

## The Origin of the Latin Gerund and Gerundive: A New Proposal

Jay H. Jasanoff

Harvard University

Despite continuing attention from major scholars, the origin of the Latin gerund and gerundive in *-nd-* remains obscure.<sup>1</sup> Proposals have not been wanting; Leumann (1977: 331-2) gives a good summary of the older literature, and new ideas have continued to appear. Nevertheless, it would probably be fair to say that the only *communis opinio* is the *opinio* that the solution remains to be found. The object of this small contribution, affectionately dedicated to my friend and colleague Michael Flier, is to bring us a little closer to that goal.

The synchronic facts are well known. The gerund is a defective verbal noun with gen. sg. *-ndī*, acc. sg. *-ndum*, and dat.-abl. sg. *-ndō*; there is no nominative, in place of which the infinitive is used instead. Typical uses of the gerund are seen in phrases like *ars amandī* (gen.) ‘the art of loving’, *aqua ūtilis bibendō* (dat.) ‘water good for drinking’, *puer propensus ad legendum* (acc.) ‘a boy with a bent toward reading’, *salūtem* (acc.) *hominibus* (dat.) *dandō* (abl.) ‘by bringing safety to the men’. From the last example it will be seen that the gerund of a transitive verb governs the accusative. The similar-looking gerundive, by contrast, is a passive verbal adjective in *-ndus, -a, -um* (“future passive participle”) with necessitative meaning. It can be employed attributively (e.g., *rēs agendae* (nom. pl. fem.) ‘things to be done’), predicatively with an overt subject (*dēlenda est Karthāgō* (nom. sg. fem.) ‘Carthage is to be (= must be) destroyed’), or impersonally (*nunc est bibendum* (nom. sg. nt.) ‘it’s time to drink’). Its most characteristic usage, however, is in the construction that appears in phrases like *libertātis* (gen. sg. fem.) *subvertendae* (gen. sg. fem.) *causā* ‘for the sake of to-be-subverted liberty’ = ‘for the sake of subverting liberty’, *ad hās rēs* (acc. pl. fem.) *conficiendās* (acc. pl. fem.) ‘toward these to-be-done things’ = ‘(in order) to do these things’, *mūrōs* (acc. pl. masc.) *reficiendōs* (acc. pl. masc.) *cūrat* ‘he takes care of the to-be-rebuilt walls’ = ‘he takes care of rebuilding the walls’, or *tempus equōrum* (gen. pl. masc.) *poscendōrum* (gen. pl. masc.) ‘time of to-be-asked-for

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<sup>1</sup> Oral versions of this paper have been given in a number of venues, including the the Free University of Berlin, the Philipps-Universität Marburg, the Tenth Spring Workshop on Theory and Method in Linguistic Reconstruction, and the Twenty-third East Coast Indo-European Conference. Particular thanks are owed to my audience at the Wiener Sprachgesellschaft in June, 2004, where the spirited discussion that followed the lecture had a material effect on the analysis offered here.

horses' = 'time to ask for horses'. The last example can also be rendered with the gerund: *tempus equōs poscendī*.

The only certain connection of these forms is with the Sabellic gerundive, a formation attested in both Oscan (e.g., **sakrannas** (Lat. *sacrandae*) 'to be consecrated', **úpsannam** (as if Lat. *operandam*) 'to be made') and Umbrian (e.g., *pihaner* (Lat. *piandī*) 'to be purified', *anferener* (as if Lat. *(circum)ferendī*) 'to be purified by going round'). The Latin and Sabellic gerundives are obviously cognate; the usage of the Sabellic forms is exactly the same as in Latin, and the suffixes *-n(n)-* (Sab.) and *-nd-* (Lat.) are in principle equatable. The gerundive must therefore have been a creation of the Proto-Italic period.<sup>2</sup> The antiquity of the gerund, which is found only in Latin, is less clear.

The "modern period" in the historical investigation of the gerund and gerundive can be said to have begun with the appearance of Ernst Risch's monograph-length study of the subject (Risch 1984). While Risch's main focus is on the synchrony of the Latin facts, he also devotes considerable space to arguing (174 ff.) for a connection between the gerundive and the Hittite abstract noun type in *-ātar*, gen. *-annaš* < *\*-atnaš* (type *appatar* 'act of seizing', gen. *appannaš*). The first to make this comparison was Sturtevant (1944), who noted how the genitive of the abstract in *-ātar* could be used in ways strikingly reminiscent of the gerundive in Latin (cf., e.g., *UL-war-aš* TI-*annaš* (= [ḫwišwannaš]) lit. 'he is not of living' = 'he will not live', as if Lat. *non uiuendus*). Risch refines Sturtevant's observation, taking Lat. *-ndus* not from a reinterpreted gen. sg. in *\*-tn-os*, but from the nom. sg. in *\*-tn-o-s* of a hypothetical derived thematic adjective in *\*-tn-o-*. He further compares (172 ff.) the Lithuanian participle of necessity in *-tinās* (e.g., *dėgtinas* 'to be burned', *nėštinas* 'to be carried'), which he takes from *\*-t<sup>o</sup>no-*. The Italic gerundive, according to Risch, shows the form of the suffix proper to the environment after a vowel (*\*-undus* < *\*-o-tno-*, etc.); the Lithuanian forms reflect the postconsonantal variant of the same sequence.

