

## *Plus ça change . . .*: Lachmann's Law in Latin

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Lachmann's Law (LL) is the rule of Latin according to which verbal roots ending in an etymological voiced stop (\*-b-, \*-d-, etc.), but not a voiced aspirate (\*-bh-, \*-dh-, etc.), lengthen their root vowel in the past participle and its derivatives (e.g. *agō* 'drive', ptcp. *āctus* (+*āctiō*, etc.), *cadō* 'fall', ptcp. *cāsus* < \**cāssus*). Neglected for most of the twentieth century, LL became well known through its role in the brilliant 1965 doctoral dissertation of Paul Kiparsky. For Kiparsky, LL was the *Paradebeispiel* of *rule insertion* or *non-chronological rule addition*, a type of linguistic change said to be predicted by the theory of generative grammar but impossible to accommodate within the traditional Neogrammarian framework of sound change and analogy. Until the end of the 1970s, LL figured prominently in the often polemical debate over the status of analogy as a mechanism of language change; at one point no fewer than three squibs were dedicated to it in a single volume of *Linguistic Inquiry*.<sup>1</sup> Then, almost as abruptly as it had begun, the near-obsession with LL came to an end. Today, as before 1965, the rule is known mainly to specialists in the history of Latin.

A form like *āctus* can be derived historically from earlier \**ag-tos* by assuming two sound changes—one that lengthened the vowel before the voiced + voiceless cluster, and another that spread the voicelessness of the \*-t- leftwards.<sup>2</sup> But voicing assimilation is found in every IE language and was clearly an inner-PIE process, while lengthening before voiced + voiceless clusters was a much later development peculiar to Latin, or at least Italic. How, then, can the cluster \*-gt- have been accessible to speakers at the

This paper, an oral version of which was presented in our honorand's class at Oxford in 1996, benefited in its early stages from discussions with Alan Nussbaum. A thorough review of the literature on LL through the early 1980s is given by Collinge (1985: 105 ff.).

<sup>1</sup> The year was 1979, and the squibs were the contributions listed below under the names of Joseph, Klausenburger, and Stephens. See n. 10.

<sup>2</sup> Transcriptions are informal; where no confusion would result I write '\*ag-' for '\*h<sub>2</sub>eǵ-', '\*-ō' for '\*-oh<sub>2</sub>', etc.

moment when the lengthening rule applied? The usual Neogrammarian solution, classically articulated by Saussure (1885: 256) and repeated as recently as Leumann (1977: 114), was that inner-PIE *\*aktos* was analogically remade to *\*agtos* in post-IE times. Secondary *\*agtos*, according to this view, gave *\*āgtos*, which then, by a second application of the voicing assimilation rule, gave *\*āktos* ( $\cong$  *āctus*).

Kiparsky (1965: i. 32) rejected this scenario in no uncertain terms:

He [Saussure] supposes that IE *aktos* reverted to phonetic *agtos*, then was lengthened to *āgtos* and finally reassimilated to *āktos*. In spite of its ad hoc character and phonetic implausibility (on which Saussure himself remarks) this has come to be the generally accepted view. . . . But there are insurmountable objections to it. To account for lengthening in dental stems (e.g. *cāsus*) we should then have to suppose that forms like *\*cadtus* were restored, and that after the lengthening by Lachmann's Law these forms underwent not only reassimilation of voicing but also reassibilation by the old rule that dentals became sibilants before dentals. This kind of miraculous repetition of history stretches our credulity to the breaking point. It snaps when we recall that dental clusters of secondary Latin origin do not in fact assibilate in Latin, e.g. *ad-terō* > *atterō*, and not *'asserō*. There is, so far as I can see, no way of saving Saussure's theory of Lachmann's Law.

