*my > (*)ny in Greek and Italic:  
Common innovation, parallel development, or fortuitous similarity?

Hans Henrich Hock  
*University of Illinois at Urbana-Champaign*  
hhhock@illinois.edu

The fact that the final –m of PIE *gwem- is reflected as –n in Greek baínō, Lat. ueniō, and related forms has given rise to a number of different accounts, the most common of which explains the n as the result of some kind of assimilation. I review the various proposed accounts and argue that the similarity between Greek and Latin n is accidental. The Latin n results from analogical extension of the third singular root aorist form, in which –n results from sound change. The Greek n reflects regular sound changes connected with across-the-board palatalization in that language.

The putative Proto-Indo-European (PIE) present form *gwmyō ‘go, come’ is reflected as Greek (Gk.) baínō, Latin (Lat.) ueniō with n for earlier m (1a). In Italic, represented here by Latin, Old Latin (OLat.), Oscan (Osc.) and Umbrian (Umbr.), the dental nasal is also found outside the present (1b), as well as in certain non-verbal forms (1c). By contrast, in Greek it is limited to the present system of the verb.

(1) a. PIE  *gwmyō > Gk. baínō, Lat. ueniō, ‘come’

<table>
<thead>
<tr>
<th>PIE</th>
<th>Gk.</th>
<th>Lat.</th>
<th>OLat.</th>
<th>Osc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*gwmyō</td>
<td>baínō</td>
<td>ueniō</td>
<td>ad-uenat</td>
<td>kǔm-bened</td>
</tr>
</tbody>
</table>

1 Via *gwnyō, *gwnyō
2 Boldface is used in transliterating Oscan and Umbrian forms written in the local alphabet.
Concerning the correspondence \( m : n \) several accounts have been proposed. One, going back to Thurneysen (1879), Brugmann (Osthoff & Brugmann 1879-1910: 2: note 207), Mahlow (1879: 63), and especially Osthoff (1884: 505-521), posits a sound change \( m > n \) before \( y \), which is either shared by Greek and Italic or at least a parallel innovation. With minor variations, this view has been accepted widely; see e.g. Brugmann & Delbrück (1886-1900), Brugmann (1902-04), Kieckers (1931), Buck (1933), Leumann, Hofmann, & Szantyr (1977), Sihler (1995) (with some reservations), Meiser (1998), Szemerényi (1999); and similarly, for Oscan-Umbrian, v. Planta (1892-97).

Kretschmer (1896) accepted \( *my > (*ny \) for Greek, but considered the change unlikely for Italic because of unshifted \( m \) in forms of the type seen in (2).

\begin{equation}
(2) \text{Lat. } gremium, \text{‘lap, bosom’}, \text{nimius ‘excessive’, dormio ‘sleep’, etc.}
\end{equation}

Brugmann (1902-04) defended the change for Italic since in his view the sequence \( ni \) of \textit{quoniam}, seen in (3), must be from earlier \( *my \). For similar views, see Kieckers (1931: 133), Leumann-Hofmann-Szantyr (1977: 126), and Sihler (1995: 205-206). Under this view, the unshifted -\( m \)- of examples like \textit{gremium} reflects the fact that the suffix of these forms was -\( iyo \)-, rather than -\( yo \).

\begin{equation}
(3) \text{Lat. } quoniam, \text{‘since, whereas’ < *quom-yam}
\end{equation}

Jacobsohn (1904), on the other hand, explained the \( n \) of \textit{ueniō} and \textit{quoniam} as dissimilated vis-à-vis the labial onset \( (q)u \)-; similar views are found in Sommer (1914), Walde-Hofmann (1982), and Sihler (1994: 205) (with reservations).

\begin{equation}
(4) \quad *kw \ldots m > *kw \ldots n
\end{equation}
Schwyzer (1939) proposed yet a different analysis: The *n of Gk. \( \text{baínō} \), Lat. \( \text{ueniō} \) may be an extension from non-presential forms like Armenian (Arm.) \( \text{ekn} \), Avestan (Av.) \( \text{jantu} \), as in (5). And \( \text{koinós} \) ‘common’, the only other Greek form whose \( \text{in} \) can reasonably be derived from earlier *\( \text{my} \) (see the discussion further below), may have been formed after *\( \text{kom} \) had changed to \( \text{kon} \), as in (6). A similar interpretation is found in Frisk (1955-72: s.vv.), but with hesitations concerning \( \text{koinós} \). (Abbreviations: aorist – aor., Armenian – Arm., Sanskrit – Skt. in (5) below)

