfect (*tetigerit* (1st sg. *-im*)) subjunctives in the perfectum.³ Similarly, there are two infinitives: *tangere* 'to touch' has its structural counterpart in the perfect infinitive *tetigisse* 'to have touched'.

This state of affairs is quite different from that reconstructible for Proto-Indo-European. Evidence from Indo-Iranian and Greek indicates that the perfect served simply to denote a state in the parent language, without any overt specification of time; although a tendency to create distinct tense forms from the perfect stem is well-developed in Greek and Vedic Sanskrit, the verbal systems of these languages are organized on entirely different lines from that of Latin.⁴ The Latin system, however, is not wholly isolated. It has an almost exact counterpart in the Italic dialects, which likewise oppose their present (e.g., Vest. *didet* 'dat', subj. Umbr. *dirsa* 'det') to a perfect (e.g., Osc. *deded* 'dedit', subj. *dadid* 'dediderit') and their future (e.g., Osc. *didest* 'dabit', Umbr. *habiest* 'habebit') to a future perfect (e.g., Osc. *fefacust* 'fecerit', Umbr. *habus* 'habuerit'). It is quite possible that the poorly represented Osco-Umbrian imperfect (e.g., Osc. 3rd pl. *fufans* 'erant', patensins 'panderent') was paired with a pluperfect, but no example of this tense is attested.

Although the structural similarity of the Latin and Osco-Umbrian systems presumably reflects a Common Italic feature, the detailed history of the Latin perfect tenses is for the most part obscure. Outside the perfect indicative itself, the perfectum in Latin is characterized by an etymologically opaque element *-er-* (*-is-* before consonants), to which are added the appropriate tense and mood signs – *-i-* for the future perfect, *-ā-* for the pluperfect, *-ī-* for the perfect subjunctive, *-sē-* for the pluperfect subjunctive and *-se* for the perfect infinitive. No trace of this formative is found in Osco-Umbrian: here the future perfect is characterized by a tense sign *-us-* (Osc. *-uz-*, Umbr. *-ur-* before vowels), while the perfect subjunctive is formed by adding the mood sign *-i-*, *-ī-* to the unextended perfect stem.

These forms, themselves problematic, show no obvious connection with the corresponding categories in Latin.

2. Given the absence of clear formal counterparts elsewhere, it is hardly surprising that the majority of attempts to explain the Latin perfect system have been based on internal reconstruction. The results yielded by this method are at least superficially encouraging: each of the tense and mood signs identified above recurs in a similar function in the infectum, where each has a well-known Italic or Indo-European etymology. Thus, the historical thematic vowel of the future perfect appears also in the ordinary futures *erit* 'will be' and *cantābit* 'will sing', and ultimately continues the **-e/o-* of the Indo-European subjunctive; the *-ā-* of the pluperfect is identical with the **-ā-* of imperfects like *erat* 'was' and *cantābat* 'was singing' and continues a preterital element known also from Celtic (Benveniste 1951: 19; Jasanoff 1983: 75–82); the *-ī-* of the perfect subjunctive is clearly comparable with the vowel of present subjunctives like *sit* 'may be' and *uelit* 'may wish', which rest on inherited athematic optatives in **-iē-/ī-*. Even the *-sē-* of the pluperfect subjunctive, though ultimately obscure in Indo-European terms, is inseparable within Latin from the *-sē-* (after vowels *-rē-*) of imperfect subjunctives like *esset* 'might be' and *tangeret* 'might touch'. The formative *-er-* (*-is-*) to which these elements are added is clearly the continuant of an earlier non-alternating **-is-*, which is preserved before the **-sē-* of the pluperfect subjunctive but shows the regular effects of rhotacism and vowel weakening before the vocalic suffixes of the other categories. The historical inference suggested by the Latin facts, therefore, is that forms like *tetigerit*, *tetigerat*, *tetigerit̄* and *tetigisset* originated as the 'short vowel' subjunctive, *ā*-preterite, athematic optative and 'sē-subjunctive', respectively, of an enlarged perfect stem in **-is-*. This line of reasoning, essentially non-comparative in character, is accepted by most of the major handbooks of Latin historical grammar (cf. Sommer 1914: 575; Meillet-Vendryes 1953: 265–266; Buck 1937: 297; Leumann-Hofmann 1977: 608ff.).