While clearly better than some other recent proposals (see below), the Risch-Sturtevant theory is not fully satisfactory. To begin with, there is a serious phonological problem: PIE *\*-tn-* regularly goes via *\*-dn-* to *-nn-* in Latin (cf. *annus* 'year' (: Go. dat. pl. *aþnam*), *penna* 'feather' (: Gk. πέτομαι 'fly'), etc.). This development is exactly what should have been expected in view of the treatment of other voiceless stop + nasal clusters (cf. *somnus* 'sleep' < *\*swepno-*, *signum* 'sign' (*-gn-* = [-ɲn-]) < *\*sek-no-* or *\*sek<sup>w</sup>-no-*, etc.). The only evidence for the Risch-

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<sup>2</sup> Here and below, I use the term "Proto-Italic" to mean the common ancestor of Latin and Sabellic.

Sturtevant change of \*-tn- to \*-nd- comes from the verb *pandō*, -ere ‘spread out’, which is shown by Osc. 3 pl. impf. subj. **patensíns** ‘panderent’ to go back to earlier *\*pat-ne/o-*<sup>3</sup>. But *pandō* is not the phonologically regular treatment of *\*patnō*, which would have been *\*pannō*. Rather, it is a *morphological reflex* — the result of a sporadic metathesis that replaced *\*padnō* (< *\*patnō*) by *pandō* in order to align it phonotactically with the numerous Latin presents in -ndō and other nasal + voiced stop combinations (cf. *scindō*, *tundō*, *tendō*, *prehendō*, *tangō*, *pungō*, *ung(u)ō*, etc.).<sup>4</sup> Significantly, Latin has *no* third conjugation verbs in *\*-nnō* < *\*-dnō*, *\*-gnō* ([-gnō]) < *\*-gnō*, or *\*-mnō* < *\*-bnō*.

Nor is there any other specific reason to favor a preform in *\*-tno-*. The sporadic instances of a suffix complex of this shape elsewhere in the IE family (cf. especially Ved. *cyautná-*, Av. *šīiaoθna-* ‘deed, thing set in motion’) do not have gerundive meaning. The Lithuanian gerundive suffix *-tinās*, which Risch traces to a Sievers-Edgerton variant *\*-t<sup>o</sup>no-*, is better analyzed as an adjectival extension in *\*-no-* of the abstract suffix *\*-ti-* (see below). In Latin itself, where the sole example of an inherited PIE abstract in *\*-ter/n-* is the noun *iter*, gen. *itineris* (older *itinis*) ‘way, journey’, there are no derivationally related forms in *\*-ndo-*, *\*-nno-* or any other thinkable reflex of *\*-tno-*.

Typologically similar to the Risch-Sturtevant theory, and thus inadequate as well, is Meiser’s derivation of the gerund/gerundive suffix from *\*-dno-*, a thematic derivative of the suffix *\*-don-/ \*-den-* seen in Lat. *cupīdō*, *-inis* ‘desire’ and Gk. *χαίρηδών* ‘joy’ (Meiser 1995, 1998: 228). Meiser’s case for *\*-dno-* hinges on two arguments: 1) the supposed direct preservation of the cluster *\*-dn-* in Sabellic, and 2) the allegedly regular character of the metathesis *\*-dn- > \*-nd-* in Latin. According to Meiser, etymological *\*-dn-* is retained in the Oscan personal name **perkedno-**, which he characterizes as a “Gerundiv-Name” and glosses “der Erbetene,” comparing the name **hefrens** ‘der Erwünschte’. But this is pure speculation; there is actually no good reason to believe that **perkedno-** is a gerundive at all, and its meaning is unknown.<sup>5</sup> The supposed development of

<sup>3</sup> Pace Meiser (1998: 122), there is no basis for preform *\*patane/o-* < *\*patnh<sub>2</sub>-*; the *-e-* of the Oscan form is epenthetic, as in loc. sg. **akenef** ‘in anno’ < *\*akn-* < *\*atn-*.

<sup>4</sup> For a typological parallel compare Old Saxon *(gi-)fregnan* ‘ask’, pret. *(gi-)fragn* but also *(gi-)frang*, with morphological metathesis triggered by the common preterites of the type *sang* (: *singan*), *rang* (: *ringan*), *band* (: *bindan*), etc.

<sup>5</sup> It is true that the nom. sg. of the stem **perkedno-** is attested as **perkens**, and that the similarity of **perkens** to **hefrens**, suspect of being a gerundive on the strength of the Latinized personal name *Herennius*, provides a tenuous basis for extending the gerundive analysis to **perkens**, **perkedno-**. But phonological difficulties aside (see below), there is no philological or comparative support for the supposedly underlying full-grade present *\*perke/o-*, either as a doublet of inherited *\*prs(k)-ske/o-* ‘ask’ (> Lat. *poscō*, Osc. *-parasc-*) or in any other meaning.

