

ON THE METRICAL UNITY OF LATINATE AFFIXES

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1. Introduction

The Latinate subset of English suffixes breaks down into two subclasses, which I will refer to as Class I and Class II, following established terminology. The suffixes of Class I cause changes in the stress pattern, as illustrated in (1), where italics identifies the stress of the unsuffixed stem.

(1) *CLASS I AFFIXES: Restressing*

- a. *-al*: *accidental*, *medicinal*, *original*, *parental*, *prefixed*, *pyramidal*, *triumphal*, *universal*
- b. *-ic*: *linguistic*, *realistic*, *allergic*, *oceanic*, *astronomic*, *gymnastic*, *homeric*, *idiotic*, *prophetic*
- c. *-ion / -ation*: *congregation*, *consecration*, *demarkation*, *insulation*, *integration*, *intimidation*, *affirmation*, *allegation*, *centralization*, *combination*, *compilation*
- d. *-ous*: *advantageous*, *courageous*, *outrageous*, *incestuous*, *momentous*, *voluminous*, *ridiculous*, *tempestuous*

In contrast, the suffixes of Class II generally preserve the stem stress, as in all the cases in (2).

(2) *CLASS II AFFIXES: Stress-neutral*

- a. *-able*: *acceptable*, *adaptable*, *affordable*, *expandable*, *opposable*, *refundable*, *respectable*, *surpassable*, *sustainable*

abolishable, alterable, answerable, cherishable, colorable, deliverable, inhabitable, inheritable, interpretable, perishable

- b. *ist*: pharmacologist, perfectionist, empiricist, geneticist, romanticist, extremist, humorist, propagandist, terrorist, americanist, capitalist, generalist, individualist, modernist, monarchist

ism: absentéism, alármism, deféatism, escápism, extrémism, módernism, mónarchism, cápitalism, fédéralism, líberalism, líteralism, náaturalism, rá-dicalism, américanism, fávoritism

- d. *ant / ent / ance / ence*: consúltant, contéstant, deféndant, depéndant, detér-minant, expéctant, inhábitant, régistrant, reláxant, resístant, resúltant, vísi-tant, complíance, delíverance, inhéritance, resémbance, resístance, séverance, súfferance, absórbent, antecédent, coexistént, consistént, con-vérgent, dépendent, reminíscent, subsístent, transcéndent

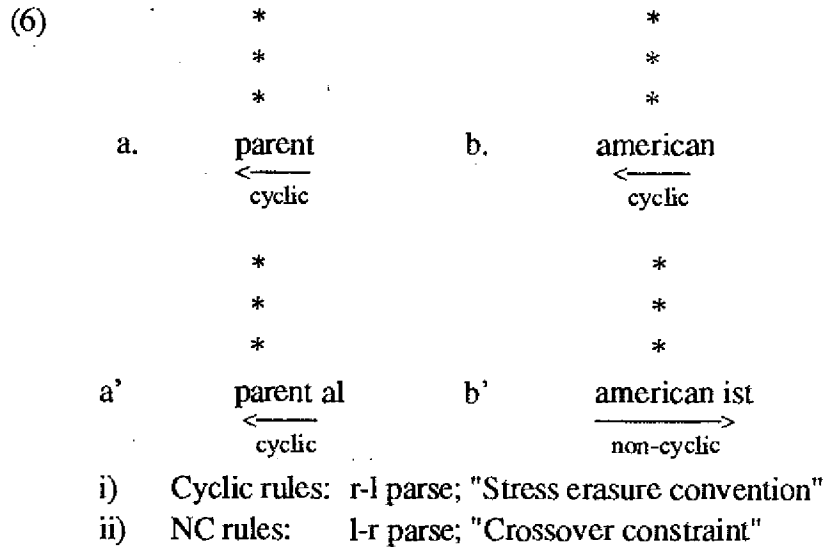
- e. *ment*: abándonment, accómplishment, achíevement, adváncement, amén-dment, beréavement, bombárdment, devélopment, embódimment, envélop-ment, accómpaniment, góvèrnement, impóverishment

- f. *ize*: propagándize, anthropomórphize, européanize, itálicize, románticize, compúterize, gélatinize, monópolize, revolútionize, cápitalize, municipali-ze, famíliarize, pópopularize, américanize

- g. *-y*: félonny, mátriarchy, mónarchy, búтчery, órthodoxy, áccuracy, conféde-racy

In the past, from Chomsky and Halle's "SPE" to Halle and Kenstowicz (1991), stress neutrality has consistently been analyzed as a form of evasion of stress or immunity to the stress principles, though this idea has been implemented in different ways. In SPE, the distinction between the two classes was a difference in the type of boundary that the suffix occurs with. Class II suffixes were associated with a word boundary "#", while Class I had a morpheme boundary "+". The restressing character of Class I suffixes then followed from the fact that the stress rules reapplied at each successive "cycle", and had the power to alter previously assigned stresses. Neutrality, on the other hand, followed from the assumption that rules of word stress, while applying across morpheme boundaries, did not apply across *word* boundaries, hence leaving the stem unaffected by later cycles, as stated in (3).

(1991) extending the general framework of Halle and Vergnaud (1987b). Their analyses are illustrated in the derivations in (6) below.