LL, in Kiparsky's view, was a case of *insertion*: a rule that lengthened vowels before *-gt-* and *-dt-*, viz.

$$[-\text{consonantal}] \Rightarrow [+ \text{long}] / \text{---} \begin{bmatrix} + \text{obstruent} \\ + \text{voiced} \end{bmatrix} \begin{bmatrix} + \text{obstruent} \\ - \text{voiced} \end{bmatrix}$$

was added to the synchronic grammar of Latin at a higher point in the ordered list of phonological rules than the rule of voicing assimilation. In schematic terms, taking  $G_1$  and  $G_2$  to represent chronologically successive grammars,

$G_1$ :	$G_2$ :
underlying form /ag-to-/ rules: _____ _____ _____	underlying form /ag-to-/ rules: _____ _____
..... voicing assim.	LL ..... voicing assim.

⇒

LL thus operated, according to Kiparsky, on *underlying* *-gt-* and *-dt-*, despite the fact that these clusters never surfaced phonetically.

Kiparsky's analysis was an exciting proposal in 1965, since it seemed to show that there were possible—and documented—linguistic changes that

could not be explained within the standard framework of (surface) sound change and (surface) analogy, but that could easily be accounted for within the more abstract model of generative phonology. Normal sound change, in the early days of generative phonology, was regarded as a process of rule addition: implementing a sound change meant appending a new rule to the end of an ordered list of synchronic phonological rules (cf. Halle 1962: 64 ff.). Enthusiasts for Kiparsky's approach, such as King (1969), saw no essential difference between this process and rule insertion, which differed from ordinary rule addition only in that the 'landing site' of the new rule was synchronically higher than one or more historically earlier rules. LL was hailed as proof of the superiority of the 'grammar change' model of linguistic change to the classical Neogrammarian combination of sound change and analogy. In the ideological wars of the time, it was seen as another nail in the coffin of taxonomic (=structuralist) phonemics, with which the Neogrammarian approach to linguistic change was by implication identified.

Doubts, however, persisted. Normal sound change is rooted in acoustic and articulatory facts; in English, for example, the regular lengthening of vowels before voiced obstruents (cf. *hat* [hæt] vs. *had* [hæ:d]) reflects the natural tendency of speakers to assign part of the voicing of the consonant to the preceding vowel. Under Kiparsky's analysis, no perceptual or production errors could have been involved in the replacement of late PIE \*aktos by Lat. *actus*, since the crucial voiceless+voiced combination never surfaced phonetically. It was unclear, therefore, how or why a speaker of pre-Latin would ever have been tempted to enact Kiparsky's LL scenario. King, after a long and futile search for typological parallels, dramatically reversed his 1969 position and concluded that rule insertion, as a species of linguistic change, did not exist (King 1973).

The rule itself was not free of difficulties. A total of seventeen Latin past participles satisfy the structural description of LL, but only thirteen of these actually show the expected lengthening. The examples can conveniently be arranged by root vocalism. The lengthening of -a- to -ā-, -u- to -ū-, and -o- to -ō- is exceptionless:<sup>3</sup>

<sup>3</sup> Compare forms with a voiceless stop or voiced aspirate and no lengthening: *faciō* 'do': *fēci*: *fāctus*; *patior* 'suffer': *pāssus*; *rapīō* 'seize': *rapuī*: *rāptus*; *nancīscor* 'meet with': *nāctus*; *pandō* (< \*patnō) 'extend': *pandī*: *pāssus*; *trahō* (< \*-gh-) 'draw': *trāxī*: *trāctus*; *fodiō* (< \*-dh-) 'dig': *fōdī*: *fōssus*; *doceō* 'teach': *docuī*: *dōctus*; *dūcō* 'lead': *dūxī*: *dūctus*; *rumpō* 'break': *rūpī*: *rūptus*; *iubeō* (< \*-dh-) 'order': *iūssī*: *iūssus*; and others. Even before plain voiced stops, a synchronic morpheme boundary must be present; derivationally isolated forms like *lāssus* 'tired' < \*lad-to- and *tūssis* 'cough' < \*tud-ti- retain their short vowel (cf. Kiparsky 1965: i. 31).