Italic *\*-dn-* to Lat. *-nd-* is dubious at best. Meiser's claim (1998: 121 f.) that *\*-dhn-* and *\*-dn-* both yielded *-nd-* — unlike *\*-tn-*, which yielded *-nn-* — is supported by a single unconvincing example for each cluster. For *\*-dhn-* he cites *fundus* 'bottom' < *\*bhudh-(m)n-o-* — certainly a case of metathesis, but, as shown by the parallel and synonymous Gk. πύνδαξ, the product of a special inner-PIE process that also replaced the voiced aspirate by a simple voiced stop. For *\*-dn-* Meiser's putative example is Lat. *unda* 'wave', which he refers to the Italic *r/n-*stem *\*ud-ōr*, *\*ud-n-* 'water' (cf. Umbr. abl. sg. **une**). In fact, however, *unda* is more likely to have been extracted from a pre-Italic counterpart to the Vedic nasal present *unátti*, pl. *undánti* (: *ud-* 'moisten'), the influence of which is also apparent in Lith. *vañduo* (dial. *uñduo*, Latv. *ûdens*) 'water'. There are thus no convincing examples of the development *\*-dhn-*, *\*-dn-* > *\*-nd-* at all. The unforced reading of the evidence is that, in keeping with all other stop + nasal developments, *\*-tn-*, *\*-dn-*, and *\*-dhn-* simply gave *-nn-* in Latin.<sup>6</sup>

And yet, despite these difficulties, the available alternatives are such that the Risch-Sturtevant ("*\*-tno-*") and Meiser ("*\*-dno-*") theories remain among the stronger contenders for the honor of being the "right" solution to the gerund/gerundive problem. There have been other recent proposals, such as Sihler's hesitant derivation (1995: 206, 627) of *-ndo-* from *\*-(o)n-yo-*, i.e., from a denominal verbal adjective of the type seen in the Sanskrit gerundives in *-anīya-*, *-(i)tavya-*, etc.; and Rasmussen's attempt (1996) to justify a phonological derivation of *-ndo-* from the familiar middle participle in *\*-m(h)no-* (cf. Gk. *-μενος*, Ved. *-māna-*, Av. *-mna-*, etc.). Neither of these suggestions is really new (cf. Leumann, *loc. cit.*), and neither can be correct. The improbable sound law *\*-ny-* > *\*-nd-* is undercut by the fact that the Sanskrit "gerundive" suffix is not *-ya-* < PIE *\*-yo-*, but *-i(y)a-* < PIE disyllabic *\*-i(y)o-*. The projected change of *\*-mn-* to *\*-md-* (dissimilatory loss of nasalization in the second element of the cluster) to *\*-nd-* (nasal place assimilation) is a typological monstrosity — a rule easy to state in distinctive feature terms but impossible to imagine as an actual diachronic event.<sup>7</sup>

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Meiser's structural comparison of Osc. **perkedno-** with Gk. μακεδνός 'long' may well be correct, but if so, the Oscan form is probably just a simple adjective, possibly related to Ved. *pr̥śñi-* 'speckled', Gk. περκνός 'dark-colored', etc.

<sup>6</sup> A certain example of *\*-dn-* > *-nn-* is seen in *mercennārius* 'mercenary' < *\*merkednārio-* < *\*merkedinārio-*, where the cluster arose through syncope. Meiser's views on the gerund and gerundive require him to distinguish such cases from primary *\*-dn-*, which he says gave *\*-nd-*. His position on primary and secondary *\*-dn-* thus runs exactly counter to his claim in the case of primary and secondary *\*-tn-*: the former, he says, gave *-nn-* in *annus*, etc., while the latter gave *-nd-* in *pandō*, supposedly < *\*patane/o-* < *\*patñh₂-* (cf. note 3).

<sup>7</sup> And, of course, counterexemplified by forms like *alumnus* 'nursling', *contemnō* 'despise', etc., which require special pleading.

One point on which modern scholarship is nearly unanimous — and here, for once, is a sign of real progress vis-à-vis the confusion evident in the earlier literature — is that the gerundive is older than the gerund. There are good reasons for this consensus. Across the IE family as a whole, verbal adjectives of necessity are much more widely distributed than gerund-like verbal nouns; this is specifically the case in Sabellic, where only the gerundive, complete with its distinctive syntax, is attested. It is difficult to construct a plausible scenario for deriving the gerundive from the gerund, but easy to see how the gerund could have been abstracted from the gerundive. Speakers would simply have had to make the leap from phrases like

<i>ad librum legendum</i>	‘to read the book’
<i>ad legēs legendās</i>	‘to read the laws’
<i>ad volūmina legenda</i>	‘to read the scrolls’
<i>ad aliquid legendum</i>	‘to read something’

to

<i>ad legendum</i>	‘to read’
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and thence to

<i>ad X<sub>[+acc.]</sub> legendum</i>	‘to read X’,
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where *X* could be *legēs* (acc. pl. fem.) or *volūmina* (acc. pl. nt.), not agreeing with *legendum*, but governed by it.<sup>8</sup>