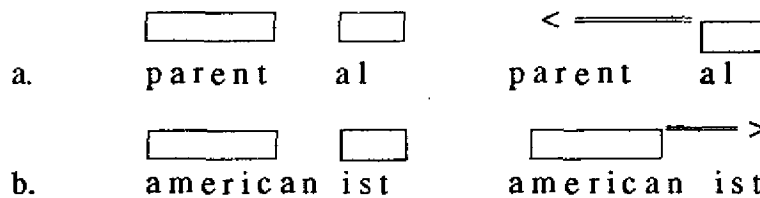


In (6a), a first application of the cyclic stress rules, which apply right-to-left, parsing syllables into feet, results in the metrical grid given. In (6a'), a second application of the cyclic rules correspondingly results in the new grid. There is no preservation of earlier metrical structure here, because cyclic rules are associated with the "Stress Erasure Convention", which eliminates that structure at each new cycle. In (6b), the cycle is just as in (6a), but in (6b') the suffix is non-cyclic, hence triggering the *non-cyclic* rules only. The latter are in fact presumed to be rather similar to their cyclic counterparts in overall composition, but with three crucial differences: i) non-cyclic rules parse the structure left-to-right (Halle and Kenstowicz' innovation to the Halle and Vergnaud framework); ii) they are not associated with the Stress Erasure Convention; iii) they are subject to the "Crossover Constraint", which states that a parsing procedure cannot jump over pre-existing metrical structure. As a result of the conjunction of i) and iii), Class II suffixes, like *ist* in (6b'), remain unparsed, hence evading stress much as in earlier models. As a result of ii), the stem stress will surface unchanged.¹

In this paper, I present an alternative account of stress-neutrality based on the hypothesis that neutral suffixes are subject to normal parsing into feet, like non-neutral ones, though two different modes of metrification distinguish the two classes. The

structure of my proposal is schematically illustrated in (7) below. One important aspect of it is the assumption that metrical structure is part of the underlying representation of words, subject to output well-formedness conditions, that is the assumption that there is no stress-assignment, but rather stress-checking. I assume furthermore that there is a requirement that morphemes be metrically "consistent", that is that they surface with the same metrical structure to the extent possible, just as they tend toward consistency of segmental and semantic structures. Metrical consistency of both stem and suffix will occasionally be achievable. In the more general case, however, the two will be incompatible, hence requiring that either the stem or the suffix metrify in a new way, inconsistent with other occurrences of the same morpheme. The proposed distinction between Class I and Class II is now that with Class I suffixes the suffix wins, imposing its own metrification on the stem, as in (7a), whereas with Class II suffixes the stem wins, forcing the suffix to metrify accordingly.

(7)



We will see later on that, from this perspective, it is in fact possible to predict which suffixes will behave which way. The main part of this paper is a collection of arguments for this approach and against any form of "stress evasion". If correct, those arguments will suggest that models of the lexicon or of the phonological component that have stress evasion as an available option are overly permissive in rather significant ways.

2. Analytical Framework

To make the proposal in (7) concrete, it will be necessary to introduce a certain amount of analytical machinery. This will be drawn from Burzio (1987), (1990), (1991), (in progress). We begin by considering the two well-known generalizations of English stress, as in (8) and (9).

since they can be followed by a null vowel, in the manner of (11).

(11) per.ver.tø, in.há.bi.tø

On this hypothesis, there will thus never be truly "final" consonants, all English words ending in a vowel, overt or null. It is easy to see that this analysis now reduces the stress pattern of the items in (11) to the penultimate/ antepenultimate pattern of *a.gén.da* / *a.mé.ri.ca*. More generally, it will reduce the pattern of (9) above to that of (8), as we see below. In addition, this hypothesis, which extends to other languages, accounts for the phenomenon of "super-heavy" syllables, and the fact noted by Hayes (1982, p. 229) and otherwise unaccounted for, that in English and other languages "...superheavy syllables may occur only in ...final position...". On this view, all syllables are normal - "superheavies" being sequences of *two* syllables, one with a null vowel. Their occurrence only peripherally reflects the distribution of null vowels. General motivation for Hayes' extrametricality disappears as well, since feet can now be taken to be uniformly binary ($H\sigma$) or ternary ($\sigma L\sigma$), as in (12). Further advantages for this approach are discussed in Burzio (in progress).

(12) *Burzio (in progress)*: Feet ($H\sigma$) / ($\sigma L\sigma$)

a.	a(gen da)	b.	per(ver tø)
	a(me ri ca)		in(ha bi tø)
	←		←

However, some notion of extrametricality is necessary in this approach as well, in order to handle nouns ending in a consonant (that is, a null vowel), in the manner illustrated in (13).

(13) (per ver) tø
 (as te ris) kø
 ←

Specifically, we must suppose that syllables with null vowels are metrically ambiguous, that is optionally extrametrical, much as syllables in general were optionally extrametrical in Hayes' framework. But consider now that the type of extrametricality invoked by (13) is in fact attested independently of the null-vowel hypothesis, with a

certain class of special syllables that we refer to as "weak" (W). The class of weak syllables, in which we thus include those with null vowels, is illustrated in (14).

