

*Stress on Second Conjugation Infinitives in Italian **

STUART DAVIS, LINDA MANGANO,
DONNA JO NAPOLI

Italian infinitives of the first and third conjugation always receive primary stress on the vowel that marks the conjugation, as in 1-2. The tonic vowel is italicized.

- (1) first conjugation (-are): andare, telefonare, imparare
- (2) third conjugation (-ire): venire, ubbidire, proibire

The assignment of primary stress is unaffected by the addition of enclitics:

- (3) andare, telefonargliene, impararlo
- (4) venire, ubbidirgli, proibirene

It is also unaffected by the addition of prefixes:

- (5) entrare vs. rientrare
- (6) salire vs. risalire

Infinitives of the second conjugation, however, fall into two classes with respect to primary stress assignment. The first class contains only twenty-three verbs, plus these same verbs with prefixes added. This class receives stress on the vowel which marks the conjugation, just as do verbs of the first and third conjugation.

- (7) twenty-three verbs: avere, cadere, calare, dolere, dovere, giacere, godere, licere, manare, parare, pavere, piacere, potere, sapere, sedere, solere, snadere, tacere, temere, tenere, valere, vedere, volere

the above verbs plus prefixes—a representative sample:
accadere, decadere, scadere
soggiacere

rimanere, permanere
compiacere, dispiacere
possedere, soprassedere
dissuadere, persuadere

apparere, attenersi, detenere, ottenere, ritenere, sostenere,
trattenere
equivalere, prevalere, rivalersi
avvedersi, prevedere, provvedere, rivedere

Of the twenty-three verbs in the first list in 7, five are reduced in usage: *calere* appears only in the third person singular, in the infinitive, and in participles, *manere* is obsolescent, having been replaced by *rimanere*; *pavere* is obsolescent, *suadere* has given way in frequency to *persuadere*, and *licere* is restricted in use to the third person singular indicative (*licet*), the third person singular and plural imperative (*liceat*, *liceant*), and the perfect participle (*licitus*). Furthermore, dictionaries vary on whether *licere* belongs to the group in 7 or that in 8 below.

The second class is much larger, containing all the remaining verbs of the second conjugation. This class receives primary stress on the last vowel of the root, not on the vowel which marks the conjugation. A sampling of these verbs appears in 8 and a much more comprehensive list is given in Appendix A.¹

- (8) typical verbs of the second conjugation with root stress: *affligere*, *assolvere*, *battere*, *chiedere*, *cogliere*, *decidere*, *dipingere*, *emergere*, *essere*, *ingere*, *iondere*, *gemere*, *giungere*, *indicare*, *intrudere*, *leggere*, *mettere*, *mordere*, *nascere*, *nascondere*, *offendere*, *percuotere*, *perdere*, *radere*, *ricevere*, *scegliere*, *struggere*, *tendere*, *torcere*, *uccidere*, *ungere*, *vincere*, *vivere*
verbs with root stress where the conjugation vowel is missing:
adducere, *bere*, *dire*, *fare*, *porre*, *tradere*, *trarre*

As with verbs of the first and second conjugation, the addition of enclitics or of prefixes does not affect the assignment of primary stress in second conjugation infinitives.

- (9) first class:
with enclitics: *sedere* vs. *sedertici*
with a prefix: *tenere* vs. *contenere*
(10) second class:
with enclitics: *chiedere* vs. *chiedertiglio*
with a prefix: *battere* vs. *abbattere*

We will call the first class of second conjugation verbs (seen in 7) Class A verbs and the second class of second conjugation verbs (represented in 8) Class B verbs. Typically, Class A verbs receive penultimate stress and Class B verbs receive antepenultimate stress in the infinitive, although the addition of two or more enclitics results in stress falling on earlier syllables (as seen in 9). The regular exception to this is the small set of verbs given in the second part of 8 above for

which the conjugation vowel is totally missing. These verbs typically have penultimate stress, even though it is root stress and not conjugation vowel stress. We will not be concerned further in this paper with this small set of verbs since the choice of conjugation vowel stress versus root stress does not arise for them.

As far as we know not much attention has been given in the literature to the specific question of how primary stress is assigned to second conjugation infinitives in Italian, with the exception of passing remarks in works that deal with a multitude of questions in Italian phonology (as in Hall 1948) and a brief article by Giometti (1982).² We address that question here. While we acknowledge both the passing remarks in the literature and, particularly, Giometti's work, we offer a totally new perspective to the puzzle.

A Historical Account

Latin had two conjugations whose infinitives ended in *-ere*: those with a long conjugation vowel (*-ēre*—the Latin second conjugation) and those with a short conjugation vowel (*-ĕre*—the Latin third conjugation). Verbs with the long conjugation vowel in Latin appear in Italian as Class A verbs and verbs with the short conjugation vowel in Latin appear in Italian as Class B verbs. There are exceptions to both generalizations, however. Two Class A verbs in Italian derive from the Latin third conjugation.³ (Here and elsewhere we mark the length only of the conjugation vowels in Latin and not of the root vowels. All Latin words are in capitals.)

- (11) *cadere* < *CADĒRE*
sapere < *SAPĒRE*

Several class B verbs in Italian derive from the Latin second conjugation. In 12 we list every example we found.