'drive'	<i>agō</i> (present)	: <i>ēgī</i> (perfect)	: <i>āctus</i>
'fall'	<i>cadō</i>	: <i>cecidī</i>	: <i>cāsus</i>
'break'	<i>frangō</i>	: <i>frēgī</i>	: <i>frāctus</i>
'fix'	<i>pangō</i>	: <i>pepigī</i>	: <i>pāctus</i>
'touch'	<i>tangō</i>	: <i>tetigī</i>	: <i>tāctus</i>
'pour'	<i>fundō</i>	: <i>fūdī</i>	: <i>fūsus</i>
'beat'	<i>tundō</i>	: <i>tutudī</i>	: <i>tūsus</i>
'hate'	—	: <i>ōdī</i>	: <i>ōsus</i>

-e- is lengthened to -ē- in four examples:<sup>4</sup>

'eat'	<i>edō</i>	: <i>ēdī</i>	: <i>ēsus</i>
'read'	<i>legō</i>	: <i>lēgī</i>	: <i>lēctus</i>
'guide'	<i>regō</i>	: <i>rēxī</i>	: <i>rēctus</i>
'cover'	<i>tegō</i>	: <i>tēxī</i>	: <i>tēctus</i>

... but here there is a conspicuous exception:

'sit (down)' *sedeō/sidō* : *sēdī* : *sēssum* (supine)<sup>5</sup>

Finally, there is one 'good' example of the change of -i- to -ī-:<sup>6</sup>

'see' *uideō* : *uīdī* : *uīsus*

... but no fewer than *three* 'bad' ones, with no lengthening:

'split'	<i>findō</i>	: <i>fīdī</i>	: <i>fīssus</i>
'tear apart'	<i>scindō</i>	: <i>scicidī</i>	: <i>scīssus</i>
'draw tight'	<i>stringō</i>	: <i>strīnxī</i>	: <i>strīctus</i>

In short, LL always 'works' when the root vowel is -a- (5 examples), -u- (2 examples), or -o- (1 example). It is usually also valid for -e- (4 good examples; 1 exception), but mostly fails for -i- (1 good example; 3 excep-

<sup>4</sup> Again, lengthening is absent when the root ends in a voiceless stop or voiced aspirate: cf. *uehō* (< \*-gh-) 'convey': *uēxī* : *uēctus*; *secō* 'cut': *sēcūī* : *sēctus*; *metō* 'mow': *mēssūī* : *mēssus*; *-spiciō* 'look at': *-spēxī* : *-spēctus*; etc. The status of *emō* 'buy': *ēmī* : *ēemptus* with respect to LL is unclear. Etymologically, of course, the participle should have been \**entus* < \*(h<sub>1</sub>)m<sub>1</sub>-to- or \*(h<sub>1</sub>)em-to-; *ēemptus* must go back, directly or indirectly, to a reconstituted \**em-to-*, with \*-m- reinserted from the present stem. While it is possible that restored \**emto-* simply gave \**embto-*, with epenthetic \*-b- and subsequent LL lengthening, a direct development from \**emto-* to \**empto-*, with automatic lengthening before *-mpt-*, is also thinkable.

<sup>5</sup> The supine is quoted instead of the participle, which is restricted to compounds (*possessus*, *obsessus*, etc.).

<sup>6</sup> -ī- is expected, of course, before a root-final voiceless stop or voiced aspirate: cf. *fiŋgō* (< \*-gh-) 'shape': *fīnxī* : *fīctus*; *piŋgō* (prob. < \**piŋnō*) 'paint': *piŋxī* : *piŋctus*; *miŋgō* (< \*-gh-) 'urinate': *mīnxī* : *mīctus*; *-linquō* 'leave': *-līquī* : *-līctus*; *uincō* 'conquer': *uīcī* : *uīctus*; *mittō* 'send': *mīsi* : *mīssus*, etc.

tions). The exceptions—*sēssum*, *fīssus*, *scīssus*, *strictus*—are not discussed by either Saussure or Kiparsky.