The source of the enlargement **-is-*, however, remains problematic. According to the usual view, **-is-* is of 'aoristic origin', and came to be generalized throughout the perfectum from a nucleus of verbs in which it served as the distinguishing mark of the perfect (< aorist) stem. Implicit in this analysis is the assumption that alongside the familiar sigmatic aorist in **-s-*, the verbal system of Proto-Indo-European also had an aorist in **-is-*; the main evidence for such a category is provided by the *iṣ*-aorist of Vedic Sanskrit. The Vedic formant in question, however, is now known to have originated from the addition of **-s-* to roots or stems ending in a laryngeal: 1st sg. *āpāviṣam* 'I purified' is simply the normal reflex of the *s*-aorist **e-pēuh_x-s-m̄*, while *āstambhiṣam* 'I propped up' is the sigmatized replacement of an earlier aorist **e-stembhh_x-m̄*.⁵ Thus, the *-i-* of the *iṣ*-aorist is etymologically not a true **-i-* but a vocalized laryngeal, which would have yielded **-ā-* rather than **-i-* in Italic. A direct connection between the Latin and Sanskrit forms is virtually impossible.

Independent evidence for an aorist morpheme **-is-* has also been alleged from Latin itself. It is well-known that the personal endings of the Latin perfect are largely based on those of the perfect of Proto-Indo-European: thus, the first singular ending *-ī* (*tetigī*, etc.) continues the **-a* (< **-h₂e*) of Gk. *oīda* and Ved. *vēda* 'I know', augmented by the *hic et nunc* particle **-i*, while the third plural in *-ēre* (*tetigēre* < **-ēr-i*) is related to the Hittite third plural ending *-er* and, more distantly, to the Vedic third plural perfect in *-uh* (< **-rs*). In the second person, however, the Latin endings are *-istī* (sg.) and *-istis* (pl.), which have

commonly been regarded as the historically regular perfect forms (cf. especially Ved. 2nd sg. *-tha*, Gk. *-θα*, Hitt. (*hi*-conj.) *-ti* < **-tai*) preceded by an originally autonomous morpheme **-is-*. The validity of this interpretation is questionable. As noted by Cowgill (1965: 172–73) there is considerable comparative evidence for assuming a sigmatic doublet of the second singular perfect ending in the parent language. Lat. *-stī* is difficult to separate from Gk. *-σθα*, Go. *-st* (in *saisost* ‘you sowed’), Hitt. 2nd sg. pret. (*hi*-conj.) *-šta* and Toch. B 2nd sg. pret. *-sta* (A *-st*). The source of these variants is unclear, but it is natural to speculate that **-st(h)a* (< **-sth₂e*) arose by resegmentation from cases where a root-final dental in contact with the **-t-* of the original ending produced a sibilant by regular sound change (**-TT- > *-TʂT-*).