(5) PIE root aor. \( */(e)-\text{g}^\text{wem-t}*/ = *\text{eg}^\text{wen} \)

Arm. \( \text{ekn} \), ‘he came’

Skt. \( \text{agan} \), ‘he has come’

cf. Av. \( \text{jantu} \), ‘he should come’

(6) (Regional) PIE *\( \text{kom} \), ‘together’ \( \rightarrow \) Common Gk. *\( \text{kon} \)

\( \rightarrow *\text{kon-yos} \rightarrow \text{koinós} \)

If we try to put together these views—and other possible variations on them, we come up with the following partly overlapping and contradictory scenarios:

(7) a. Gk. \( \text{baínō} \), Lat. \( \text{ueniō} \), as well as Osc. \( \text{kúm-benniefs} \) exhibit a common—or parallel—sound change of \( \text{m} > \text{n} \) before \( \text{y} \).

b. The sound change is limited to one of the two language groups, while the other reflects morphological/analalogical changes or a different sound change.

c. Gk. \( \text{baínō} \), Lat. \( \text{ueniō} \), and Osc. \( \text{kúm-benniefs} \) result from independent morphological/analalogical changes or different sound change(s).

d. The morphological/analalogical changes are:

i. Extension of the expected third singular root aorist form of the root, Gk. *\( \text{ében} \), Ital. *\( \text{eg}^\text{wen} \), see (5).

ii. Creation of Gk. \( \text{koinós} \) from a prehistoric Greek form *\( \text{kon} \), see (6).
To these may be added another possible explanation, dismissed by Schwyzer (1939) without further discussion, namely that the n of Gk. bainō results from a sound change similar to that of mj > mnj in Modern Greek (Mod. Gk.), as in (8). This comparison appears to have been made first by Osthoff (1884); see further below.3

(8) Mod. Gk. mnja < mía, ‘one (fem.)’

While not wanting to deny that other analyses are conceivable, I intend to show that the most plausible account derives Gk. bainō and koinós through a sound-change process very similar to the one in (8), which Schwyzer summarily dismissed. On the other hand, the Italic forms ueniō, küm-bened, küm-bennieís, benurent etc. reflect secondary generalization of the root-aorist third singular form, and quoniam has undergone labial dissimilation in the sequence ... m ... m.

Let me begin with the type Lat. ueniō (perf. uēnī, OLat. advuenat), Osc. küm-bened, Umbr. benurent. An account that considers the n of these forms to be an extension from the expected third singular form of the root aorist *gʷen(-t) < *gʷem-t is the most reasonable on several grounds. First, given the cross-Indo-European variation in the mode of present formation of this root, seen in (9), it is likely that the root lacked a present stem in PIE (which instead was furnished suppletively by the root *(e)i, ‘come, go’ (as in Skt. eti, Lat. ēre). The Latin present ueniō therefore may be a relatively late and independent innovation, a presentization, as it were, of the original aorist stem. (Abbreviations: Gmc. – Germanic, Lith. – Lithuanian, Toch. A – Tocharian A, Toch. B – Tocharian B in (9) below.)

(9)

<table>
<thead>
<tr>
<th></th>
<th>(Virtual) PIE source</th>
</tr>
</thead>
</table>
| Skt.       | gacchati ‘goes’      | *gʷ.loadedsk-
| Av.        | jasatjī ‘goes’       | *gʷ.loadedsk-
| Gk.        | bainō, báske, ‘come’ | *gʷ.loadedye, *gʷ.loadedsk-
| Lat.       | ueniō, ‘come’        | *gʷ.loadedye-

3 This transliterates Schwyzer’s use of symbols. As noted by an anonymous reviewer, a more accurate transcription would be mña (with palatal nasal).
That this account is on the right track is suggested by the fact that the dental nasal $n$ is found in the nonpresential forms of all of Italic, especially in the perfect. As is well known, these perfects in many cases reflect earlier aorists, with secondary length of the root vowel in Latin; see, e.g., Meiser (1998: 180-181) and Sihler (1995: 579). The assumption that the root aorist of PIE *$gwem$- did indeed survive in early Italic is supported by the fact that the Old Latin relic type *ad-uenat is most plausibly explained as an original root aorist subjunctive (earlier optative); see, e.g., Leumann, Hofmann & Szantyr (1977: 573) and Meiser (1998: 184). We thus have good evidence that would support a pan-Italic generalization of third-singular-aorist $n$ to the rest of the aorist or nonpresential system. And this root in final $n$ could then be employed as the foundation for creating an innovated present, *uenitō. Note that the present is limited to Latin and is not attested in Oscan-Umbrian. There is thus no evidence that would support the common assumption that Oscan-Umbrian forms such as *kūmbened owe their dental nasal to analogical extension from the present.