- (14) - *Metrical ambiguity of "weak syllables": ... W)# / ...)W#*
 - *W class: ø, y, ive, ure, [son]*

a.	per(ver tø)	/	(per ver)tø	
b.	an(ti pa thy)	/	(ef fi ca)cy	
c.	ob(jec tive)	/	(ad jec)tive	
d.	ad(ven ture)	/	(a per)ture, (tem pe ra) ture	
e.	a(pos tle)	/	(ve ge ta)ble	
f.	de(cem ber)	/	(cha rac)ter	

The extrametricality of the right-hand examples in (14b-f) is essentially "theory neutral". That is, it must be postulated in any theory that takes the basic generalizations of English to be as in (8) and (9). The reason is that the stress pattern here exceeds those generalizations by one syllable. In particular, the extrametricality of (14b-f) must thus be postulated in Hayes' theory as well, and -crucially- in addition to Hayes' normal extrametricality, as for example in *(effi)<ca>[cy]*, where "<>" is the normal extrametricality of Hayes' system, and "[]" the extrametricality of this special class of syllables. Our system in (12) thus accounts for the two patterns in (8) and (9) by minimally extending the extrametricality needed for (14b-f) to the case in (14a), whereas the system in (10) does so by introducing unrelated machinery. As shown by (14), weak syllables are then syllables with null vowels, syllables with the high vowel corresponding to orthographic *y*, syllables *ive* and *ure*, and syllables with sonorant nuclei. As discussed in Burzio (1991), (in progress), I presume, -albeit tentatively- that the distinguishing characteristic of weak syllables is in fact acoustic weakness, their metrical behavior then reflecting the general alignment of metrical structure and acoustic prominence.

Weak syllables have another property beside the ability to be extrametrical. When they are metrified as part of a binary foot ($H\sigma$), that foot, which we will refer to also as "weak", fails to attract primary stress, as illustrated in (15a-f), which describes the same spectrum of weak syllables as (14a-f).

- (15) *Weak Foot: (σW)*
- | | | | | | |
|----|-----------------|----|-----------------|----|----------------|
| a. | bémar (dÈ nø) | b. | cóntro (vèr sy) | c. | ínno (vÀ tive) |
| d. | árci (tèc ture) | e. | táber (nà cle) | f. | álli (gÀ tor) |

We interpret the phenomenon of weak feet as also related to the actual, namely acoustic, weakness of weak syllables. Weak feet are presumed to be acoustically weak because they are structurally minimal, namely binary, and they also incorporate a weak syllable. Primary stress in English is then taken to fall on the rightmost foot which is not weak --the latter restriction resulting again from the general alignment of stress and acoustic prominence.

3. *Stress Neutrality and Weak Syllables*

We are now ready to make the proposal in (7) above more concrete. Specifically, we propose, as in (16) below that stress-neutrality is a by-product of the rather general ambiguity of word-ends in English, alias the double option of metrification or non-metrification of final weak syllables.

- (16) Stress-neutrality results from the ambiguity of word ends, namely ...)W / versus ...W).

Assuming then as in (7b) above that with neutral suffixes the stem "wins", we consider the cases in (17) to see how suffixes can be integrated into the metrical structure of the stem under the thesis in (16).

- (17) a. ac(cép tø) b. propa(gan da) c. a(mé ri ca)nø
 ac(cép ta)ble propa(gán dis)tø a(mé ri ca)(nìs tø)

The case in (16a) is rather straightforward. Here, the first syllable of the suffix *able* supplants the final syllable of the stem *accept* (i.e. the null vowel), while its second syllable *ble* - a weak syllable (compare (14e)) is allowed to remain extrametrical. As a result, the rightmost foot of *acceptable* is identical to the one of *accept*, whence the identical stress. The case in (17b) is rather similar, as the first syllable of the suffix also supplants the final one of the stem, while the second syllable of the suffix, being again weak, remains extrametrical. The case in (16c) is a bit different, since here none of the suffix can be incorporated into the final foot of the stem. But the other option available to weak syllables can be resorted to. By metrifying that syllable, the suffix will form a separate foot of its own, still leaving the preceding one undisturbed. This of course predicts a stress on *ist*, but only a secondary one, due to the weak foot. The primary stress is then correctly predicted on its stem position. Note that while perceptual evidence does not independently support the view that *ist* in (17c) has a second-

ry stress, it is nonetheless compatible with it. For perceptual prominence of syllables with secondary stresses appears to be rather systematically non-distinct from that of unstressed heavy syllables with unreduced vowels.²

We will see later on that the type of account of stress-neutrality illustrated in (17) and based on the ambiguity of weak syllables can be upheld in all cases.³ One might ask, however, why the same ambiguity should not suffice more generally, yielding neutrality with all suffixes that end in a weak syllable, incorrectly. We will see that there is a principled answer to this question, but in the meantime we may consider the following as a preliminary account. Let us suppose that Class I suffixes are lexically specified as having metrically *unambiguous* ends, specifically by means of a foot boundary which either includes or excludes the final weak syllable depending on the suffix, as in (18).