The conclusion suggests itself, therefore, that the historically correct segmentation of Lat. *-istī* is not *-is-tī*, with an ending *-tī* accompanied by a tense sign *-is-*, but *-i-stī*, with a sigmatic desinence *-stī* preceded by a union vowel *-i-*.⁶ Such an analysis is also favored by the overall structure of the perfect paradigm. From a synchronic point of view, none of the perfect endings begins with a consonant – a state of affairs readily intelligible in the first singular, third singular and third plural, where *-ī*, *-it* and *-ere* continue **-ai*, **-ei[t]* and **-ēri*, respectively, but more surprising in the second person and in the first plural, where the regular ending is *-imus*. The latter termination, a replacement of earlier **-mos*, is clearly secondary. Its origin is commonly traced to the reduplicated perfects *dedimus* ‘we gave’ and *stetimus* ‘we stood’, which can theoretically be taken from athematic preforms of the type **dedh₃mos* and **steth₂mos* (Sommer 1914: 577–578; Buck 1937: 296; Leumann-Hofmann 1977: 607). This explanation, however, requires us to separate the *-i-* of *-imus* from that of 2nd sg. *-istī* and 2nd pl. *-istis*: the rules of Latin vowel-weakening, which would regularly have allowed the pre-Latin laryngeal reflex **-a-* to develop to *-i-* in open syllables, would have taken a sequence like 2nd sg. **dedastai* to **dedesti*. Phonologically, the *-i-* of *-istī* and *-istis* can only continue an original **-i-*, and it is natural to see this vowel in *-imus* as well.⁷ From a typological point of view, *-istī*, *-imus* and *-istis* resemble nothing to closely as the corresponding Greek perfect endings *-ας*, *-αμεν* and *-ατε*, the initial element of which is likewise an accretion of the post-Indo-European period. While the *-i-* of the Latin forms presents far more serious etymological difficulties than its Greek counterpart, its original status as a union vowel is hardly less clear.⁸

This finding, though damaging to the traditional view of the extended perfect system, is eminently consistent with the known tendencies of analogical change. It would be surprising indeed if Latin had systematically excluded an inherited tense sign **-is-* from the first and third person forms of the perfect, while adding it in the second person even to forms which were already sigmatic (cf. *dixisti* ‘you said’, etc.); it would be more remarkable still if such an element, though nowhere attested outside Latin, had subsequently become an obligatory constituent of the stem from which all the remaining perfectum forms were created in the post-Italic period. Internal reconstruction, normally an invaluable supplement to the comparative method, would here seem to have led to an impasse.

3. It may be appropriate at this point in our discussion to recall that the elaboration of the perfect system was not a development of Latin alone, but of the Italic branch of Indo-European as a whole. The future perfect and perfect subjunctive of Oscan and Umbrian bear little overt resemblance to the corresponding categories of Latin, but the formal disparity between the two groups can easily be exaggerated. In point of fact, the traditional

tendency to separate the Osco-Umbrian perfectum from that of Latin is valid enough in the case of the perfect subjunctive, where forms like Osc. *dadid*, *fefacid* 'fecerit' and Umbr. *combifiansi* 'nuntiauerit' are transparently old perfect optatives of a type not found in Latin.⁹ The situation in the future perfect, however, is of greater potential interest.

A great deal has been written concerning the origin of the Osco-Umbrian future perfect sign *-us-*, which in the third singular is followed directly by the personal ending *-t* (cf. Osc. *fefacust* 'fecerit', Umbr. *dersicust* 'dixerit') and in the third plural develops regularly to Osc. *-uz-*, Umbr. *-ur-* before the vocalic ending *-ent* (cf. Osc. *angetuzet* 'proposuerint', Umbr. *dersicurent* 'dixerint'). There is little to recommend the old comparison of these forms with the Latin *uī*-perfect, as suggested, e.g., by von Planta (1897: 373ff.) or with the Indo-European perfect active participle in **-uos/-ues/-us-* (so Schultze 1887: 272–4; similarly Buck 1937: 173).¹⁰ Rather, as seen already by Bartholomae (1887: 92), the point of departure for the creation of the Osco-Umbrian future perfect must have been the root *fu-* 'be', where both the appearance of the sequence *-us-* and its eventual re-analysis as an independent morpheme can be easily explained. The future perfect of *fu-* is probably attested in the Umbrian third plural form *fefure* (for **fefurent*), implying a 3rd sg. **fefust*; it is likely that this was the Common Osco-Umbrian form, and that the absence of reduplication in Osc. *fust* 'fuerit' is secondary. The origin of **fefust* is clear. It is a future perfect of exactly the same type as Gk. *τεθνήξει* 'will be dead' and *λελείπεται* 'will be left', in which the productive mark of the simple future (*-σε/o-*) has been added to the perfect stem to produce a new future tense with stative value. In Osco-Umbrian the sign of the ordinary future is a bare *-s-*; **fefust* patently shows the addition of this morpheme to the inherited perfect stem **fefu-* (cf. Ved. 3rd sg. *babhūva* 'was', with secondary *-ū-*).