The most revealing indication of the priority of the gerundive, however, is the existence of a profusion of adjectival relic forms. These are of three main types: 1) a small group of adjectives in *-cundus* (*īrācundus* ‘irascible’, *rubicundus* ‘reddish’, etc.), of obscure derivational history; 2) a somewhat larger group in *-bundus* (*moribundus* ‘moribund’, *cassābundus* ‘tottering’, etc.), with a suffix presumably extracted from a tense stem akin to that of the *b*-future; and 3) a handful of isolated adjectives in *-undus* which resemble the gerundives of intransitive verbs but lack necessitative meaning. The last group, which will serve as our point of departure for a new approach to the problem, includes *secundus* ‘second, following’ (: *sequor* ‘follow’), *oriundus* ‘descended from’ (: *orior* ‘arise’), *rotundus* (VLat. *\*retundus*; cf. Sp. *redondo*) ‘round’ (: OIr. *rethid* ‘runs’),<sup>9</sup> and the rare

<sup>8</sup> Cf. Risch 159 ff. As Risch points out, the use of *ad* + NOUN<sub>[+acc.]</sub> + GERUNDIVE<sub>[+acc.]</sub> in expressions of purpose is actually quite rare in early Latin, the usual preference being for *ob* + acc., or for the dative without a preposition. The examples quoted are purely schematic.

<sup>9</sup> The *-o-* of Class. *rotundus* reflects the influence of *rota* ‘wheel’; cf. Leumann 331.

*lābundus* ‘smoothly gliding’ (: *lābor* ‘slip, glide’). These words represent early offshoots of the main line of gerund/gerundive development. They are often loosely translatable as present participles, but differ from true participles in *-ēns*, *-entis* in one essential respect. As participles, *sequēns*, *oriēns*, and *lābēns* mean ‘following/arising/slipping *now*’, with the value of “now” set by the tense of the main clause of the sentence. The forms in *-undus*, by contrast, are adjectives — derived lexical items with meanings broadly characterizable as ‘following (arising, slipping) *at any time, disposed to follow* (arise, slip), following (arising, slipping) *in the nature of things*’. *rotundus*/\**retundus* means in effect ‘disposed to roll’ or ‘rolling by nature’.

Proto-Italic adjectives of the “\**sek<sup>w</sup>ondos*-type” (the notation is purely conventional) were evidently the starting point for the emergence of the classical gerundive. The forms \**sek<sup>w</sup>ondos*, \**oriondos*, and \**lābondos* (*vel sim.*) were derivationally associated with the deponent presents \**sek<sup>w</sup>ōr*, \**oriōr*, and \**lābōr*; \**retondos* may have been associated with a deponent \**retōr*. Given the existence of such pairs, it would have been easy for other intransitive verbs of motion that inflected as middles — \**wertōr* ‘turn’ and \**wolwōr* ‘roll’ come to mind — to acquire adjectives in \**-ondos* as well. Such forms would have had meanings of the type ‘disposed to turn (intr.)’ (\**wertondos*), ‘disposed to roll (intr.)’ (\**wolwondos*), etc. But unlike the presents \**sek<sup>w</sup>e/o-*, \**orie/o-*, and \**lābe/o-*, which had only middle (“passive”) forms, the presents \**werte/o-* and \**wolwe/o-* also had, or soon acquired, an active inflection with transitive value (cf. Lat. *uertō* ‘(make) turn’, *uoluō* ‘make roll’). \**wertondos* and \**wolwondos* would thus have come to be aligned specifically with the passive voice, thereby establishing a pattern that could be generalized to transitive verbs with other semantic characteristics:

3 sg. \**wertetor* (> *uertitur*) ‘turns (intr.)’ : adj. \**wertondos* ‘disposed to turn’  
 :: \**legetor* (> *legitur*) ‘is read’, \**kaidetor* (> *caeditur*) ‘is struck’, etc. : *X*,

where *X* was solved as \**legondos* ‘disposed to be read’, \**kaidondos* ‘disposed to be struck’, etc. In due course the formation passed from a derivational to an inflectional category, and the gerundive assumed its canonical shape and function (Class. Lat. *uertendus*, *uoluendus*, *legendus*, *caedendus*).<sup>10</sup>

We thus see that the problem of the gerund/gerundive reduces to the problem of explaining the origin of *secundus* and its congeners. From *secundus*

<sup>10</sup> The necessitative sense (“*needing to be read*,” etc.) was a pragmatic outgrowth of the more basic meaning: a book that is readable or “disposed” to be read is one that probably *should* be read. The replacement of *-undus* by *-endus* was a late development under the influence of the present participle; older Latin still has *uertundus*, *legendus*, etc.

can be explained the creation of the gerundive; from the gerundive can be explained the gerund. The task before us now is to answer the one question that remains: what is *secundus*?