(18) Non-neutral suffixes are specified with unambiguous ends:

a)l∅, *ic*∅, *ou)s*∅, ...

a.	(páren)t∅	b.	(lín guis)t∅	c.	(mó men)t∅
	pa(rén ta)l∅		lin(guís ti c∅)		mo(mén tou)s∅
a'	(pý ra mi)d∅	b'	(hóme)r∅	c'	(rídi cu)le
	pý(rámi da)l∅		ho(méric∅)		ri(dícu lou)s∅

Note that comparable markings seem required in any theory, so as to distinguish for instance *al* or *ous*, which place stress according to the pattern in (8) above, from *ic*, which follows the pattern in (9), placing stress always on the immediately preceding syllable, as (18) shows. In our analysis, the same, independently needed, diacritic will also serve to distinguish non-neutral suffixes from neutral ones. The latter will simply lack the diacritic.

4. Arguments against Stress-evasion

We now turn to the arguments for our approach, and specifically for (16) above, and against stress-evasion. The evidence considered will concern Latinate suffixes only, and those in (2a-g) in particular. The thesis in (16) is thus defended here only relative to Latinate suffixes, leaving open the question of the nature of the neutrality of Germanic suffixes like *less*, *ness*, *ful*, *ly*. See Burzio (in progress), however, for arguments that the latter does *not* consist of stress evasion either.

4.1. Bound Stems

The first of our arguments is that the two metrifications needed to account for stress-neutrality under (16), namely one including and the other excluding a final weak syllable (or the equivalent options handling (8) vs. (9) in other theories) are independently needed to account for occurrence of the same suffixes with bound stems, where there is presumably no issue of neutrality. This is shown by (19), where the left and mid columns instantiate non-metrification, and the right-hand one metrification of the weak syllable. The diacritic "♣" indicates existence of other variants. (Unmetrified, non-orthographic null vowels are not indicated).

(19)	(σ L σ) W	(H σ) W	(...W)
a.			
	inde(fatiga)ble, in(domita)ble, in(dubita)ble, i(nequita)ble, i(nevita)ble, i(nexora)ble, in(supera)ble, (misera)ble, (verita)ble, (vulnera)ble,	ine(lucta)ble, de(lecta)ble	♣ hos(pitable)
b.			
	an(tagonis)t, mi(sogynis)t, pro(tagonis)t, re(cidivis)t,	perio(dontis)t, obscu(rantis)t, ana(baptis)t,	(solip)(sist∅), ob(scuran)(list∅), ♣(systema)(tist∅)

- c.
- | | | |
|------------------|--|-------------------|
| a(nachronis)m, | | (solip)(sismø), |
| an(tagonis)m, | | (ecume)(nismø), |
| me(tabolis)m, | | (malapro)(pismø), |
| ven(triloquis)m, | | (syner)(gismø) |
| as(tigmatis)m, | | |
- d.
- | | | |
|----------------|--------------|--|
| con(comitan)t, | be(nignan)t, | |
| ex(travagan)t, | re(dundan)t, | |
| e(xuberan)t, | re(pugnan)t, | |
| pro(tuberan)t, | re(luctan)t, | |
| | in(dignan)t | |
- e.
- | | | |
|----------------|----------------|------------------|
| ex(perimen)t, | com(partmen)t, | (tempera)(mentø) |
| me(dicamen)t, | com(portmen)t, | |
| pre(dicamen)t, | de(partmen)t, | |
| | em(bankmen)t, | |
| | in(stalmen)t, | |
- f.
- | | | |
|--|--|-----------------|
| | | an(tago)(nize), |
| | | me(tabo)(lize) |
- g.⁴
- | | | |
|--------------|-------------|------------------|
| (effica)cy, | | |
| (appeten)cy, | (amnes)ty, | |
| (casual)ty, | (dynas)ty, | e(conomy), |
| (aller)gy, | (infan)try, | a(natomy), |
| (liber)ty, | (indus)try, | a(nomaly), |
| (encl)gy, | | pe(riphcry), |
| (litur)gy, | | (taxy)(dermy), |
| (lethar)gy, | | (metal)(lurgy), |
| (calum)ny, | | (cere)(mony), |
| (majes)ty, | | (acri)(mony), |
| (proper)ty, | | (ali)(mony), |
| (pover)ty, | | (contro)(versy), |

(caval)ry,

an(tipathy),

al(lotropy)

Note that the left and mid columns in (19b, d, e) instantiate normal metrification for items of these classes, i.e. nouns and suffixed adjectives, while the right-hand column in (19b, c, e), correspond to a metrification attested but rarer with these classes, and more typical of verbs. As could be shown by considering a larger sample of cases, the instances on the right are in fact less numerous than the others, so that the facts in (19) are on the whole rather unremarkable, paralleling those of underived items, or items with Class I suffixes.⁵

While the stress-neutral behavior of these suffixes thus reduces to their behavior with bound stems, one might attempt to uphold the opposite, and suppose that bound stems, just like free ones, involve an internal "cycle", as well as a neutral suffix. While this move is logically possible, it seems of rather limited plausibility, however. If we consider that the intuition about stress-neutrality is that, in saying, e.g. *propagándist*, speakers in a sense also say *propagánda*, surely there is no sense in which in saying *antágonist* one is also saying **antágon*.

Supposing then that suffixes in (19) are normally parsed into feet, we conclude that stress evasion is superfluous as an account of neutrality of the same suffixes, since the two different types of parsing attested in (19) in fact suffice.

4.2. *Exceptions to Neutrality*

The second of our arguments is that only the thesis in (16) correctly predicts certain cases of non-neutrality, such as those in (20).