It is true that Osc. *kūmbennifes has been cited by v. Planta (1892-97) as exhibiting the change of $m$ to $n$ before $y$. However, this form may well be a secondary derivation from the root *ben- abstracted from the non-presential system and thus, like the latter, ultimately based on the original third singular aorist.\(^5\)

Lat. *quoniam, of course, cannot be explained in this manner. We might therefore consider returning to Jacobsohn’s (1904) ‘labial’ dissimilation; see (4) above. It might be objected that *uimen, ‘withy, twig’, *uomis, ‘plough share’, and *uomō, ‘vomit’ provide counterevidence to this assumption. However, these words have original initial *$w$; and the sound

\(^4\) Compare the short root vowel in Osc. *kūmbened, and Umbr. *benurent.

\(^5\) In fact, derived nouns in Lat. *-ium, -ia seem to regularly lack special consonant developments before *-y-, which suggests an early generalization of the suffix *-yo- in nominal derivation (see note 6 below). Umbr. *gemia, kumiaf ‘gravidas, pregnant’ may further suggest that this generalization was pan-Italic. In that case, Osc. *kūmbennifes would be highly unusual if it were indeed an original form in *-yo-. Assuming that the form results from secondary extension of the root *ben- found in the perfect system would avoid this complication.
change may have been restricted to contexts with original initial labiovelars. Moreover, as is well known, dissimilation is a notoriously irregular process.

Still, Jacobsohn’s dissimilation process seems to lack clear parallels. I would prefer to invoke instead a nasal dissimilation, comparable to what we find in *tamen* (10); see also Leumann, Hoffmann & Szantyr (1977: 467), except that in the case of *quoniam* the dissimilation operates in the opposite direction. The directionality of dissimilation, however, can be explained as determined by formal or functional factors: In *tamen*, *tam* is semantically most prominent, in *quon-iam*, it is *iam*, especially after *quom* has changed to *cum* elsewhere.

(10) *tam-em > tamen, ‘nevertheless’

A possible parallel nasal dissimilation can be seen in Sanskrit (11) and (12), although the examples are not entirely uncontroversial:

(11) Skt. *tasmi-m > tasmīn
    (LOC;SG;M form of *ta- ‘that’)

(12) Skt. *-ām-ām > -ān-ām
    (GEN;PL form of a- and ā-stems)

Some scholars consider the final *n* of *tasmīn* to be inherited and directly comparable to the Greek type *hāmmi(n)* (see, e.g., Schwyzer (1939: 605) with references); others interpret the final *-n* as the zero-grade of the adposition *en*, ‘in’ (Wackernagel (1930: 501) with references). Given the formal parallelism in (13), I believe an analysis that derives the final *-n* of (11) from an earlier quasi-suffixal *-m* is better supported.

(13) Av. *taḥyā : Skt. tubhya-m (Ṛgvedic tubhya), ‘to you’
    Av. *yenhe : Skt. yasyā-m ‘in whom’ (LOC;SG;F)
    Av. *aetahmi : Skt. *(e)tasmi-m ‘in that one’ (LOC;SG;M)

As for the genitive plural ending *-ānām*, the dissimilatory explanation (going back to Reichelt 1927: 67) competes with a plethora of different explanations, some of them comparing the form directly to the type Old High German (OHG) *gebōno ‘of gifts’; e.g. Wackernagel (1930: 69-71), Thumb & Hauschild (1959: 48), and Szemerényi (1970: 201), with
references. The most common analogical explanation has the n come from the n-stems; see, e.g., Szemerényi (1999: 185), who thus apparently disagrees with his earlier analysis. However, such a transfer would be difficult to motivate, since the n-stems have genitive plural forms of the type exemplified by (Skt.) raj-ā-ām, with zero-grade of the stem suffix (or ātm-an-ām with “fake full grade”), rather than the long vowel of devānām and the like. On the other hand, the assumption of an earlier double ending finds support in the evidence for double endings such as those in (14). In the case of the genitive plural, generalization of the double ending at the expense of the simple one would be well motivated in the feminine *ā-stems where it would help differentiate genitive plural (*-ām-ām > -ān-ām) from accusative singular (-ām). Generalization to the other vowel stems would have to be assumed in any case to account for the n appearing in the sonorant-stem genitives: Skt. -inām, -inām, etc.