In searching for the origin of *secundus* and other such forms, we are not entirely without potential leads. *secundus*, *oriundus*, *lābundus*, and *\*retundus* are adjectives rather than participles, yet they come very close to present participles in meaning. Indeed, they even *look* like present participles, once it is recalled that *\*-ont-*, rather than *\*-ent-* or *\*-nt-*, was the dominant form of the thematic present participle suffix in PIE (cf. Gk. φέροντ-, Go. *bairand-*, OCS *berqšt-*, etc.). Given the degree of formal and semantic resemblance between the two formations, it is natural to wonder whether there might not also have been a historical link between them. Realistically, such a link would have to have been mediated by a suffix — a suffix *X* such that

<i>*sek<sup>w</sup>ont-</i> ‘following’ (ptcp.)	+ <i>X</i>	gave <i>*sek<sup>w</sup>ondo-</i> ‘disposed to follow’ (adj.)
<i>*oriont-</i> ‘arising’ (ptcp.)	+ <i>X</i>	gave <i>*oriondo-</i> ‘disposed to arise’ (adj.)
<i>*lābont-</i> ‘gliding’ (ptcp.)	+ <i>X</i>	gave <i>*lābond-</i> ‘disposed to glide’ (adj.)
<i>*retont-</i> ‘rolling’ (ptcp.)	+ <i>X</i>	gave <i>*retondo-</i> ‘disposed to roll’ (adj.)

Our question about the origin of *secundus* can thus be provisionally reformulated: was there an *X* that satisfies these conditions?

Adjectival derivatives of present participles are not common in the older IE languages. In Greek, the adjective ἐκούσιος ‘voluntary; willing’ is a derivative in -ιος (< *\*-i(y)o-*) of the etymological present participle (but synchronic adjective) ἐκών, -όντος ‘willing, wanting’. The same structure occurs in the New Testament Greek term ἐπιούσιος ‘for the coming day’ (cf. τὸν ἄρτον ἡμῶν τὸν ἐπιούσιον ‘our daily bread’), ultimately based on the participle ἐπιών, -όντος ‘coming, approaching’.<sup>11</sup> Neither of these forms tells us much about *secundus*.<sup>12</sup> But unexpected light is shed on the status of *secundus* by the translation of Gk. ἐπιούσιος into Slavic. The OCS counterpart of ἐπιούσιος is *nasqštънъ*, a conscientious, if flawed, Slavic translation of the Greek term, in which OCS *na-* = Gk. ἐπ(ι)- ‘upon’, OCS *-sqšt-* = Gk. -ουσ- < -οντ- ‘being’ (misparsed for -ιουσ- < -ιοντ- ‘going’), and OCS *-ънъ* = Gk. -ιος, the adjectival suffix. Since *nasqštънъ* is an obvious nonce coinage, it would be easy to dismiss the combination of present

<sup>11</sup> Though not immediately: the proximate derivational base was ἐπιούσα (ἡμέρα) ‘the coming day’.

<sup>12</sup> Nor does the isolated Vedic epithet *sahantia-* (: *sāhant-* ‘conquering’). The Latin names *Constantius*, *Fulgentius*, *Prudentius*, etc., while made up of the same morphemes, are properly patronymics based on *Constans*, *Fulgens*, *Prudens*, etc.

participle *sqšt-* + suffix *-ьнѣ* as artificial as well. This, however, would be a mistake. The modern Slavic languages, especially Czech, attest a number of adjectives formed from present participles by adding the productive suffix *-ný* (Cz.), *-ni* (Serbo-Croatian), *-nij* (Ukr.), etc. Thus, the Proto-Slavic present participle *\*sqšt-* ‘being’ underlies not only OCS *sqšt-* and *nasqštьнѣ* (whence Slavonicisms like Russ. *nasuščnyj* ‘vital’), but also the Czech participle *jsoucí* ‘being’ and its adjectival derivative *jsoucnyj* ‘vital, real, substantial’. Other Czech adjectives of this type include *vroucný* ‘fervent, ardent’ (: ptcp. *vroucí* ‘boiling’ < *\*vbrqt-*), *nemohoucný* ‘impotent’ (: ptcp. *nemohoucí* ‘id.’ < *\*mogqt-*), *bojácný* ‘timid, faint-hearted’ (: ptcp. *bojící*<sup>13</sup> *se* ‘afraid’), and OCz. *probyšoucný* ‘useful’ (cf. OCS *byšqšt-* ‘about to be’ < *\*bhūsyont-*). Corresponding to Cz. *-mohoucný*, Serbo-Croatian has *mogućni* ‘possible’ (: ptcp. *mogućí* ‘id.’), and Slovenian has *mogočni* ‘powerful, mighty’ (: ptcp. *mogoči* ‘possible’). We will see further derivatives of the root *\*mog-* below.

How old are these forms? With examples attested in both West and South Slavic (including OCS), there can be little doubt that the process of building adjectives in *-ьнѣ* (< *\*-ino-*) to present participles goes back to the Common Slavic period. A “late” feature of the above forms is their “iotation” or stem-final softening: cf. OCS *sqšt-ьнѣ* (i.e., *\*sqšt’-ьнѣ*) for expected *\*sqšt-ьнѣ* < *\*sontino-*, SC *mogućni* (i.e., *\*mogqt’-ьнѣ*) for expected *\*mogqt-ьнѣ* < *\*mogontino-*, etc. In fact, however, relic forms like Ukr. *prysutnij* ‘present’, SC *prisutni* ‘id.’ (< *\*-sqšt-ьнѣ*) and Ukr. *mohutnij* ‘powerful’, Cz. *mohutný* ‘id.’ (< *\*mogqt-ьнѣ*) show that the earliest adjectives in *\*-ino-* from present participles were made from *non*-iotated stems. The analogical replacement of *\*sqšt-ьнѣ*, *\*mogqt-ьнѣ* by *\*sqšt’-ьнѣ*, *\*mogqt’-ьнѣ* — a change that may have been confined to the emergent West and South dialect areas — restored the synchronic transparency of the adjectives in *-ьнѣ* and allowed them to enjoy a period of modest, regionally restricted expansion.