- (20) a. (dócu)(mèntø) => (dòcu)(ménta)ble
- b. *circumvéntable, impleméntable, recompénsable, interchángeable, maniféstable, ascertáinable, reconcilable, extradíttable, realízable, criticízable, reconocízable, utilízable, oxydíizable, generalízable, diagnósable, prosecútable, execútable, substitútable, cultivátable, regulátable, manipulátable*

The verb *document* in (20a) exhibits the normal metrification of verbs, incorporating the null vowel. However, because the final foot is weak (and there is another foot preceding it) that foot will predictably only bear secondary stress. When *able* is

attached, the structure of the final foot will be preserved as usual, just as in (17a) above. Here, however, the final foot of the adjective is no longer a weak one, since the *a* of *able* does not constitute a weak syllable. Primary stress is then correctly predicted to shift to the final foot.⁶ The cases in (20b), in which underscore marks the stem primary, are all analogous to (20a), as are the ones in (21).

- (21) a. (ánec)(dòte) => (ànec)(dótistø)
 [like: *opportúnist*, *metallúrgist*]
 b. (máni)(fèstø) => (màni)(féstan)t
 c. (ádver)(tíze) => ♣ (àdver)(tízemen)t

The cases in (22) are also rather similar.

- (22) a. (prótes)t => pro(tésta)ble
 b. (tríum)ph => trÍ(ú mphan)t
 c. (rémedy) => re(mÉdia)ble
 d. ♣ (súrvey) => sur(véya)ble
 e. (lúxury) => lu(xúrian)ce
 f. (módifY) => (mòdi)(fía)ble
 g. (tránsIA)te => trans(lÁta)ble
 h. ♣ (í mpreg)(nÀte) => im(prégna)ble

The left-hand forms in (22a-g) all have the stress pattern of nouns ((8) above) for various reasons, some idiosyncratic. When a suffix like *able* is attached to such a metrical structure, neutrality *cannot* be achieved, as we see in more detail in 4.6 below, whence the stress shifts in (a, c, d, f, g). The shifts of (22b, e) follow in analogous fashion from the fact that *ant / ance*, appear with only one metrification, as in (19d) and as noted in fn.5 (hence like *al* and *ous* of (18)). This enables these suffixes to be neutral in the same manner as *able* when attached to verbs, but not in these cases. Finally, the case in (22h) involves attachment of *able* to a verb in *ate* via truncation of the latter morpheme. Neutrality cannot be achieved in this case because the resulting structure **(impregna)ble* would instantiate an ill-formed foot **(σ//σ)*.

In sum, the stress shifts of (20)-(22) are entirely predictable from the assumption that the suffixes are metrified. In contrast, within a stress-evasion account of neutrality there would be no reason for this curious set of exceptions.

4.3. Vowel Shortening

Our third argument is based on the fact illustrated in (23) that Latinate Class II suffixes occur in a considerable number of cases in which stem vowels have shortened, such as those on the left contrasting with those on the right, in which stem vowels remain long.

(23) *Vowel Shortening with Class II Suffixes*

a. *able*

(admira)ble, (compara)ble,
♣ (cogniza)ble, ♣ (repara)ble,
ir(repara)ble, ♣ (refuta)ble,
ir(revoca)ble,

oppOsable, refUtable,
restOrable,
rest of: ...Izable

b. *ant / ent / ance / ence*

(aspiran)t, (ignoran)t,
♣ (excitan)t, (cognizan)t,
cla(rifican)t, sig(nifican)t,
(abstinen)t, (confiden)t,
co(inciden)t, (presiden)t,
(residen)t, (preceden)t

♣ adhErent, persevErance,
endUrance, dispUtant,
disappEarance, pollUtant,
♣ excItant

c. *ment*

(chastizmen)t, ♣ ad(vertizmen)t,
(incremen)t, (excremen)t

acquIrement, ♣ advertIzment,
cajOlement, replAcement,
engAgement, confInement,
appEasement, agrEement,
advIsement

d. *y / ist*

te(lephony)/ist,
me(troscoPy)/ist, (hypnotis)t,
♣ (archIvis)t, ♣ (allegoris)t,
(milita)(rIstø), (satiris)t,

explIry, allegOrist,
♣ archIvist, ♣ prIvacy,
encycloPEdist, escApist,
extrEmist, manicUrIst

- e. *ism*
 (semi)(tism), (rabbi)(nism), extrEmism
 (milita)(rismø),
 (prosely)(tismø),
 in(fantilis)m, (albinis)m,
 (philisti)(nismø)
- f. *Ize*
 (allego)(rIze), ♣ concrEtIze
 (milita)(rIze), (satī)(rIze),
 (immu)(nIze), (prosely)(tIze),
 ♣ (concre)(tIze), (oxy)(dIze)

The argument is provided by the fact that, when stem vowels shorten, stress is correctly predicted only by metrification of the suffix, in the manner indicated by the analyses, and not by neutrality, which holds only for the right-hand examples. The examples in (24) below show that such shortening of stem vowels is a general property of Latinate affixation, extending to Class I suffixes, as in (24a-d) where we note the familiar variation between left-hand and right-hand examples, as well as to prefixes, as in (24e).