- (12) *ardere* < *ARDĒRE*
astergere < *ABSTERGĒRE*
compiere < *COMPLĒRE*
empiere < *IMPLĒRE*
fervere < *FERVĒRE* (but also: *FERVĒRE*)
frenare < *FREMĒRE* (but also: *FREMĒRE*)
fulgere < *FULGĒRE* (but also: *FULGĒRE*)
indulgere < *INDULGĒRE*
lucere < *LUCĒRE*
lucere < *MISCĒRE*
molere < *MULCĒRE*
mordere < *MORDĒRE*
ungere < *MULGĒRE*

muovere < MOVĒRE
 nuocere < NOCĒRE
 pendere < PENDĒRE
 prandere < PRANDĒRE (but also: PRANDĒRE)
 ridere < RIDĒRE
 rispondere < RESPONDĒRE
 splendere < SPLENDĒRE
 stridere < STRIDĒRE (but also: STRIDĒRE)
 tergere < TERĠERE (but also: TERĠERE)
 tondere < TONDĒRE
 torcere < TORQUĒRE
 urgere < URĠERE
 vigere < VICĠERE

A legitimate question to ask is whether or not it is useful to appeal to this historical information in explaining the fact that there are two classes of second conjugation verbs in Italian today. Since we are interested in a synchronic account for both descriptive and pedagogical reasons, the answer is no, for, certainly, the ordinary speaker of Italian today (that is, the person the linguist is interested in) and the ordinary student of Italian today (that is, the person the teacher is interested in) do not have access to the Latin data. Furthermore, the existence of exceptions like those in 11 and 12 suggest that even the person who has access to Latin data will not be without problems in accounting for primary stress in Italian second conjugation infinitives. For these reasons we will say no more about the historical explanation. We will, however, discuss below the exceptions in 11 and 12 and offer an explanation for them.

A Synchronic Account

ROOT-FINAL CONSONANTS

In Italian, verb roots of the second conjugation never end in a vowel.⁴ The relevant distinction is between roots that end in a single consonant and roots that end in a consonant cluster. When we look at 7, we see that none of the roots of Class A verbs end in a consonant cluster. We can tentatively conclude that ending in a single consonant is a characteristic of the roots of these verbs.

It is not a defining characteristic, however. When we look at 8 and at Appendix A, we see that the roots of Class B verbs can end in a single consonant or in a consonant cluster.

(13) *scrivere* vs. *assolvere*

We might next ask whether the type of consonant that the root ends in is relevant for stress assignment. We find that the roots of Class A verbs end in only nine consonants:

- (14) bilabials: /p/, /m/
 labial-dental: /v/
 dentals: /t/, /d/, /l/, /r/, /n/
 palatal: /ç/

If we look at Class B verbs whose roots end in a single consonant, we see that these roots can end in six of these same consonants:

- (15) /p/: *peripere*
 /m/: *gemere*
 /v/: *vivere*
 /t/: *percuotere*
 /d/: *prudere*
 /ç/: *cuocere*

Only /l/, /r/, and /n/ are missing. Class B verb roots that end in a single consonant can also end in three consonants in addition to those in 15.

- (16) /ʃ/: *conoscere*
 /ʌ/: *cogliere*
 /j/: *redigere*

However, both /ʃ:/ and /ʌ:/ are long in root final position, as we indicate in 16 (see also Chierchia 1983). Thus these two possibilities are excluded because of the restriction we mentioned above that the root must end in a single consonant.

We have two questions then: (1) Is it impossible to stress the root vowel if the root ends in /l/, /r/, or /n/? (2) Is it impossible to stress the conjugation vowel if the root ends in /j/?

In order to answer these questions we designed an experiment in which we constructed brief Italian conversations that included made-up verbs of the second conjugation. We asked fifteen native speakers of Italian to read these conversations twice into a tape recorder.⁵ The conversations are found in Appendix B. The made-up verbs are listed here:

- (17) *letere/ penere/ plenere/ pocere/ polere/ pomere/ procere/ rocere/ secere/ sencere/ senere/ setere/ sicere/ slenere/ stelere/ spenere/ splenere/ taverere/ tocere/ togere/ tovere/ tuvere*

Our example verbs with roots ending in /l/ and /n/ are *polere* and *senere*. (We did not test for /r/.) In analyzing how our Italian language consultants assigned primary stress to made-up second conjugation infinitives we found that six speakers assigned *polere* to Class B on both

readings and three additional speakers assigned this verb to Class B on one reading.⁶ Six speakers assigned *senere* to Class B on both readings (five of them being in the group who assigned root stress to *polere* both times) and one additional person assigned *senere* to Class B on one reading. We can see then that most speakers assigned these verbs to Class A. Still, a sizable portion (more than 40%) of our consultants had no trouble assigning these verbs to Class B. We must conclude that the answer to question (1) is no.

On the other hand, we found no speakers who assigned a verb that ended in /j/ to Class A. Thus all our informants gave antepenultimate stress to the made-up verb *togere*. Notice that while no verb of Class A ends in /j/, several end in its voiceless counterpart /tʃ/. Furthermore, of the nine consonants in 14, a full six of them are voiced. It would be strange, indeed, then, to propose that the voiced counterpart of a licit root final consonant was illicit in that same position. But, in fact, this is precisely what we propose. The 100% agreement of our speakers on the pronunciation of *togere* cannot be overlooked. Also, there is historical evidence to support this position. The Latin second conjugation had only one verb that we have found whose root ended in a single consonant which became /j/ in Italian. If /j/ were a possible root ending for Class A verbs in Italian, we would have expected that Latin verb to become a Class A verb in Italian. It does not, however.

(18) *vigere* < *VIGĒRE*

We can view the history of this verb from the Latin second conjugation into Class B in Italian rather than the expected Class A as evidence that verbs whose stems end in /j/ are excluded from Class A. We therefore conclude that the answer to question (2) is yes.