The interest of these facts is more than purely typological. Our goal, it will be recalled, is to find a suffix *X* such that *\*sek<sup>w</sup>ont-* ‘following’ (ptcp.) + *X* gave pre-Lat. *\*sek<sup>w</sup>ondo-* ‘disposed to follow, following by nature’, etc., *\*oriont-* ‘rising (ptcp.) + *X* gave *\*oriondo-* ‘disposed to rise, rising by nature’, and so on. From a functional point of view, PIE *\*-ino-* meets this requirement very well. PSlav. *\*mogqtьнѣ* meant ‘able by nature’, i.e., ‘powerful’; Cz. *bojácný* means ‘disposed to be afraid’, i.e., ‘timid’; OCz. *probyšoucný* means ‘(prepared to be) available at any time’, i.e., ‘useful’. A pre-Italic *\*sek<sup>w</sup>ont-ino-*, if such a form had existed, would probably have meant something very close to what Lat. *secundus* actually does mean. What remains to be seen is whether we can derive

<sup>13</sup> Remade within Czech from *\*bojáci* on the basis of the present stem *bojí-*.



\**sek<sup>w</sup>ondo-* from \**sek<sup>w</sup>ontino-* phonologically. The key unknown, of course, is the treatment of the sequence \**-ontino-* (\**-antino-*, \**-entino-*) in Latin and Sabellic.

A phonological development of \**-(V)ntino-* to pre-Lat. \**-(V)ndo-* and pre-Sabellic \**-(V)nno-* would have to have been a two-stage process, with syncope (\**-(V)ntino-* > \**-(V)ntno-*) followed by cluster simplification (\**-ntn-* > \**-nd-* in pre-Latin, \**-ntn-* > \**-nn-* in pre-Sabellic). It will come as no surprise to learn that there are no directly observable examples of inherited \**-ntn-* in Italic. In Latin, the sequence \**-ntn-* would no doubt first have given \**-ndn-* and then, assuming no special “combinatorial” changes, \**-nn-*. But just such a special change, plausible enough from a phonetic point of view, would have been the dissimilatory loss of the second nasal, giving *-nd-*. Interestingly, a development \**-ntn-* > \**-ndn-* > *-nd-* was assumed long ago by Thurneysen (1883: 303 ff.); it has never been shown to be impossible on phonological grounds.<sup>14</sup> In Sabellic, where \**-ntn-* might have been expected to give \**-nten-*, with epenthesis, or \**-nken-*, with dissimilation and epenthesis, the corresponding “special” development — again, both phonetically natural and consistent with everything else we know — would have been the early (pre-dissimilation, pre-epenthesis) simplification of \**-ntn-* to \**-nn-*.

It follows, then, that if the syncope of \**-(V)ntino-* to \**-(V)ntno-* could be dated to an early enough period in the history of Latin and Sabellic, the derivation of *secundus* from \**sek<sup>w</sup>ontinos* would be unproblematic. At this point it may be useful to recall a few general facts about syncope. Syncope is a kind of sound change that takes place because certain vowels or syllables lose their perceptual salience and fail to be recognized as segmental components of the speech signal by new speakers. The crosslinguistic factors that make for such loss of salience are well known: lack of stress, proximity of a liquid or nasal, frontness and height (high front vowels are shorter than low back vowels), position following a “heavy” syllable, overall word length, and various parameters of discourse and style. Because so many variables are potentially involved in syncope, and because the tendency to syncopate may be offset by the influence of morphologically related forms, language learners are often unable to frame and apply Neogrammarian-type “sound laws” to replicate the patterns of loss and retention that they encounter in actual speech. This is why synchronic and diachronic rules of syncope, when storable at all, often involve complex environments and

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<sup>14</sup> Thurneysen’s early theory of the gerundive, which compares favorably to many modern accounts, assumes the addition of a suffix \**-no-* to the present participle. The best candidate for an inherited case of \**-ndn-* in Latin is *prehendō* ‘grasp’, if (*contra* LIV 194) this is a “double nasal” present like Gk. *χανδάνω* ‘hold’, OIr. *ro·geinn* ‘finds room’, and Go. *du-ginnan* ‘begin’. But since \**gh(e)nd-n-*, \**ghed-n-*, or \**gh(e)nd-* would all have given *-hendō* by the “*pandō*-effect” in any case (cf. above), the example is inconclusive.