(14) Vedic Skt. devās-as ‘Gods’, (:NOM;PL;M)
    prt-su-ṣu ‘in battles’, (:LOC;PL;F)

What is relevant for the present discussion is that, just as in Lat. quoniam vs. tamen, the directionality of nasal dissimilation is sensitive to formal or functional factors: The sm of Skt. (locative) tasmin is supported by dative tasmai, ablative tasmāt, and therefore it is the final m that undergoes dissimilation. In the genitive plural, the final m is supported by the genitive plural ending -ām of the consonant stems, and therefore it is the first m which is dissimilated.

One apparent obstacle remains to the proposed explanation of ueniō etc. and quoniam, namely the fact that the preverb com- appears in the form con- before Latin words with initial semivocalic i, as in (15):

(15) coniunx, ‘consort, wife’; coniciō, ‘unite’; coniūratiō ‘alliance’; etc.

However, the sandhi behavior of the preverbs com- and in- has undergone a fair amount of (generally convergent) regularization, such that in synchronically transparent formations, they have identical outcomes before following consonants. Thus, the productive sandhi form of com- is con-, too, before semivocalic u, as in the conuentiōnis of (1c), parallel to the in-of inventiōnis. A more original form, however, appears to be cōntiō, ‘assembly’, without the nasal of the synchronically more transparent form.
Compare (16a) as well as the similar (16b) and (16c) which likewise suggest that the sandhi behavior in conuentiō is an innovation. See, e.g., Leumann, Hofmann, & Szantyr (1977: 226,559), with references. Kieckers (1931: 133) cites “Vulgar Latin” forms of the type coiicit = conicit, ‘unites’; coiixus = coniux, ‘consort, wife’; coi(i)ugi = coniugi, ‘conjoined’, which may perhaps exhibit the same early loss of -m before semivowel. The forms in (15) can therefore be explained as exhibiting productive sandhi and may thus be comparable to the type conuentiō, not to the archaic type cōntiō. (This is especially true if Kieckers’ “Vulgar Latin” coiixus etc. should be archaisms.) Like conuentiō, they may therefore be innovations and thus cannot be used as independent evidence for a change of m > n before y.

(16) a. Lat. co-uentiō6 > cōntiō ‘assembly’

b. Lat. *co-ui-r-iā > cūria
   (a division of the Roman people)

c. Umbr. co-uertu, kuvertu, ‘convertito, let him
   (ex)change’

In addition to being, I believe, more plausible than the hypothesis that m changed to n before y in Italic, the present analysis makes it possible to explain the forms in (17) as reflecting original -yo-stems, rather than unnecessarily invoking suffixal *-fy-o- instead of the *-yo- favored after a light syllable. Of these forms, at least gremium and gomia (and its relatives) are synchronically opaque and therefore difficult to explain as secondary derivatives with a synchronically productive suffix -io.7

6 Attested in senatus consultum de Bacchanalibus (SCBacch.) as couentionid.
7 This case may, however, be weakened by the fact that no Latin nominal derivatives in -ium, -ia seem to exhibit special consonant changes before original y. Consider especially ad-agium vs. aiiō (which does exhibit the change of -gy- to -ji-). Other forms lacking such special developments include acupedius, ‘swift of foot’; inedia, ‘fasting’; repudium, ‘divorce, repudiation’; naufragium, ‘shipwreck’; refugium, ‘recourse, refuge’; and rēgius, ‘royal’; note also the suffix -ārius < -ās(i)yō-, etc. Perhaps, then, it is indeed true that the forms in (17), just like all other forms in -ium, -ia reflect an early generalization of the -fy-o- suffix alternant at the expense of the -yo- alternant in nominal derivation. If correct, this conclusion would have interesting consequences for the interpretation of Osc. kūm-bennies; see note 5 above. A fuller investigation of this issue, preferably combined with a reconsideration of the vexed problem of the Third vs. Fourth Conjugation split of the PIE -ye/ō- verbs would be highly desirable—see, e.g., the discussion in Leumann, Hofmann, & Szantyr (1977: 568-569) and Sihler (1995: 537-538).
HOCk: *MY > (*)NY IN GREEK AND ITALIC

(17) Lat. *gremium, ‘lap, bosom’
    Umbr. gomia, kumiaf, ‘grauidas, pregnant’
    (hence Lat. gunia, ‘glutton, gourmand’)