Once established in **fefust*, the spread of *-us-* to other sigmatic future perfects would have been favored by two important factors. First, the simple perfect corresponding to **fefust* would presumably have had the Common Osco-Umbrian form **fefed* < **fefued* (cf. Osc. 3rd pl. *fufens*, 3rd sg. **fufed*, with secondary *-u-* from *fufans* 'erant'), so that the **-u-* of **fefust* would early have tended to lose its synchronic status as a constituent of the root. Equally important, the perfect system of **fu-* appeared not only in the free forms **fefust* and **fefed*, but in every Osco-Umbrian verb that had an *f*-perfect – a fact which gains in significance when it is recalled that the *f*-perfect is the only one of the suffixed perfect types to appear in both dialects. The pattern *-ed* (perf.): *-ust* (future perfect) would thus have received support from pairs of forms like Osc. *aikdafed* 'decreuit' (?) on the one hand and Umbr. *andirsafust* 'circumtulit' on the other; the eventual result was the establishment of a proportion **-fed* : **-fust* :: **-ed* : X, which triggered the creation of future perfects like **fefakust* (cf. Osc. *fefacust*), **dedikust* (Umbr. *dersicust*) and *benust* (Umbr. *benust* 'uenerit') from perfects of the type **fefaked* (cf. Osc. *avafaker* 'dedicauit'), **dediked* and **bened* (cf. Osc. *kūmbened* 'conuenit'). Such forms apparently supplanted earlier future perfects in simple **-st* (**fefakst*, **dedikst*, etc.), the replacement of **-s-* by **-us-* providing a transparent example of a 'bipartite' morpheme, in Kuryłowicz' sense, taking on the distribution and function of a simple one.¹¹

The future perfect of the Italic dialects would thus seem to have originated as an *s*-future built from the perfect stem. In the discussion that follows, we shall examine the consequences of this result for the analysis of the future perfect in Latin, the development of which will be seen to have proceeded along strikingly similar lines.

4. We have already noted that the traditional interpretation of Lat. *tetigerit* as the subjunctive of a quasi-aorist stem **tetag-is-* depends crucially on the untenable assumption of an *is-*aorist in the verbal system of Proto-Indo-European. Let us therefore approach the problem from an Italic, rather than purely Latin, perspective and consider the possibility that in pre-Latin, as in pre-Osco-Umbrian, the future perfect was originally made by adding **-s-* to the perfect stem. A verb like *tangō* would thus have acquired a future perfect stem **tetag-s-*, inflected athematically. The fate of such a stem in Latin would have been closely bound up with that of the *s-*future of the infectum, a formation which survives in early Latin futures like *faxō*, *-it* 'will do' and *capsō*, *-it* 'will take'.¹² The *faxō*-type is thematic, presumably because the inherited indicative **faksmi*, *-ti*, etc. was prehistorically replaced by the corresponding subjunctive. It is natural to assume that the same development would have affected the future perfect, effectively entailing the thematization of **tetag-s-* to **tetag-se/o-*. The regular third person singular of this stem would have appeared in Classical Latin as **tetexit*; similarly, from *agō* 'I lead' and *dīcō* 'I say' the expected future perfects would have been **ēxit* and **dīxit*, respectively. These forms, it will be noted, differ from the attested *tetigerit*, *ēgerit* and *dīxerit* in only one particular: they lack the etymological **-i-* (> *-e-*) which precedes the **-s-* (> *-r-*) in the historical forms. The problem of explaining the future perfect thus reduces to the problem of explaining the substitution of the stem-type **tetag-i-se/o-* for the shorter and historically predictable **tetag-se/o-*.