Let us return now to our original tentative proposal that roots of Class A verbs must end in a single consonant. In doing our experiment, we included only one example of a made-up verb whose root ended in a consonant cluster (*senere*). This verb was typically assigned to Class B, as expected. However, contrary to our expectations, one speaker assigned conjugation stress to *senere* on both readings and two other speakers did so on one reading (for a total of a little less than 7% of the total readings of this verb). Still, we will not quickly abandon our claim that the roots of verbs of Class A must end in a single consonant. Consider for a moment our list in 12 of the verbs of the second conjugation in Latin which wound up in Class B rather than Class A in Italian. Nineteen of these twenty-six verbs (73%) had roots which ended in a consonant cluster.

(19) *ardere* < *ARDĒRE*

astergere < *ABSTERGĒRE*

compiere < *COMPLĒRE*
empiere < *IMPLĒRE*
fervere < *FERVĒRE* (but also: *FERVĒRE*)
fulgere < *FULGĒRE* (but also: *FULGĒRE*)
indulgere < *INDULGĒRE*
mescere < *MISCĒRE*
molare < *MULCĒRE*
mordere < *MORDĒRE*
ungere < *MULGĒRE*
pendere < *PENDĒRE*
prandere < *PRANDĒRE* (but also: *PRANDĒRE*)
respondere < *RESPONDĒRE*
splendere < *SPLĒNDĒRE*
tergere < *TERGĒRE* (but also: *TERGĒRE*)
tondere < *TONDĒRE*
torgere < *TORQUĒRE*
urgere < *URGĒRE*

(We include *mescere* in 19 since the root in Latin ended in two consonants and the root in Italian ends in the long consonant /s:/.) We contend that the facts in 19 are not accidental. Rather, these Latin verbs had to go into Class B because they were excluded from Class A on account of their root final consonant clusters.

In fact, we know of no Latin verbs of the second conjugation with roots ending in a consonant cluster that wound up in Class A in Italian. Furthermore, while the great majority of Latin second conjugation verbs whose roots ended in two consonants became Class B verbs in Italian (as in 19), we know of one second conjugation Latin verb with a root final consonant cluster that is now found in a different conjugation class in Italian, shown in 20.

(20) *assorbire* < *ABSORBĒRE*

This Latin second conjugation verb winds up in the third conjugation in Italian rather than the usual Class A of the second conjugation. We see the switch of conjugations for this verb as another way of avoiding having a root that ended in a consonant cluster winding up in Class A in Italian.

Thus we maintain the conclusion that verbs of Class A must end in a single consonant, in spite of the fact that three speakers gave *senere* conjugation stress on at least one reading. (We suggest in footnote 6 above that this may be a result of our experiment design.)

We also conclude that the type of single consonant that the Class A verb root ends in is not relevant to the determination of infinitive stress, so long as that consonant is not /j/. We offer only as a conjecture at this point the possibility that /j/ may be in the process of reanalysis

from an affricate to a cluster, in which case the absence of /j/ would represent another instance of no root final clusters in Class A verbs. If that is so, there is no restriction on the choice of a single root final consonant in Class A verbs.

ROOT VOWEL

A next try might be to see whether the choice of final root vowel is of significance for primary stress assignment. Looking again at the list of twenty-two verbs in Class A given in 7 we find the following distribution of root vowels:⁷

- (21) /a/—in 11 verbs, where one of these was part of the diphthong /ia/ and another was part of the diphthong /ja/
 /o/—in 6 verbs
 /e/—in 4 verbs
 /i/—in 1 verb

Italian has a seven vowel system: the four vowels seen in 21 plus the back high vowel /u/ and the open mid vowels /ɛ/ and /ɔ/. All seven of these vowels appear in the roots of Class B verbs.

- (22) /a/: *battere*
 /ɛ/: *gemere*
 /e/: *credere*
 /i/: *vincere*
 /ɔ/: *porgere*
 /o/: *sorgere*
 /u/: *ungere*

We also find a range of diphthongs in Class B verbs. However, necessarily, the vowel that accompanies the high vowel is stressed, unlike in Class A verbs.

- (23) /ie/: *chiedere*
 /iu/: *chiusare*
 /io/: *piovere*
 /uj/: *scrutare*

We might ask then whether the open mid vowels are necessarily missing from Class A or whether this is just an accident. Furthermore, since there is only one verb in Class A that has a high vowel (*licere*) and since that verb never appears in the infinitive form (see the discussion following 7 above) and, particularly, since some dictionaries assign it to Class B, we might ask the same question of high vowels.

Let us approach the question about high vowels first. The fact that the high vowels do not occur in Class A (with the possible exception of

licere) appears to be accidental. Eight of our informants assigned the made-up verb *tuvare* to Class A on both readings and an additional four did so on one reading (for a total of almost 67% of the readings of that verb) and three assigned the made-up verb *sicare* to Class A on both readings with an additional two on one reading (for a total of a little more than 13%).

On the other hand, it appears that the open mid vowels are necessarily missing from Class A verbs. To see this, consider our made-up verb *tovere*. Five speakers pronounced *tovere* two ways. They gave it penultimate stress and the closed vowel /o/ on one reading. And they gave it antepenultimate stress and the open vowel /ɔ/ on the other reading. There were also five speakers who always gave penultimate stress to *tovere* and always pronounced it with the closed vowel /o/. Of the remaining five speakers, all of whom always gave antepenultimate stress to *tovere*, some pronounced it with the closed vowel /o/ and others with the open vowel /ɔ/. We can see that conjugation vowel stress correlates necessarily with a closed mid vowel in the root but root vowel stress can go with either a closed or open mid vowel in the root. We conclude that the open mid vowels are excluded from the root vowel position of Class A verbs.

Why the open mid vowels should be excluded is an interesting question. If the nature of the vowel were to affect stress, it would be expected that the lower the vowel, the more likely it is to bear stress since lower vowels have greater sonority. Perhaps when a speaker is faced with a written vowel that could be pronounced in two ways, the speaker will give the higher closed pronunciation if he is not assigning stress to that vowel. This explanation will account for the behavior of speakers with respect to roots with mid vowels of the made up verbs in Appendix B.