Perhaps also:
    Lat. *praemium < prae-emium, ‘profit, advantage’
    eximius, ‘select, excellent’
    vindēmia < -dē-emia, ‘grape harvest’

Let us now return to Greek baínō and koinós. Following Schwyzer (1939),
one might try to explain baínō in the same way as Lat. ueniō. However, the
aorist and other nonpresential forms of the Greek verb are based on the
parallel root *geweH- (or on totally different roots). Now, the n of baínō
could still be explained as analogical to the root aorist if we assume that
parallel to the aorist of the root *geweH- (ébē ‘came’), Greek preserved an
aorist of *gewem- (**eben) long enough to serve as the source for the
dental nasal. However, while Italic provides clear and positive evidence
for extension of third-singular-aorist n to all of the aorist or nonpresential
system, Greek does not. We simply don’t know whether Greek ever had an
aorist system based on the root *gewem- that could have served as source
for an extension of -n to the present system. An account along these lines
thus is entirely speculative. Deriving koinós from *kon along the lines of
(6) is likewise quite speculative, since it requires the gratuitous assumption
that the form was created after the specifically Greek change of final m to
n.

These highly speculative scenarios or assumptions can be avoided if we
consider the dental nasal to result from a regular sound change very similar
to the one dismissed by Schwyzer. The analysis I propose is in fact very
similar in detail to the one Osthoff (1884) proposed for baínō, ueniō, etc.

But while Osthoff and Schwyzer were only able to point to the Modern
Greek parallel in (8), and while Osthoff’s account is language-specific and
does not relate the phenomenon to other similar developments within or
outside of Greek, it is now possible to cite further parallels and to account
for the phenomenon in question in a more comprehensive manner. The
evidence and arguments are laid out in fuller detail in Hock (1986 [1991]:
133-134) and especially in Hock (2004, 2006). At this point, it suffices to
present the brief summary below. The development of earlier -my- to Gk.
-in- can be explained as an (indirect) consequence of across-the-board palatalization of consonants before y along the following lines:

First, Greek has extensive evidence for palatalization before y, as in *skhid-yō > skhizō, ‘separate’ and *phulak-yō > phulattō, ‘guard’. Second, other languages with independent evidence for pervasive palatalization show that palatalized labials may develop into dentals or into labials followed by dentals, as in (18). Of these, (18a-c) present the clearest examples; in many other cases the resulting clusters undergo further simplificatory developments, as shown by the outcomes in (18d-e): (Abbreviations: pre-Slav. – Pre-Slavic, OCS – Old Church Slavic, PRom. – Proto-Romance, Rom. – Romansh, S. Ital. – Southern Italian, Fr. – French, )

(18) a. pre-Slav. *leubyō > *bu̯ub̯ō- > OCS bu̯ub̯ǫ, ‘love’
   b. Lat. sapiat > PRom. *sapv̯a > Rom. sapča, ‘would know’
   c. Czech pv̯et̯ < tet, ‘five’ (see Andersen 1973)
   d. Lat. sapiat > PRom. *sapv̯a > *sapča > Fr. sâche
   e. Lat. sapiat > > > S. Ital. saccia, seccia

As a matter of fact, in the case of the oral stop p, Greek exhibits an entirely comparable development; see (19).

(19) *klepyō > *klepv̯ō > *kleptv̯ō > kléptō, ‘steal’

Though perhaps not quite as common, similar ‘dental-spin-off’ developments can also be observed after labial nasals in languages with pervasive palatalization; see (20) and, no doubt, also Schwyzer’s (1939) Modern Greek example cited in (8).

(20) a. Slavic *zemv̯ā > zemb̯a, ‘earth’
This evidence makes it possible to account for Gk. \textit{baínō}, \textit{koinós} as resulting from the sound change in (21). This development is similar to that proposed by Osthoff (1884), according to whom a palatal nasal was inserted between \textit{m} and \textit{y} as a ‘vermittelungslaut’ [transition sound]. But while Osthoff’s hypothesis was based merely on the parallelism of Modern Greek, the present account embeds the change within the independently established context of pervasive Greek palatalization, especially of other labial consonants, and explains the change as the result of crosslinguistic tendencies in the development of palatalized labials. Moreover, unlike Schwzyzer’s (1939) preferred analogical account (based on the aorist), the present approach explains Gk. \textit{baínō} and \textit{koinós} without resorting to gratuitous assumptions about earlier stages in Greek phonology and morphology.