An obvious solution emerges from a comparison of our third hypothetical example, **dīxit*, with its attested counterpart *dīxerit*. The verb *dīcō* is one of many in Latin with a perfect that continues an inherited sigmatic aorist (**deik-s-*). The addition of the **-s-* of the future perfect to the already sigmatic perfect stem **deiks-* would regularly, of course, have had no overt phonetic affect: **deiks-s-* would simply have fallen together with **deiks-*, giving the postulated **dīxit* 'will have said'. But *dīxit*, representing older **deik-se-t*, was already current in older Latin as the normal *s-*future of *dīcō* in the present system.¹³ The homophony of **dīxit*, or its prototype **deikset* /*deiks-se-t/*, 'will have said' with *dīxit* < **deikset* /*deikse-t/* 'will say' would hardly have been tolerable in a language where the infectum: perfectum opposition was as basic a feature of the verbal system as it was in pre-Latin. A device would clearly have been needed to disambiguate the two forms; it is in this context that the replacement of the future perfect **deikset*, with underlying but unrealized **-ss-*, by **deiksiset*, the source of the attested *dīxerit*, may best be understood. We have seen in section 2 that the union vowel **-i-* was prehistorically introduced into the paradigm of the perfect proper as a means of separating the stem from the consonantal endings. The natural inference is that this vowel was extended from the perfect indicative to fill a comparable function in the future perfect. There are several ways in which the generalization of **-i-* can have proceeded. It is possible, for example, that at an early period, when forms like 2nd sg. **deiks-i-stai* were still in free variation with older forms of the type **deiks-stai* (i.e., [*deik-stai*]), analogy led to the creation of **deiks-i-se-t* beside **deiks-se-t* ([*deikset*]). Alternatively, the co-occurrence in early Latin of haplological forms like *dīxtī*, *mīstī* 'you sent', *intellēxtī* 'you understood', etc. beside regular *dīxistī*, *mīsistī*, *intellēxistī* may have led to the back-formation of **deiksiset* from **deikset* in its future perfect function, thus making possible the structurally useful distinction between **deiksiset* > *dīxerit* (future perfect) and **deikset* > *dīxit* (future). In either case, the result would have been the substitution of **-ise/o-* for **-se/o-* as the mark of the future perfect in verbs with *s-*perfects; from here the longer and more convenient allomorph would have been free to spread to forms like

**tetakset* /*tetag-se-t*/ and **ĕkset* /*ĕg-se-t*/, giving **tetagiset* > *tetigerit* and **ĕgiset* > *ĕgerit*. Viewed in this way, the Latin developments would present obvious parallels to those in Osco-Umbrian, where *-s- was similarly replaced by a variant suffix of the form *-Vs-, albeit via an entirely different series of analogical changes.

5. An explanation of the perfect subjunctive follows almost mechanically from the foregoing account of the future perfect. In the infectum, the archaic *s*-future is associated with a present subjunctive, represented by forms of the type *faxim*, *-īs*, *-īt*, *ausim* ('I would dare'), *-īs*, *-īt*, etc.; historically, these simply continue the optative of the athematic formation presupposed by the type *faxō*. It is in no way surprising, therefore, that the future of the perfectum is likewise associated with an old optative, the attested reflexes of which show the regular renewal of *-s- to *-is- and pattern as perfect subjunctives (cf. *tetigerit* < **tetagisīt*). Sigmatic forms of this type may well have competed for a time with perfect optatives similar to those of Osco-Umbrian (Osc. *fefacid*, etc.), but their success at the expense of the earlier formation was complete by the time of our earliest records.

Unlike the future perfect and perfect subjunctive, which under the above interpretation can be regarded as analogical transformations of categories inherited from Common Italic, the remainder of the perfect system is, at least from a formal point of view, of comparatively recent origin. The historically correct analysis of *tetigerit* and *tetigerit* as **tetag-i-se-t* and **tetag-i-s-ī-t*, respectively, is no longer valid for the attested stages of Latin; owing to phonological and other changes, the synchronic form *tetigerit* bears a much closer surface resemblance to *erit* (< **es-e-t*), the third person singular future of the copula, than to its immediate relatives of the type *faxit*. It is probable that this similarity was exploited in the creation of the new pluperfect: given the fact that in the infectum *erit* was opposed to a preterite (imperfect) *erat*, it was a simple matter for *tetigerat* to enter the perfectum as the preterital counterpart of the future perfect *tetigerit*. Comparable developments were in all likelihood responsible for the introduction of the pluperfect subjunctive *tetigisset* and perfect infinitive *tetigisse*; obvious models were provided by the copula forms *eset* (impf. subj.) and *esse* (pres. inf.).¹⁴