Kiparsky's discussion of LL, embedded as it was in a general assault on analogy as an explanatory tool in historical linguistics, naturally called forth an analogical counterattack. The opening salvo was fired by the great theoretician of analogy, Jerzy Kuryłowicz (1968), who began by accepting Kiparsky's dismissal of the Neogrammarian account:

To assume an intermediate phonetic arrangement, viz. the restitution of *g* under the influence of *agō* and second devoicing of \**agtos*, this time to *āktos*, would be clearly unacceptable. Nowhere and at no period has *g t* been a possible combination in I.E. languages opposing voiced *g d* to voiceless *k t*.

Kuryłowicz's response, however, was to construct an entirely different analogical scenario. Following an approach pioneered by Osthoff (1884: 113) and Kent (1928), he took the long vowel of *āctus*, *cāsus*, etc. to be an import from the perfect. In a verb like *legō* 'read', the present active with \*-*ē*- (3 sg. *legit*) served as *forme de fondation* to the perfect active with \*-*ē*- (3 sg. *lēgit*); therefore, since the active as a whole 'founded' the passive, the long vowel was extended from the perfect active to the perfect passive:

pres. act. <i>legit</i>	⇒	perf. act. <i>lēgit</i>
⇓		⇓
pres. pass. <i>legitur</i>	⇒	perf. pass. * <i>lēctus</i> (est) > <i>lēctus</i> (est)

The other such cases cited by Kuryłowicz were

<i>edō</i>	:	<i>ēdī</i> ,	whence innovated	<i>ē(s)sus</i>
<i>uideō</i>	:	<i>uīdī</i> ,	" "	<i>uī(s)sus</i>
<i>emō</i> ('buy')	:	<i>ēmī</i> ,	" "	<i>ēm(p)tus</i>
—	:	<i>ōdī</i> ,	" "	<i>ō(s)sus</i>

From these examples speakers supposedly abstracted the principle that roots in \*-*g*-, \*-*d*-, and \*-*m*- formed their participles by adding *-tus* and lengthening the vowel of the present. Thus were created *āctus* (: *agō*), *cā(s)sus* (: *cadō*), and *tēctus* (: *tegō*), even though the perfects of these verbs were *not* formed by simple lengthening (*ēgī*, not \**āgī*; *cecidī*, not \**cādī*; *tēxī*, not \**tēgī*).

As presented, this account is obviously unsatisfactory. Kuryłowicz's initial group of five verbs (*legō*, *edō*, etc.) is arbitrary; no mention is made of two other lexical items, *fodiō*: *fōdī* 'dig' and *scabō*: *scābī* 'scrape', which also form their perfects by lengthening the vowel of the present, but which

have root-final *\*-dh-* (not *\*-d-*) and *\*-bh-* (not *\*-b-*), respectively.<sup>7</sup> In addition, there are endless problems of detail. To explain the non-lengthening of *scīssus*, *strictus* to *\*scī(s)sus*, *\*strictus*, Kuryłowicz is obliged to claim that the nasal of the presents *scindō* and *stringō* prevented speakers from connecting the present stem too closely with the participle. But this makes it hard to account for *fū(s)sus* and *tū(s)sus* (: *fundō*, *tundō*), which he attributes to a 'tertiary' analogy that substituted the attested forms for 'correct' *\*fūssus* and *\*tūssus* (*rūptus* (: *rumpō*) inexplicably failed to take part in this development). To explain the unexpected long vowel of *tāctus* (: *tangō*) and *frāctus* (: *frangō*), Kuryłowicz invokes *pāctus* (: *pangō*), which he sees as a PIE inheritance (cf. Gk. *πηκτός*).