What accounts for the lack of open mid vowels in 7, however, cannot be such a strategy if we assume that the height of the vowel is phonemic. That is, when a speaker recognizes a word, the speaker knows whether the vowel in question is open or closed. Rather, the lack of open mid vowels in Class A roots is the result of history. The Latin tonic vowels /ɪ/ and /ɛ/ became /e/ in Italian. The Latin tonic /ɛ/ tonic vowels /ɪ/ and /ɛ/ became /e/ in Italian. The Latin tonic /ɛ/ became /e/ in Italian.⁸ The Latin tonic /ɪ/ and /ɛ/ became /o/ and the Latin tonic /ɔ/ became /o/. Since verbs of Class B have a tonic root vowel, if that vowel is mid, it can be open or closed depending on which tonic Latin vowel it came from. On the other hand, the Latin atonic vowels /ɪ/, /ɛ/, and /ɛ/ all became /e/ in Italian. And the Latin atonic vowels /ɪ/, /ɛ/, and /ɛ/ all became /o/ in Italian. The result is that the root vowels of Class A verbs, which are atonic, are all closed if they are mid vowels.

In conclusion, the range of vowels that can occur in the root vowel

position of Class A verbs is limited by the history of atonic vowels from Latin to Italian in such a way that the open mid vowels are excluded from this position and this exclusion is carried over to the made-up verbs that are assigned to Class A.

SYLLABLE ONSET

Let us go further and ask if the onset (i.e. the initial consonant or consonants) of the syllable affects the stress. This question is one that is usually either ignored or quickly answered negatively. However, Davis (1985) has shown that onsets sometimes can affect stress. Accordingly, we will consider this question seriously, and, as it turns out, with significant results.

All of the twenty-three verbs in Class A begin with a vowel or a single consonant. On the other hand, the verbs of Class B can begin with a vowel, a single consonant, two consonants, or three consonants.

- (24) *essere*
vendere
scrutare
struggere

That is, the onset of Class B verbs is limited only by the morpheme structure rules of Italian. But the onset of Class A verbs may well be much more restricted.

When we had our language consultants read the conversations in Appendix B containing nonsense verbs, we got the following results for our six verbs whose roots begin with consonant clusters.

A. First, one speaker assigned conjugation stress to five of our six relevant examples. Three of these assignments were on both readings and the other two were on the second reading. However, this speaker also assigned conjugation stress to all the other made-up verbs in our conversation list. Thus we conclude that this speaker adopted a stress-the-conjugation-vowel strategy early in the readings. For this reason, we will exclude the data from this speaker in our reporting in B-G below.

- ✓ B. No one assigned the verb with three consonants in the onset to Class A (*splenerere*). (0%)
 C. No one assigned one of the verbs that began with two consonants to Class A (*sperere*). (0%)
 ✗ D. Only two people (one on the second reading, one on the first reading; none on both readings) assigned *slere* to Class A (*slere*). (7%)
 E. One speaker on both readings and a second speaker on only the

first reading assigned *slenerere* to Class A (and these were a different two speakers from the ones who assigned *slere* to Class A). (11%)

✗ F. Two people on both readings and a third person on only the first reading assigned *plenerere* to Class A (two of whom had assigned *slenerere* to Class A and one of whom had assigned *slere* to Class A). (18%)

G. One person on both readings, one person on the first reading, and two people on the second reading assigned *procere* to Class A. (18%)

The percentages in parentheses at the end of B-G represent the percentage of times this verb was assigned to Class A out of a total of twenty-eight readings (that is, all the readings minus those of the speaker identified in A). Clearly, there is a strong tendency not to assign verbs whose roots begin with a consonant cluster to Class A. We therefore propose that Class A roots begin with at most a single consonant.

The question then arises as to why some of the six made-up verbs with roots that begin with consonant clusters can be pronounced with conjugation stress at all. The four verbs *slere*, *slenerere*, *plenerere*, and *procere* receive conjugation stress from 7% to 18% of the time.⁹ Yet these figures are still low. Of our list of twenty-two verbs, thirteen fit the canonical form for Class A verbs (the canonical form which we will discuss below). One of these verbs (*togere*, as discussed above in the section on root-final consonants) never receives conjugation stress. Another of these verbs (*procere*) is given conjugation stress in only 13% of the readings. However, all the other eleven verbs get conjugation stress from 20% to 67% of the time. The precise data are given in 25.

(25)	<i>pomere</i>	20%
	<i>togere</i>	0%
	<i>sicere</i>	27%
	<i>tuvare</i>	67%
✗	<i>polere</i>	43%
	<i>tocere</i>	43%
	<i>secere</i>	57%
✗	<i>tovere</i>	50%
✗	<i>senere</i>	57%
	<i>penere</i>	53%
	<i>procere</i>	13%
✗	<i>setere</i>	40%
✗	<i>tavere</i>	47%

We therefore consider the percentage of times that verbs whose roots have consonant cluster onsets receives conjugation stress to be very low. And we identify a strong tendency to assign made-up verbs whose roots have consonant cluster onsets to Class B.

A second argument for the exclusion of initial consonant clusters from the roots of Class A verbs comes from historical data. Very few

second conjugation verbs in Latin had a root-initial consonant cluster. The only ones that we are aware of (and that survive into Italian) whose roots do not also end in a consonant cluster are given in 26.