(24) *Vowel Shortening with Class I Suffixes / Prefixes*

- | | | |
|----|--------------------------------------|----------------------|
| | vaginal, antipodal, | ...cidal, anecdotal, |
| | centrifugal, horizontal, | caricatural |
| a. | <i>al</i> | |
| | infamous/y, carnivorous, | desIrous, ♣ decOrous |
| | blasphemous/y, | |
| | ♣ decorous, gangrenous, | |
| | monotonous/y | |
| b. | <i>ous / y</i> | |
| c. | <i>age</i> | |
| | concubinage | |
| d. | <i>ation</i> | |
| | ...ization | ...Ization |
| e. | <i>prefixes</i> | |
| | pIous -> impious | |

fAmous	infamous/y
fInIte	infinite
♣ repArable	irreparable
pOtent	omnipotent
vAlent	univalent
cYcle	bcycle
vOcal	univocal
sEquent/ce	subsequent
mIgrant	immigrant

In Burzio (1991), (in progress), I propose a unified analysis of the shortening of (23)-(24), which we may refer to as "morphological shortening" and other instances of shortening, in particular the "trisyllabic" shortening of e.g. *divIne* / *divinity*. I argue that the apparent idiosyncratic variation of the morphological shortening in (23)-(24) compared with the more systematic character of trisyllabic shortening follows from extrinsic principles of metrical theory, specifically the principle of metrical consistency alluded to in 1. above. In the cases in (23)-(24) metrical consistency of the stem or "stress preservation" can be achieved only if shortening does not occur. The variation can then be interpreted as satisfaction of either contending requirement: shortening as in the left column, or stress preservation as in the right column. In contrast, trisyllabic cases like *di(vinity)* satisfy both shortening and stress preservation simultaneously, as the resulting metrical structure is well-formed, like that of e.g. *a(merica)*. On this view, the only difference between morphological shortening and "trisyllabic" shortening is the position in which the shortened vowel happens to be: either in the penultimate or in the antepenultimate syllable. It is therefore a completely general fact that Latinate affixes induce shortening of stem vowels. The question of the exact nature of morphological shortening is, however, only of general interest. The specific issue at hand is why it should be incompatible with stress-neutrality, as in (23). The thesis in (16) provides an immediate answer: neither metrification, nor non-metrification of the final weak syllable can guarantee stress-preservation, as shown in (25).

- (25) a. *as(piran)t / *as(pirantø),
 b. *tele(phonis)t / *tele(phonistø)
 c. *hyp(notis)t / *hyp(notistø)
 d. *mili(tarI)ze / *mili(tarIze)
 e. *ad(mira)ble / *ad(mirable)
 e'. *blas(phemou)s / *blas(phemousø)

In (25), all left-hand cases instantiate ill-formed feet $*(L\sigma)$, while the right-hand ones in (a-d) instantiate equally ill-formed feet $(\sigma H\sigma)$. The case in (25e) **ad(mirable)* should, however, be well-formed, since the first syllable of the suffix is light, yielding $(\sigma L\sigma)$. Note here that some cases with that structure are in fact attested, such as *di(visible)*, *des(picable)*. In general, however, *ble* remains extrametrical. The reason for this is metrical consistency. As we see in more detail in 4.6, neutrality of *able*, unlike that of *ist* (but like that of *ant*) does not generally invoke metrification of the final weak syllable, being systematically achieved by *non*-metrification. This is due to the fact that (like *ant*) *able* is attached primarily to verbs. The metrification *a)ble* is thus preferred under consistency, excluding *ad(mirable)* in (25e), just as consistency of the metrification *ou)s* excludes *blas(phemousø)* in (25e).

In contrast to the above account, there is no particular reason why, if the suffixes in (23) can evade stress, they could not continue to do so when they trigger morphological shortening. An attempt to capture the correlation between shortening and non-neutrality within past analyses would run as in (26):

- (26) "Morphological" shortening is a "level 1 / cyclic" rule. When they trigger it, all suffixes must be "level 1 / cyclic", whence their non-neutrality in the shortening cases. Class II suffixes are therefore systematically ambiguous: either "level 1 / cyclic", thus triggering shortening, or "level 2 / non-cyclic", thus being neutral.

The account in (26) is not tenable, however. The reason is that Class II suffixes are *never* non-neutral when there is no vowel shortening (except in the cases of 4.2, already accounted for). For example consider that Level 1 / cyclic classification will imply metrification of the suffix. Suppose now that metrification of the suffix in turn implied non-neutrality, as with Class I suffixes. Then, since morphological shortening is unsystematic with Level 1 / cyclic suffixes (witness (24)), there should be instances in which suffixes like *ist* are non-neutral and yet there is no shortening. This is not the

case. Suppose instead that metrification of the suffix did *not* imply non-neutrality, but was rather consistent with neutrality. The hypothesis in (26) would now avoid falsification. But, if stress-neutrality can result from metrification, there is no point in postulating stress-evasion ever. The facts in (23), (24) thus lead to the conclusion that stress-evasion is either false or superfluous.