Attempts to improve on Kuryłowicz's solution soon followed from Watkins (1970) and Strunk (1976). Watkins accepted Kuryłowicz's premiss that *lēctus* etc. acquired their long vowel from the long-vowel perfect, but tried, not very successfully, to explain the spread of long vocalism in the participle without reference to the voicing properties of the root-final consonant. *rēctus* (archaic perfect *rēgī*) and *tēctus* (archaic perfect *\*tēgī*?) were, according to Watkins, first-order analogical formations like *lēctus* itself. Another such form was *āctus*, with its long vowel taken from the hypothetical pre-Latin perfect *\*āgī*; *āctus* in turn generated *frāctus*, *tāctus*, etc., and, indirectly, most of the other LL forms. But herein lies the fatal problem: the perfect of *agō* is not *\*āgī* but *ēgī*, an inherited lengthened-grade preterite (< *\*h<sub>2</sub>ēg-*, by Eichner's Law) of the same type as *lēgī*, *ēmī*, *ēdī*, and (perhaps) *rēgī*.<sup>8</sup> Elements of Watkins's solution—presence vs. absence of a long-vowel perfect, transparency vs. opacity of the present stem, relative lateness of certain forms—recur in Strunk's monograph-length treatment of LL. When all is said and done, however, Strunk's theory is little more than a *post hoc*, case-by-case justification of why each form turned out the way it did.<sup>9</sup>

Later discussions of LL add nothing new to the picture.<sup>10</sup> In the last ana-

<sup>7</sup> To be sure, the whole idea of associating length with the character of the root-final consonant seems counterintuitive. One wonders why Kuryłowicz's speakers, having sensibly built *lēctus* to *lēgī* and *uisus* to *uidī*, did not simply proceed to the creation of *\*fēctus* beside *fēcī*, *\*cēptus* beside *cēpī*, *\*ēctus* beside *ēgī*, etc.

<sup>8</sup> Although the supposed perfect *\*āgī*, allegedly bolstered by ON *ók* (: *aka* 'drive'), is a staple of the LL literature, it cannot be emphasized too strongly that there is absolutely no evidence for such a form. For the pattern *agō* : *ēgī*, which cannot be explained within Latin and almost certainly goes back to PIE, see Jasanoff (1998: 305–7) and the references there cited.

<sup>9</sup> See the succinct review by Anna Morpurgo Davies (1979).

<sup>10</sup> This holds true, for example, of the three 1979 squibs in *Linguistic Inquiry*, which are largely concerned with the pros (Klausenburger 1979; Stephens 1979) and cons (Joseph 1979) of converting the Kuryłowicz/Watkins theory into 'rule addition' notation. A genuinely dif-

lysis, we have three basic approaches to choose from: (1) the Neogrammarian solution (analogical reintroduction of the voiced stop with subsequent lengthening by sound law); (2) Kiparsky's solution (rule insertion); and (3) the Kuryłowicz–Watkins–Strunk solution (analogical lengthening from the perfect). The objections to (2) and (3) have been reviewed above; it is time to return to (1).

Enough time has passed since the 'analogy wars' of the 1960s and 1970s for us to be able to recognize the heavy rhetorical component in much of the discussion surrounding LL. Both Kiparsky and Kuryłowicz, as quoted above, were witheringly dismissive of the possibility that a preform *\*aktos* could have been remade to *\*agtos*; Kuryłowicz's remarks in particular go beyond the bounds of responsible generalization.<sup>11</sup> Kiparsky, in rejecting the scenario *\*kassos* ⇒ *\*kadtos* > *\*kādtos* > *\*cāssus* > *cāsus*, set up a straw man; the real question to ask in connection with roots ending in *\*-d-* was—and remains—whether early pre-Latin *\*kassos* could have been remade, not to *\*kadtos*, but to *\*kad̥sos* (> *\*kādsos* > *\*cāssus* > *cāsus*), with *\*-d-* restored and *\*-s-* retained (cf. the *s*-variant of the suffix in *lāpsus* (: *lābor* 'glide'), *mulsus* (: *mulceō* 'stroke'), *sparsus* (: *spargō* 'strew'), etc.). Simply to pose the question is to see that the possibility cannot be dismissed out of hand—an indication that the much-vilified Neogrammarian theory may not be so *ad hoc* or unnatural as its detractors have maintained.