With the establishment in the perfectum of *tetigerat*, *tetigisset* and *tetigisse*, or their phonological antecedents, the metamorphosis of the sequence *-(i)s- from a future sign to an ancillary mark of the perfect stem would have been complete. In the resulting system of the historical period, *-er-/-is-* is a purely formal enlargement with no detectable semantic function; its history provides a striking illustration of the vicissitudes to which a grammatical morpheme – particularly a productive one – may be subject in the course of linguistic change.

Notes

- ¹ I would like to thank Alan Nussbaum for numerous comments on an earlier version of this paper. All errors are naturally my own.
- ² The symmetry of the system, of course, is slightly disturbed by the fact that the perfect may also have the value of a simple preterite; in this sense it presumably reflects the semantics of the Indo-European aorist, of which it is in part the formal continuant as well.
- ³ As a formal convention in the discussion that follows, the endings of the 3rd singular perfect subjunctive and 3rd singular future perfect will be cited as *-īt* and *-it*, respectively. In practice, the two are confused even in Plautine Latin.

- ⁴ In particular, these languages assign a central role to the present: aorist opposition, which has no counterpart in Latin. It should be noted, moreover, that the Vedic pluperfect is not a true past of the perfect at all, but an ordinary preterite with essentially the same value as the imperfect.
- ⁵ Cf. Narten (1964) s.v. *grabhī*. The absence of *vrddhi* is the surest indication that the *-s-* is secondary.
- ⁶ Similarly, the second plural in *-istis* is presumably to be analyzed as *-i-stis*, with *-s-* analogically extended from the second singular.
- ⁷ Note further that the Plautine and Vulgar Latin third plural in *-ērunt* (cf. OFr. *distrent*, It. *dissero*, etc.) can straightforwardly be analyzed as **-i-r[onti]*. An active third plural in **-ront* is found also in Tocharian B *-re* (W. Cowgill, personal communication).
- ⁸ The *-a-* of the Greek forms presumably originated in the third plural, where the development of *-ar[t]* from **-nt* was phonologically regular; compare also the **-u-* which appears in the plural and dual endings of the strong preterite in Germanic (Go. pl. *-um, -uþ, -un* (< **-nt*); du. *-u, -uts*). Latin *-i-*, of course, cannot have arisen in this way; its original locus is not immediately obvious.
- ⁹ A recent account of the Osco-Umbrian perfect subjunctive is given by Lindeman (1982: 303–6).
- ¹⁰ In the notes to his second edition, however, Buck (1937: 362) abandons this theory for the view taken here.
- ¹¹ Cf. Kuryłowicz' first 'law' of analogy: "Un morphème bipartite tend à s'assimiler un morphème isofonctionnel consistant en un des deux éléments, c.-à-d. le morphème composé remplace le morphème simple." (Kuryłowicz 1945–49: 125).
- ¹² The functional status of these forms, which are only occasionally future perfects, is the subject of a forthcoming study by Alan Nussbaum.
- ¹³ Such a form is implicit, e.g., in the Plautine 2nd sg. subj. *dixis* (*Capt.* 1.2.46).
- ¹⁴ It is impossible, of course, to determine whether the attested pluperfect indicative and subjunctive have replaced non-sigmatic predecessors of the type **tetag-ā-t* and **tetag-sē-t*. The group *-ss-* in the pluperfect subjunctive and perfect infinitive makes it likely that Indo-European intervocalic **-s-* was still a sibilant (presumably **-z-*) at the time of the creation of these forms.

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