4.4. Suffix Size

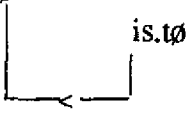
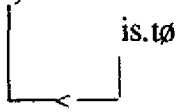
A fourth argument against stress-evasion is that no stress-neutral suffix is larger than a weak foot. This fact follows immediately from (16). For any structure larger than a weak foot will necessarily contain a *strong* foot, bearing primary stress, hence excluding neutrality. In contrast, there is no reason why stress-evasion should be applicable only to suffixes of a particular size. Relevant suffixes here are not very numerous, but they all support our claim. Thus, *átion*, *ólogy*, *ómeter* are all non-neutral, bearing primary stress as predicted.

4.5. Parametric Variation

A fifth argument is that only (16) above correctly predicts that languages whose word ends are not ambiguous in the way postulated for English should not have stress-neutral suffixes. In particular, the thesis in (16) correctly predicts the clustering of properties in (27) distinguishing English from Italian, by taking the relevant parameter to be existence of weak syllables.

(27)	Parameter: \pm Weak Syllables	English (+)	Italian (-)
a.	Stress patterns: 1 vs. 2	(hones)t \emptyset ro(bust \emptyset)	o(nesto) ro(busto)
b.	Stress "neutral" suffixes: \pm	américanist \emptyset	americanísta
c.	Weak Feet: \pm	bérnar(díne)	bèrnar(dína)

Non-existence of weak syllables in Italian, independently predicted for syllables with null vowels by the fact that Italian words end in *overt* vowels, will predict a single stress pattern as in (27a), in contrast to the two of English ((8) vs. (9) above). Given (16) above, it will then predict the absence of stress-neutral affixes, as in (27b), as well as the general absence of weak feet, as in (27c). On the traditional view that a subset of the Latinate affixes in English can evade stress, it would be completely

- (31) a. *concatenation:* a(merica)n \emptyset -> americanist

- b. σ -*overlap:* propa(gan da) -> propagandist


der. Since clearly stress neutrality results when the rightmost foot boundary of the stem is preserved hence allowing all preceding metrical structure to remain intact (recall (17) above), we need only consider the effects of suffixation on that boundary for each of the six possibilities. This is done in (32).

(32)		concat.	σ -overlap	neutral?	
a.	-W	...) W	...W)	always	ly, (y, er, or...)
b.	-L W	* ...) L W	...L) W	if overl.	able, ic, al, ity.
c.	-H W	...) (H W)	...H) W	always	ist, lzc, ment, ...

In (32a), the suffix consists of a single weak syllable. When that syllable is attached by concatenation, the resulting structure is well formed, because a weak syllable can be extrametrical. If that same syllable is attached under overlap, the structure is still well-formed, since weak syllables can also be metrified. The prediction is therefore that all suffixes that are of this form should be neutral. This seems correct: nominal, adjectival and diminutive *y* (*presidency, sugary, Billy*) are all neutral, as are agentive and comparative *er* and agentive *or* (syllables with sonorant nuclei). Turning to (32b), the sequence *LW* cannot be neutral when attached by concatenation, because it can neither be extrametrical, nor be metrified as a separate foot (by (12) above), thus requiring that the rightmost foot boundary of the stem be reset. In contrast, when that sequence is attached by overlap, neutrality will result, because the weak syllable can remain extrametrical. The ensuing prediction seems again correct: suffixes *able, ic, al, ity* all have the structure in question, but only *able* is neutral. The reason is that only *able* is attached by overlap. In turn, this is due to the fact that only *able* attaches to verbs, which metrify a final null vowel, replaced by the *a* of *able*. Note too that the

sequence *al*, non-neutral as an adjectival suffix attached to nouns, is in fact neutral just like *able* when attached to verbs, as in *perúse* → *perúsal*, etc., just as expected.^{7 8} Finally, suffixes with the structure *HW* are predicted to be always neutral, as in (32c). When they are concatenated, they can stand as an independent foot in the manner of (17c) above. When attached by overlap they can leave the weak syllable extrametrical. Again, this seems correct, as *ist*, *Ize*, *ant*, *ment* are all neutral.⁹

We can now return to (28a, b) and consider why stem consistency, alias stress-neutrality, should be preferred to suffix-consistency. If we suppose that lexical organization incorporates a principle of "economy", requiring maximal re-use of existing structures including metrical structure (as already implicit in the noted "consistency" effects), then it will be a simple numerical fact that stress-neutrality satisfies that principle to a greater degree than suffix-consistency. The reason is that for each individual suffix there are at most *two* possible metrical structures: one including and one excluding the final weak syllable, while there are many more stems. So, inconsistency of an individual suffix, as in *is)t∅* / *ist∅*, versus consistent *a)l∅* will entail an increase in the number of metrical structures by exactly one. In contrast, inconsistency of the corresponding stems will entail a much larger increase, like the one found with *al* in *áccident* / *accidental*, *médicine* / *medicinal*, *órigín* / *original*, and so forth. That is, the increase here will be by a number approaching the number of stems the suffix takes, while not quite reaching that number, as not all stems ever need to remetrify (e.g. *cláuse* / *cláusal*). Hence, "economy", or maximal preservation, in fact predicts that (28a) should have priority over (28b) as we supposed, and in turn that all suffixes that can be neutral will be, as we have seen is the case.