\begin{equation}
\begin{array}{c}
g\text{myō} > *\text{bamvō} > *\text{bammvō} > \text{baínō} \\
cf. \text{klepyō} > *\text{klepō} > *\text{kleptō}
\end{array}
\end{equation}

Finally, the additional, specific developments relating intermediate *\text{bammvō} to \text{baínō} are complex and must be viewed in the context of developments such as (22a). Following Danielson (1903), I account for these changes along the lines of (22b), which involves inter alia segmentalization of the palatalizing onglide \((r')\) of palatalized *\text{ypr}'(r') to \(y\), as well as sonorant cluster reduction (in this case, degemination). Note that, as in other languages, the segmentalization of the palatalizing onglide leads to the depalatalization of the sonorant cluster.

\begin{enumerate}
\item \textit{kharyō} > \textit{khaírō}, ‘rejoice’
\item \textit{kharyō} > *\text{kharyr}'r'ō > *\text{khayr}'r'ō > \textit{khaírō [khayrō]}
\end{enumerate}

The form \textit{baínō}, then, can be derived by the developments in (23):

\begin{equation}
\begin{array}{c}
*\text{bamyō} \\
\text{Palatalization/Gemination} & *\text{bamv'yō}
\end{array}
\end{equation}
Loss of triggering y
Dental insertion after palatalized labial
Segmentalization and depalatalization
Cluster reduction

*bamˈmɔ
*ba(ŋ)mˈnɔ
*baymnɔ
baynɔ < bainɔ

An explanation along the lines of (21) and (23) does not seem plausible for Italic. True, Umbrian and the Oscanian dialect of Bantia have undergone fairly pervasive palatalization; but the rest of Oscan does not seem to have done so. Moreover, any possible evidence for palatalization in Latin is limited to medial voiced d, g, and s + y (as in peiior < *pedyɔs ‘worse’, maior < *magyɔs ‘bigger’, eius < *esyo + genitive –s ‘his’) and the exceptional initial dy > y of Iovis, Juppiter. It is not clear, however, whether these highly restricted developments should be considered examples of palatalization or of simple assimilation. The overall evidence of Italic, then, is markedly different from that of Greek, in not providing the precedent of pervasive palatalization which would motivate the account in (21) and (23).

If, as I hope, the arguments presented in this paper are on the right track, we must conclude that the Greek type bainɔ and the Italic type Lat. uenið, uēnī, Umbr. kūm-bened are not likely to result from shared or parallel sound changes but instead result from very different developments—sound changes connected with pervasive palatalization in Greek, but analogical extension of root-final -n (< *m-t) from the third singular root aorist to the rest of the past-tense paradigm in Italic, and from there to the present system in Latin.

References:
HOCK: *MY > (*NY IN GREEK AND ITALIC

of Indo-European Studies Monograph Series, No. 49.) Washington DC: Institute
for the Study of Man.

Hock, Hans Henrich. 2006. * [+ labial, + palatalized]. In Studies in Basque and historical
(Annuario del Seminario de Filologia Vasca „Julio de Urquijo” 40: 1-2.)

Jacobsohn, Hermann. 1904. Quaestiones plautinae metricae et grammaticae.
Göttingen.

Hueber.

Göttingen: Vandenhoeck & Ruprecht.

Leumann, Manu, J. B. Hofmann, & A. Szantyr. 1977. Lateinische Laut- und

Mahlow, Georg Heinrich. 1879. Die langen vocale A, E, O in den europaischen
Sprachen: ein Beitrag zur vergleichenden Lautlehre der indogermanischen

Darmstadt: Wissenschaftliche Buchgesellschaft.

Osthoff, Hermann. 1884. Zur Geschichte des Perfects im Indogermanischen mit

Osthoff, Hermann, & Karl Brugmann (eds.). 1878-1910. Morphologische
Hildesheim/New York: Olms,

Planta, Robert von. 1892-97. Grammatik der oskisch-umbrischen Dialekte. Straßburg:
Trübner.

Berlin/Leipzig: de Gruyter.


Sommer, Ferdinand. 1914. Handbuch der lateinischen Laut- und Formenlehre.
Heidelberg: Winter.

Darmstadt: Wissenschaftliche Buchgesellschaft.


Heidelberg: Winter.

Thurneysen, Rudolf. 1879. Über Herkunft und Bildung der lateinischen Verba auf -io der
dritten und vierten Conjugation und über ihr gegenseitiges Verhältnis. Thesis.
Leipzig: Hirschfeld.

Ruprecht.

Heidelberg: Winter.