- (26) a. FREMĒRE (but also: FREMĒRE)
STRIDĒRE (but also: STRIDĒRE)
b. CLARĒRE
FLORĒRE
STUDĒRE
c. PLACĒRE

The examples in 26a became Class B verbs in Italian: *fermere* and *stridere*. The examples in 26b changed conjugations: *chiarire* and *florire* are third conjugation, and *studiare* is first conjugation. Only the last word, PLACĒRE, went into Class A, it became Italian *piacere*. In the derivation of the last word the Latin /pl/ cluster has become /pj/, where the /i/ forms a diphthong with the following vowel. We suggest that the /pl/ cluster was simplified early enough for PLACĒRE to have a descendent in Class A, but the /cl/ and /fl/ clusters of CLARĒRE and FLORĒRE were not simplified so early, thus the descendants of these verbs could not go into Class A. These data offer strong evidence for the proposal that it is impossible for a Class A verb to have a root-initial consonant cluster.

Another bit of historical evidence for the exclusion of initial consonant clusters from Class A second conjugation verbs in Italian comes from the fact that at least one verb in Latin which belonged to a conjugation other than the second or third wound up as a Class B verb in Italian.

- (27) *prudere* < PRURĒRE

The only explanation for PRURĒRE becoming a Class B verb instead of a Class A verb when it changed conjugations is the incompatibility of root-initial consonant clusters with Class A verbs.

We conclude that the verbs of Class A may begin with a vowel (*avere* or with a single consonant (all the other examples in 7 except *avere*), but only Class B verbs can begin with a consonant cluster.

The next question is whether the choice of consonant that begins the root of a Class A verb is restricted or not. We did not have this question in mind when designing the conversations, but it emerged as we looked at the data collected.

Looking back at 7, we find that the initial consonant may be a stop (*cadere*), a fricative (*solere*), or an affricate (*giacere*). However, with the exception of *manere* and *licere*, there are no sonorants that begin the root of Class A verbs. Since *manere* is obsolescent and since *licere* is never found (see the remarks following 7 above), these two exceptions

essentially do not exist as far as the ordinary speaker of Italian is concerned. Verb roots for verbs of Class B, however, may begin with sonorants.

- (28) *leggere*
radere
mettere
nascere

We might well ask, then, whether it is impossible for verbs of Class A to begin with a sonorant. And we believe the answer is, surprisingly, yes.

In our conversations two made-up verbs began with a sonorant: *rocere* and *leterere*. (We did not have any examples that began with /m/ or /n/, however.) Only one speaker gave them both conjugation stress on both readings (and this speaker was the one who quite early in the readings adopted a stress-the-conjugation-vowel strategy—the speaker identified in A above). Another speaker gave conjugation stress to *rocere* on a second reading and a third speaker gave conjugation stress to *leterere* on a second reading. Thus there were a total of only three instances of conjugation stress for each of these two verbs out of the total thirty readings. It is fair to say that our native speaker consultants overwhelmingly gave these verbs root stress. This suggests that roots that begin with sonorants are precluded from Class A.

A second argument for the exclusion of sonorants as initial consonants of roots in Class A can be based on historical data. Consider again the roots of the verbs in 12 above that came from the second conjugation in Latin but wound up in Class B instead of Class A in Italian. A full eight of these twenty-six verbs have a root initial sonorant consonant.¹⁰

- (29) *lucere* < LUCĒRE
mescere < MISCĒRE
molere < MULĒRE
mordere < MORDĒRE
mutgere < MULĒRE
muovere < MOVĒRE
nuocere < NOCĒRE
ridere < RIDĒRE

(10) Of course, four of the verbs in 29 also occurred on our list in 19 of verbs with roots that end in a consonant cluster in Italian. (Every verb of the second conjugation in Latin whose root started with a sonorant and that went into the second conjugation in Italian became a Class B verb rather than a Class A verb. We propose that the sonorant consonant attracted stress onto the root.

We conclude that the root of a Class A verb may not have an onset of a single sonorant consonant.

MONOSYLLABIC VS. POLYSYLLABIC ROOTS

All the verbs in Class A have monosyllabic roots. The verbs in Class B may have monosyllabic or polysyllabic roots.

- (30) *gingere*
nascondere

The question, then, is whether Class A roots must be monosyllabic. So far as we know, the answer is yes and the reason is the history of these verbs. The second conjugation in Latin did not have any polysyllabic roots. (Our made-up verbs did not include any with polysyllabic roots.)

CANONICAL FORM

At this point we can see that the root of verbs in Class A has the following canonical form.

- (31) C_1VC_2

where C_1 = nothing or a single consonant other than a sonorant,
where V = a vowel or a diphthong,
and where C_2 = a single consonant other than /j/.

The question now is whether there are any verbs in Class B which have the canonical form in 31. If there are not, then 31 can be viewed as the definition of the verb root of Class A verbs.

Unfortunately, we have found eight verb roots in Class B that have the canonical form at issue.^{11,12}

- (32) *chiedere* / -cidere/ *cuocere* / -cu|otere/ *gemere* / piovere/
|con|quidere/ vivere

Still, given that there are one hundred and fifty-five verbs (once we adjust the number for verbs that have the same root but different prefixes) in Appendix A (we do not include the verbs in the second group in Appendix A that have no conjugation vowel at all), the fact that these are the only ones whose roots have the canonical form found in verbs of Class A means only 5% of the verbs of Class B meet the canonical form of verbs of Class A. In other words, the canonical form represents a quite real discovery about the determination of Class A verbs.

Significance of our Results

Our results are useful, we hope, to teachers of Italian and to linguists, both those interested in diachronic studies and those interested in synchronic studies. Below we discuss how.

A PEDAGOGICAL TOOL

Certainly teachers of Italian cannot ask their students to learn the list of the eight verbs in 32 above as exceptions to the canonical form rule. Such an approach would be almost as unhelpful as asking the students to memorize the list of twenty-three verbs in 7. We can offer a better pedagogical tool, however. First note that *hicere* never occurs in the infinitive form, so the student need not even learn this form. Plus *pavere* is not in use today. That leaves twenty-one verbs to account for. Let us look at the past participle of these twenty-one verbs. Seventeen of them form their past participle with the regular ending -uto.