5. Conclusion

In this article, I have presented an analysis of the stress-neutrality of Latinate suffixes like *able*, *ist* and others, that departs significantly from past analyses all of which, in various different forms, implemented the notion that these suffixes evade the stress principles. Specifically, I have argued that stress-neutrality of Latinate suffixes results from integration of the suffix into the metrical structure of the stem, and that the latter is made systematically possible, although only under certain structural conditions, by the general metrical ambiguity of word-ends - a language-specific property of English. I have given six arguments to support the latter analysis and

refute the stress-evasion hypothesis, summarized in (33).

- (33)
- i) Stress-evasion is superfluous, since the metrifications needed by occurrence of the same suffixes with bound stems suffice to account for neutrality.
 - ii) Only metrification and not stress-evasion correctly predicts certain classes of exceptions to neutrality.
 - iii) Only metrification correctly predicts that when stem vowels shorten stress-neutrality will no longer obtain.
 - iv) Only metrification correctly predicts that no neutral suffix will have a syllabic structure larger than a weak foot.
 - v) Only reliance on the ambiguity of weak syllables correctly predicts that a language that does not have weak syllables will not have stress-neutral suffixes.
 - vi) Only metrification correctly predicts which suffixes can be stress-neutral and which cannot.

Notes

1. The SPE solution would seem the most parsimonious, since it only employs one lexical diacritic to draw the distinction between the two classes. The other accounts also mark the distinction with a lexical diacritic, but in addition postulate two different sets of rules.

The motivation for the left-to-right parse of Halle and Kenstowicz (1991) is in part to more naturally account for the initial stress and apparent ternary foot of cases like (*winnepes*) *sáukee*. We argue in Burzio (in progress) that the need to postulate special devices for this class of cases, including the left-to-right parse, is a contingency of an incorrect foot typology that excludes ternary feet. Note that in the system we propose below in the text and in Burzio (in progress), directionality of parsing plays no role, since stress is not assigned by rule. The differences across languages commonly attributed to directionality of parsing must therefore be expressed differently, and can.

2. For instance, the final syllables of *syllabify* and *organize* compare in perceptual prominence despite the fact that final stress is present only in the latter item, as we see in the next note.

3. This predicts that vowel-ending suffixes should not be stress-neutral. The prediction is correct, as shown by the behavior of *fy*, non-neutral in *ácid* / *a(cí)dy*, *húmid* / *hu(mí)dy*, *pérson* / *per(són)fy*, *sólid* / *so(lí)dy*. The correct stress pattern of items in *fy* thus follows from supposing (contrary to past analyses) that there is no secondary stress on *fy*, which in turn is consistent with the fact that syllabification will not induce a null vowel here. A secondary stress would predict **(áci)dy* / ...**(sólidi)dy* on par with, e.g. *a(mérica)(nize)*, *(óxyge)(nate)*, in which both *ize* and *ate* are neutral as predicted.

The null-vowel hypothesis thus predicts that in general vowel-ending verbs should exhibit

the stress patterns of nouns ((8) above)), which is largely correct (note also *rémedy*), though cases like *agrée* require further comment as does - independently - *kangaróo*.

4. Note that the items (*aller*)*gy* through (*caval*)*ry* in (19g) seem deviant with respect to the foot types postulated in (12) above, in that they instantiate binary feet (*LH*). As we note in Burzio (in progress) this kind of foot is in fact generally possible, but only word-initially, that is when a larger foot cannot be constructed for lack of syllables. This qualification does not affect the rest of the discussion.

5. We may also note that *ant* in (19d) appears only as *an)t*∅, while in (19f) *ize* appears only as *ize*). For the former case, it is easy to show, however, that its stress neutral behavior also only requires that single metrification [as in *con(súltan)t*, etc. See also discussion of (25) below]. For the case of *ize*, however, a handful of neutral cases will in fact require the alternative *i)ze* [like *propa(gandi)ze*] Hence, the claim that the metrification needed for bound stems suffices to account for neutrality under (16) is not completely true if made relative to each individual suffix, in particular not true for *ize*. It is nonetheless true for all other individual suffixes, and for the suffixes taken as a group.

6. There is, however, dialectal variation. For some speakers there is no stress-shift in these cases. The exact account of this variation is not immediately obvious.

7. There are, however, further restrictions not accounted for by the text. In particular, the stem is generally required to be *oxytonic*, with a few exceptions, like *bury* / *burial*.

8. It is important to note that stress neutrality could still be achieved even with suffixes of the type *LW* attached by concatenation, whenever the final foot of the stem has the structure (*Hσ*), in the manner illustrated in (i).

(i) (Hσ) LW => (HσL) W

This is not the case, however, as shown by (*tlta*)*n* -> *(*tltani*)*c*∅ and many other examples. This fact requires that we interpret (28) to mean that stem consistency is preferred over suffix consistency, not with respect to individual occurrences of a suffix, but rather only for the suffix as a whole. That is, stem consistency /neutrality will obtain only if the suffix can guarantee it with all stems. If not, suffix consistency will obtain instead. We are thus supposing that a suffix is marked for suffix consistency in the manner of (18) above, unless the absence of such marking guarantees full scale neutrality. Once the lexical marking is present, the suffix will observe it, yielding non-neutrality even in cases in which the latter could have been achieved in the manner of (i).

9. Although we have seen that *ant* (*jent*, *ance*, *ence*) are essentially only attached by overlap (i.e. to verbs).

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