lexical exceptions. The case of Latin, where syncope is attested at all periods, is typical.<sup>15</sup> The rule that took *\*po-sinō* ‘put’ to *pōnō* via *\*pozinō* and *\*prīsemos* ‘first’ to *prīmus* via *\*prīzemos* ought also to have operated in *\*ozenos* (or *\*ozinos*) ‘mountain ash’ and *\*Falizinos* ‘Faliscan’; yet the reflexes of the latter forms are *ornus* and *Falernus*, respectively, showing that syncope in these words must have followed, not preceded, the rhotacism of *\*-z-* to *\*-r-*. Syncope occurred twice in *alnus* ‘alder tree’ < *\*allinos* < *\*alzinōs* < *\*alizinōs*, but only once in *facillimus* ‘easiest’ < *\*faklizemos*. It took place after the nasal cluster in *quīndecim* ‘15’ < *\*quīnquedicem* and *īnfrā(d)* ‘below’, but not in *īnferus* ‘lower’. In view of the susceptibility of the sequence *\*-ino-* to syncope throughout the history of Latin, the likelihood that a preform like *\*sek<sup>w</sup>ontinos* would eventually have been reduced to *\*sek<sup>w</sup>ontnos* is extremely high.

Syncope plays an even more conspicuous role in Sabellic than in Latin, although the rules here were different. In Sabellic, after an initial round of final syllable weakenings, any short vowel that remained in a penultimate open syllable was regularly lost. Forms like nom.-acc. nt. *\*sek<sup>w</sup>ontinom*, nom. sg. fem. *\*sek<sup>w</sup>ontinā*, and nom. pl. masc. *\*sek<sup>w</sup>ontinōs* would thus have undergone syncope to *\*sek<sup>w</sup>ontnom*, *\*-ontnā*, *\*-ontnōs*, etc. Only in the nom. sg. masc., where the ending *\*-os* was regularly shortened to *-s*, would *\*-ontinos* have given *\*-ontins*, with an aberrant syllabic structure that would have presented an obvious target for analogical repair.<sup>16</sup> In Sabellic as in Latin, the eventual creation of a syncope stem in *\*-ontno-* would have been very likely.

Minimally, then, we can hypothesize that Proto-Italic inherited verbal adjectives of the type *\*sek<sup>w</sup>ontinos* ‘disposed to follow’, cognate with or structurally parallel to the Slavic type represented by forms like *\*mogontinos* ‘powerful’ (> Ukr. *mohutnij*, Cz. *mohutný*). Under a conservative elaboration of this hypothesis, *\*-ontino-* would independently have undergone syncope to *\*-ontno-* in Latin, where it gave *\*-ondno-* > *\*-ondo-*; and in Sabellic, where it gave *\*-onno-* (> later *-enno-*). But it is possible to imagine another scenario — more

<sup>15</sup> No attempt will be made here to summarize the abundant literature on the subject of Latin syncope. Modern overviews are given by Meiser (1998: 66-74) and Sihler (1995: 68-70); Leumann’s discussion and bibliography (95-99) are also useful. I am grateful to Alan Nussbaum and Michael Weiss for discussion of the issues raised in this and the following paragraphs.

<sup>16</sup> To be sure, the analogy often goes the other way; cf. Umbr. nom. sg. masc. **tačez** ‘silent’ < *\*taketos*, where the *-e-* was retained and reintroduced into the rest of the paradigm (cf. nom. pl. *tasetur*). But the syncopated oblique stem is generalized, e.g., in superlatives of the type Umbr. **nuvime** ‘nouissime’ < *\*newis(e)mo-*, *nessimo-* ‘nearest’ < *\*nessis(e)mo-* (cf. Cowgill 1970: 136-40), where no trace survives of the theoretically expected nom. sg. in *\*-isems* < *\*-isemos* (vel sim.). On Sabellic syncope in general, see Meiser (1986: 130 ff.) and Benediktsson (1960).

speculative but also simpler and more elegant — under which the syncope of *\*-ontino-* to *\*-ontno-* would have taken place *within Proto-Italic itself*. Many examples of syncope in Latin and Sabellic presuppose earlier sound changes specific to the post-Italic history of these languages. The relative lateness of *some* syncope rules, however, should not blind us to the fact that syncope was an ongoing process in both branches, and that its beginnings were probably much earlier than the transparent, *ipso facto* late examples that most engage our attention. Word-initial stress, the essential precondition for syncope in Sabellic and pre-Latin, was already a fact of Proto-Italic. It is likely, therefore, that the earliest instances of syncope — even if (perhaps) confined to rapid speech and restricted to a small number of typologically favored environments — took place in the Proto-Italic period. The position of the *\*-i-* in *\*sek<sup>w</sup>ontinos*, flanked by a single nasal and a nasal cluster, would have made it an ideal candidate for precocious loss.<sup>17</sup>

The rest of the story is simply told. With or without early (Proto-Italic) syncope, *\*sek<sup>w</sup>ont(i)nos* and its congeners served as the point of departure for the creation of a productive class of passive verbal adjectives in *\*-ont(i)no-* (*\*-ant(i)no-*, *\*-ent(i)no-*). These, at a date still within the Italic period, acquired the syntactic peculiarities of the classical gerundive, which in turn gave rise to the gerund. The only events in the history of the gerund / gerundive complex that *must* be assigned to the period after the breakup of Italic were the simplification of *\*-ntn-* to *\*-nd-* in Latin and *\*-nn-* in Sabellic.