- (33) *avere-avuto*, *cadere-caduto*, *calere-caluto*, *dovere-dovuto*,
giacere-giacuto, *godere-goduto*, *piacere-piacuto*, *potere-potuto*,
sapere-saputo, *sedere-seduto*, *tacere-tacuto*, *temere-temuto*,
tenere-tenuto, *valere-valuto*, *vedere-veduto*, *volere-voluto*

The remaining four have irregular past participle forms.

- (34) *manere-masto*, *parere-parso*, *solere-solito*, *suadere-suaso*

On the other hand, the great majority of the verbs in Class B have irregular past participles. Only a small percentage have past participles that end in -uto. If we take the intersection of the set of verbs in Class B which have past participles that end in -uto with the set of verb roots of Class B that have the canonical form of verb roots of Class A (given in 32), we find that there are only two verbs to consider.

- (35) *gemere-gemuto*
piovere-piovuto

At this point we would like to note that if the verbs *cadere* and *sapere*, which are in Class A but were in the Latin third conjugation (as we saw above in 11), had not changed their stress, they would have wound up in the list in 35. Thus we can see their stress shift as being a way to put them with the verbs they most resemble. And certainly their shift allows our list of exceptions in 35 to be very short.

We advise the teacher of Italian, then, to teach the canonical form to students with the proviso that infinitives go into Class A only when

they have both the canonical form and their past participle ends in *-uto*. There are then six exceptions to learn: the four verbs in 34 which have irregular past participles but still fall into Class A; and the two verbs in 35 which have past participles that end in *-uto* but fall into Class B.

THEORETICAL SIGNIFICANCE

We have argued that in order for a verb to fall into Class A of the second conjugation infinitives in Italian its root must have a certain canonical form, precisely that given in 31 above. Our analysis, then, can be seen as one more example where a syllable onset is relevant to primary stress assignment, supporting the work of Davis (1985).

We have also noted two different kinds of exceptions to the generalizations that Latin second conjugation verbs became Class A Italian infinitives of the second conjugation and that Latin third conjugation verbs became Class B Italian infinitives of the second conjugation. Both of these kinds of exceptions are actually expected with our analysis. Thus our analysis finds support in its predictive power.

One kind of exception involved stress shift: some Latin second conjugation verbs went into Class B and some Latin third conjugation verbs went into Class A. This stress shift results in keeping verbs that do not fit the canonical form in 31 above out of Class A and making verbs that would be on our list of exceptions above in 35 not be exceptions, after all. We have, thus, accounted nicely for all the diachronic data in 11 and 12. What was previously seen as an exception can now be seen as an expected change that regularizes the system.

The second kind of exception involved conjugation change: some Latin verbs of the second conjugation went into either the first or third conjugation in Italian rather than into Class A of the second conjugation and a Latin verb of the fourth conjugation went into Class B of Italian. Again, this change of conjugation classes can be seen as keeping verbs that don't fit the canonical form in 31 above out of Class A. We have, thus, accounted for the example in 20 and the middle example of 26 (instances of second conjugation verbs in Latin going into the third or first conjugation in Italian), as well as the example in 27 (where a fourth conjugation verb in Latin goes into the second conjugation in Italian, but into Class B rather than Class A). What would be seen as truly exceptional diachronic change in other analyses of stress assignment in Italian second conjugation infinitives is now entirely expected with our analysis.

Hindsight

As is often the case in studies that involve experiments with native speaker consultants, we realized as we analyzed the collected data that we would have liked additional data to answer the new questions that came up during analysis. If we were to repeat this experiment we would make at least the following changes.

I. We would include nonsense verbs whose roots end in /r/ or /j/, in order to test whether both Class A and Class B roots can, in fact, end in the same set of single consonants, with a careful eye toward the proposed exceptional behavior of /j/.

II. We would include nonsense verbs whose roots begin with /m/ and /n/ (in order to test further our claim that roots in Class A cannot begin with a single sonorant consonant).

III. We would not use past participles of the nonsense verbs (just in case a past participle ending in *-uto* might predispose the speaker toward conjugation stress—note that we did not find such a predisposition in our study, but it occurred to us that we might have).

IV. We would not put clitics on nonsense verbs (just on the chance that the closing of the penultimate syllable would affect stress assignment—see footnote 9 above).

V. We would ask speakers to guess at the past participles of our nonsense verbs (in order to test whether the correlation between Class A verbs and past participles that end in *-uto* is a factor contributing to stress assignment in a synchronic analysis).

Swarthmore College
Data General Corporation
Indiana University

Appendix A

accendere/ acciudere/ accingersi/ accludere/ accorgersi/ affliggere/ aggiungere/
alludere/ annettere/ appendere/ ardere/ aspergere/ assistere/ assolvere/ assumere/
astergere

battere

chiedere/ chiudere/ cingere/ circonferire/ cogliere/ compiere/ comprendere/
comprimere/ concedere/ concernere/ concludere/ congiungere/ conoscere/
conquidere/ contondere/ correre/ correggere/ credere/ crescere/ cuocere

- decidere/ devolvere/ difendere/ diligere/ dipendere/ dipingere/ dirigere/ discutere/
disgiungere/ distinguere/ dividere
- elidere/ emergere/ empiere/ ergere/ esigere/ esimere/ espellere/ esplodere/ esprimere/
essere/ estinguere/ evadere
- feverre/ figgere/ fingere/ floggere/ fondere/ frangere/ friggere/ fulgere/ fungere
gemere/ giungere
- incidere/ includere/ incombere/ indulgere/ ingiungere/ intridere/ intrudere/ invadere
ledere/ leggere/ lucere/ ludere
- mesecere/ mettere/ molcere/ mordere/ muovere/ mungere
- nascere/ nascondere/ nuocere
- offendere
- passere/ pendere/ percuotere/ perdere/ piangere/ pingere/ piovere/ porgere/ prandere/
prediligere/ prendere/ proteggere/ prudere/ pungere
- radere/ redimere/ reggere/ rendere/ ricevere/ ridere/ riflettere/ redigere/ reggere/
restingere/ retrocedere/ riempire/ rifulgere/ rilucere/ rincrescere/ ripetere/
rispondere/ rodere/ rompere
- scegliere/ scendere/ sciogliere/ scorgere/ scrivere/ scuotere/ solvere/ sorgere/
spargere/ spegnere/ spendere/ spingere/ stridere/ stringere/ struggere/ sveltare
- tangere/ tendere/ tergere/ tingere/ togliere/ torcere
- uccidere/ ungere/ urgere
- vendere/ vertere/ vincere/ vivere/ volgere

*verbs with root stress where the conjugation vowel is missing: addurre [adducere]/
bere [bevere]/ dire [dicere]/ fare [facere]/ porre [ponere]/ tradurre [traducere]/ trarre
[traggere or trahere]*

Appendix B

- (1) —Carolina, hai già pomuto la tavola?
—No. Mi dispiace. Devo pomarla subito
- (2) —Guarda che togo tutto!
—Voglio togere tutto anch'io!
- (3) —Siciamo ora?
—Aspetta. Possiamo sicere dopo cena.
- (4) —L'hai tuvuto?
—No. L'idea di tuverlo mi fa schifo.

- (5) —Ha spenuto Gianni davvero?
—Sì, l'ho convinto a spenere ieri.
- (6) —Ci proci?
—No. E non intendo procerci mai.
- (7) —Quando sleti?
—Di solito cerco di sletere di notte. E tu?
- (8) —Il tuo cane, splene molto?
—Purtroppo, sì. Abbiamo cercato di farlo non splenere più, ma è stato un
fallimento totale.
- (9) —Pole il tecto?
—Sì. E continuerà a polere se il babbo non fa niente per farlo smettere.
- (10) —Tocete un po' d'acqua, no?
—Sì, grazie. Ci piacerebbe tocene un po'.
- (11) —Secerai la macchina?
—No, non so seceria.
- (12) —Se tovo io, tovi anche tu!
—Ma chi dice che devo tovere?
- (13) —Beh! Tutto sarà senuto.
—Hai torto. Se saremo furbi, non dovremo senere niente.
- (14) —Rocio quando ho l'occasione.
—Sì, lo so. E mi fa arrabbiare sentirti rocere.
- (15) —Lei lei lei. Non ne posso più. Odio guardarti letere.
—Li hai penuti?
- (16) —No. Ho dimenticato di penerli.
- (17) —Sono già pocuto. Ma devo pocere ancora una seconda volta.
—Hai bisogno di aiuto quando seci?
- (18) —No. Ce la faccio a setere da solo.
- (19) —Ho visto. Avete plenu senza dubbio.
—Assolutamente no. Non abbiamo mai pensato neanche a plenere.
- (20) —Tavono quei ragazzi?
—Sì, si sono abituati a tavere.
- (21) —I bambini piccini silenono sempre. Mi da fastidio.
—Ma se non li lasci silenere, sono frustrati.
- (22) —Senciono troppo.
—Hai ragione. Hanno imparato dalla mamma a sencere continuamente.

Per favore, rileggi tutto di nuovo dall'inizio. Grazie mille.

NOTES

*We thank Tom Cravens, Steve Dworkin, Rich Janda, Giulio Iepeschy, Donca Steriade, and Livia Tonelli for comments and criticisms, as well as our native speaker consultants for their time and patience.

¹The written letter *i* before the *-ere* desinence in some of the examples in 8 (such as *cogliere*) is not rendered in speech by a vowel. Rather, the three letters *gli* are rendered by the palatal liquid /ɲ/, which is long in root final position. Thus it is correct to say that these verbs receive stress on the last vowel of their root.

²Some recent works try to account for the placement of primary stress in Italian words. But these works encounter problems in dealing with stress on second

conjugation infinitives. For example, Salaricelli (1983) suggests that primary stress in Italian falls normally on the syllable containing the third mora from the end of the word. Obviously, this does not work for second conjugation Class A infinitives nor for first or third conjugations infinitives since the stressed penultimate syllable in these does not contain the third mora from the end of the word.

Wanner (1973) proposes a primary stress rule for Italian whereby stress falls on the antepenultimate syllable if the penultimate syllable has a [-long] vowel. In applying this rather abstract proposal to second conjugation infinitives one would have to post different vowel lengths for the conjugation vowels of Class A and Class B verbs. Moreover, this proposal is unable to deal insightfully with the patterns of stress shift we discuss below with respect to the examples in 12 (see the discussions of 19 and 29, in particular).

³Italian *volere*, which belongs to Class A, comes from the Latin irregular infinitive *VELLE*. Perhaps *VELLE* is an example of a long root vowel infinitive where the conjugation vowel is missing (parallel to the Italian examples in the second list in 8, where the root vowel is stressed and the conjugation vowel is missing). If this is so, *volere* would be a third example to add to 11.

⁴Verb roots that ended in the /pl/ cluster in Latin came down into Italian as /pi/. The /i/ then formed a diphthong with the conjugation vowel. (See Lausberg 1971 and Hall 1948, among others.)

(i) *empiere* < *IMPLERE*

Therefore, today in Italian these orthographic *i*'s are not vowels that end the root, but rather they form a diphthong or vowel cluster with the conjugation vowel and, thus, begin the desinence. For this reason we think it is correct to say that no verb roots of the second conjugation end in vowels in Italian.