The great advantage of this account is that it allows the Italic gerundive to be identified with a known extra-Italic formation — the Slavic deparicipial adjective type *\*mogotъnъ* < *\*mogontinos*. But what does it *mean* to say that pre-Italic *\*sek<sup>w</sup>ontinos* and pre-Slavic *\*mogontinos* were “identical”? It is not likely that the parent language built adjectives in *\*-ino-* directly to participles in *\*-nt-*, since derivational processes of the type ADJECTIVE → ADJECTIVE did not exist at the oldest level of PIE morphology. The form of the suffix *\*-ino-*, moreover, strongly suggests a two-step derivational sequence *\*-nt-* → *\*-nt-i-* → *\*-nt-i-no-*. As Alan Nussbaum points out (p.c.), the natural way to accommodate these facts

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<sup>17</sup> It is worth noting that “irregular” loss — whether by apocope, syncope, or haplology — has played an increasingly important role in morphological explanations over the past few decades. Classic articles include Szemerényi’s derivation (1966) of the Vedic *si*-imperatives from haplologized subjunctives (*\*jaiši* ‘conquer!’ < *\*jaišasi*; generalized to PIE by Jasanoff (1986)) and Cowgill’s brilliant explanation (1975) of the Insular Celtic absolute and conjunct endings on the basis of a not-quite-regular rule of final *i*-loss. Further examples are cited in Jasanoff (1994: 217), where the *-f-* of the Old Irish *f*-future is attributed to a precocious syncope of *\*-i-* (*\*skarī-βihāti* > *\*skarī-β’hāti* > *scairfid* ‘will separate’).

is to posit an intermediate level of verbal abstracts in *\*-nt-i-*: *\*sek<sup>w</sup>ont-* ‘following’ → *\*sek<sup>w</sup>ont-i-* ‘act of following’ → *\*sek<sup>w</sup>ont-i-no-* ‘following-related, disposed to follow’. Abstracts in *\*-nt-i-* have now been identified in Anatolian, where the clearest case is Hitt. *tukkanzi-* ‘cultivation’ < *\*duk-(o)nt-i-* (cf. Melchert 1999); and in Indo-Iranian, where, if Nussbaum is correct, they can be seen in forms of the type Ved. *rámati-* ‘pleasant place to stay’ (< *\*-nt-i-*). The most striking example of such a noun, however, is Russ. Ch. Sl. *mogutъ* (< *\*-qtъ* < *\*-onti-*) ‘lord, master’ < *\*‘power’*, precisely the form that served as the basis for the creation of the key Slavic adjective *\*mogontinos* / *\*mogotъnъ*.<sup>18</sup> In later Slavic *\*mogotъnъ* was synchronically referred to the participle *\*mogotъ-*, and the *\*-t-* of the participle spread dialectally to the adjective, paving the way for the creation of neologisms like Cz. *probyšoucný*, *bojácný*, etc. In Italic too, only the abstracts in *\*-nt-i-* are likely to have been inherited; the addition of the productive suffix *\*-no-* could have taken place at any point prior to the breakup of Proto-Italic. Our main conclusion, then, is not that PIE had verbal adjectives in *\*-ntino-*, but that it had the building blocks from which such adjectives could be created, in part independently, in Slavic and Italic.

We can add a final point. If the suffix *\*-no-* could be used to form gerundive-like adjectives from verbal abstracts in *\*-nt-i-*, there is no reason why it should not also have been combinable with verbal abstracts of other formal types. This suggests the explanation for the Baltic verbal of necessity in (Lith.) *-tinas* — a formation that Risch, as we have seen, unsuccessfully tried to equate with the Latin gerundive under the assumption of a PIE Sievers-Edgerton variant *\*-t<sup>o</sup>no-*. In fact, *-tinas* is straightforwardly segmentable as *-ti-nas*, with adjectival *\*-no-* added to the productive abstract suffix *\*-ti-*. The Baltic “gerundive” is the exact typological cognate, but only the partial formal cognate, of its counterpart in Italic.<sup>19</sup>

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<sup>18</sup> A complete inventory of the non-participial derivatives of the Slavic stem *\*mogot-* is given in *ESSJ* s.v. *\*mogotъ(jъ)*. The semantic development of the noun *\*mogotъ* was as in Eng. *beauty* ‘beautiful woman’, or (more to the point) *power* ‘important person or country’; cf. also It. *podestà* (< Lat. *potestàs*) ‘kind of municipal official’. I am indebted to Johannes Reinhardt for calling my attention to this form, and to Michael Flier for helping me over the philological hurdles.

<sup>19</sup> As seen by Risch (179), the Baltic formation appears also in OCS *prijetъnъ*, Russ. *prijatnyj* ‘pleasant’ (< *\*im-tino-*; cf. Lith. *iĩtinas* ‘to be taken’). The general point may be made that virtually *all* gerundive-like adjectives in the older IE languages are formed by adding an adjectival suffix with the generic meaning “belonging / pertaining to. . .” to a verbal abstract (cf. Ved. *-ia-*, *-(i)tavia-*; Gk. *-τεος* < *\*-tew-o-*; Arm. *-li*, Toch. B *-lye* < *\*-l-iyō-*; etc.).

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