⁵Our Italian language consultants included both males and females, from adolescents to grandparents, who come from different parts of Italy and who belong to diverse economic groups. Some of them have been in the United States for just a few months while others have been in the United States for over twenty years. Nonetheless, the results of the experiment were quite consistent across speakers.

⁶There are numerous possible problems that come up with this type of experiment. All of them have to do with the adoption of conscious strategies. We will discuss three of them briefly. First, it is possible that speakers will adopt the strategy of giving made-up words the stress pattern that is most frequent among existing words. In fact, at least one of our speakers (identified as speaker A in discussion below) did this. However, as the data below make clear, most speakers did not do this. Thus we found a high incidence of conjugation stress, even though most verbs of the second conjugation have root stress. Second, it is possible that speakers will adopt the strategy of giving made-up words the stress pattern of existing words they share properties with by analogy. For example, it has been suggested to us that speakers will give root stress to *splendere* on analogy with the Class B verb *splendere*, since both begin with /spl/. However, given that the roots of Class B verbs never end in a single /n/, we might as well have expected a speaker to give conjugation stress to *splendere* on analogy to the Class A verb *tenere*. Thus, we think the proposal of analogy to existing verbs cannot be taken seriously in the absence of a clear definition of what constitutes a possible basis for the analogy. Third, it is possible that speakers will adopt a conscious strategy as they go through the conversation list, so that their responses become less reliable toward the end of the first reading and throughout the second reading. We tested for this by computing the percentage of times verbs got conjugation stress on only the first reading versus on both readings together. We found no significant difference here. However, we did notice that *sancere* received conjugation stress, contrary to our expectations (as the reader will see below) for three speakers, and we further noted that

all three speakers tended to give relatively frequent conjugation stress on their second readings. Since *sancere* is the very last example on our conversation list, it is possible that its ability to receive conjugation stress for these three speakers is due to a conscious strategy of stressing the conjugation vowel.

⁷We define diphthongs in Italian as a combination of a high vowel plus another vowel where the high vowel is not stressed.

⁸The description of the derivation of Latin vowels into Italian vowels in this paragraph is simplified. For a more precise and detailed derivation, we recommend Lausberg (1971). The simplified version given here is adequate for understanding the particular phenomenon of interest to us here.

⁹For *procere* one might be tempted to suggest an explanation based on the fact that in our example conversation in Appendix B this verb appears with the enclitic *-ci*. By adding this enclitic, the syllable of the conjugation vowel becomes closed (i.e., ends in a consonant). The general (and we emphasize *general*) tendency in Italian is for closed penultimate syllables to be stressed. One might suggest that the enclitic here predisposes the speaker toward conjugation stress.

There are at least two arguments against this explanation. First, as we saw in 3 and 9-10, the addition of enclitics typically does not affect primary stress in infinitives. Second, we have five other example verbs with enclitics that likewise caused the syllable with the conjugation vowel to be closed, yet the speakers who gave conjugation stress to *procere* did not consistently give conjugation stress to these other five examples even though all of them fit the canonical form (described below in the text) which would allow them to go into Class A. Still, though, the uncriticized made-up verbs that ended in the root final affricate /tʃ/ received root stress in almost 90% of the cases while criticized made-up verbs that ended in the root final affricate /tʃ/ received root stress in 60% of the cases. Thus we leave open the possibility that the addition of clitics may affect stress on the made-up verbs, after all.

¹⁰We do not include *rispondere* in this group since the *ri-* is a prefix (coming from the Latin prefix *RE-*), thus the root is *spond* and does not begin with a sonorant consonant.

¹¹We do not include the following verbs in the list in 32 since they clearly entered Italian from Medieval Latin, and thus did not undergo the normal conjugation assignment rules. The evidence that these verbs are late borrowings is found in the prefixes. That is, the Latin prefix *RE-* became *ri-* rather than *re-* in Italian. And the Latin prefix *EX-* became *s-* rather than *e-* in Italian. Only late borrowings from Medieval Latin exhibit *re-* and *e-*.

(i) *esigere* < *EXIGERE*

esimere < *EXIMERE*

evadere < *EXVADERE*

redigere < *REDIGERE*

redimere < *REDIMERE*

We also do not include verbs whose roots end in the long consonants /n:/ or /s:/.

(ii) *cogliere* < *COLLIGERE*

scogliere < *EXELIGERE*

scogliere < *EXSOLVERE*

togliere < *TOLLERE*

(iii) *pascere* < *PASCERE*

We also do not list the verb *discutere* separately, since it comes from the same root that *scutere* comes from (what we've given as the *cu(o)ltere* root in 32).

Finally, we do not list the following verbs since they were not part of vulgar Latin, but, rather, always belonged to the speech of the learned class, and for that reason may well have been exempt from the natural conjugation assigning rules.

[iv] [as]/[pre]sumere < [AD]/[PRAE]SUMERE
 concedere < CONCEDERE
 dividere < DIVIDERE
 invadere < INVADERE
 ripetere < REPETERE
 And, finally, we have not included the following verb in 32:
 [v] chindere < CLAUDERE

The Latin root began in a consonant cluster, but, as we mentioned above (in the discussion of 26), we are assuming that the /cl/ cluster was reduced to a single consonant fairly late in the derivation of Italian from Latin. If our assumption is incorrect, *chindere* should be added to the list in 32.

Notice that if we had included the Medieval borrowings in [i], the learned words in [iv], and the example in [v], we would still have not added any words to the list in 35, since all the examples in [i], [iv], and [v] have so-called irregular past participles.
¹²The letters *ch* represent the single consonant /k/.

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