Unexpected light is shed on the problem of LL by the seemingly unrelated irregular superlative *maximus* 'greatest' (: positive *magnus*, comparative *maior* < *\*mag-īōs-*). From a second-century inscription (*CIL* vi. 2080. 17) where it is explicitly marked, we know that the *-a-* of this form is long. We also know, thanks to the fundamental work on Italic and Celtic superlatives by Warren Cowgill (1970), that the oldest reconstructable preform for *māximus* is *\*magis̄m̄mos*, with the root *\*mag-* of *magnus* and *maior* and the Italic and Celtic superlative suffix *\*-is-ṡmo-*.<sup>12</sup> There is only one way that the *-ā-* of *māximus* could have come to be long: syncope of *\*-i-* brought ferent approach is taken by Kortlandt (1989; 1999), but his glottalic interpretation, which effectively denies the merger of *\*-gt-* and *\*-kt-* in the parent language, is unacceptable.

<sup>11</sup> For counter-examples to Kuryłowicz's claim that voiced/lax + voiceless/tense clusters are impossible in IE languages, we need look no further than English, where such groups are perfectly common at historical morpheme boundaries (*tadpole*, *ragtime*, *magpie*, *bodkin*, *absent*, etc.) and in proper names of non-Anglo-Saxon origin (*Aztec*, *Rabkin*, *Abt*, etc.). A Slavic example is given below.

<sup>12</sup> Older treatments of the superlative in Latin—see e.g. Buck 1933: 215–16 and Leumann 1977: 497–8—are notoriously confused, with fluctuating roles assigned to sequences variously reconstructed *\*-ṡmo-*, *\*-sṡmo-*, *\*-isṡmo-*, and *\*-issṡmo-*. For our present purposes, Cowgill's essential result is that the *-x-* [-ks-] of *maximus* is not original, but the result of a pre-Latin syncope.

the \*-g- and the \*-s- of \**magisṃmos* (or perhaps at this stage \**magisomos*; cf. Vine 1993: 247 ff.) into contact, and the resulting sequence \*-ags- developed to -āks-, with devoicing of the \*-g- and lengthening of the preceding vowel. This, of course, is precisely the sound change that we know in a different guise as LL. What the example of *maximus* shows us is (a) that Latin at an earlier point in its history tolerated voiced + voiceless obstruent clusters, and (b) that such clusters were systematically devoiced with compensatory absorption of the voicing as length by the preceding vowel.<sup>13</sup> Naturally, none of this proves that early pre-Latin \**aktos* and \**kassos* actually were remade to \**agtos* and \**kadsos*, as we would have to assume under a refurbished Neogrammarian account. But there is now independent evidence that such intermediate preforms, if they ever existed, would indeed have given the attested *āctus*, *cāsus*.

What then of the supposed remodelling of \**aktos*, \**kassos* to \**agtos*, \**kadsos*—the step denounced as ‘phonetically implausible’ by Kiparsky and ‘clearly unacceptable’ by Kuryłowicz? Watkins (1970: 57), in an interesting aside to his main discussion, mentions but does not fully explore a suggestively similar development in certain dialects of Ukrainian and Russian. The relevant facts are discussed by Andersen (1969)<sup>14</sup> and Flier (1978). Proto-Slavic, like Latin, inherited the PIE rule of right-to-left voicing assimilation and the rule of sibilant insertion in dental + dental clusters (> Slavic \*-sT-). Another change affected the cluster \*-kt-, which gave PSl. \*-t'- and East Slavic \*-č- before high front vowels. Early East Slavic (=Old Russian) thus had infinitive forms like the following:

<i>ved-</i> ‘lead’ (1 sg. <i>vedu</i> )	+ - <i>ti</i> (infin.)	> <i>vesti</i> ‘to lead’
<i>vez-</i> ‘convey’ (1 sg. <i>vezu</i> )	+ - <i>ti</i> (infin.)	> <i>vesti</i> ‘to convey’
<i>pek-</i> ‘bake’ (1 sg. <i>peku</i> )	+ - <i>ti</i> (infin.)	> <i>pečī</i> ‘to bake’
<i>bereg-</i> ‘guard’ (1 sg. <i>beregu</i> )	+ - <i>ti</i> (infin.)	> <i>bereči</i> ‘to guard’

With the syncope of the jers (*ǫ*, *ĭ*), a number of previously disallowed con-

<sup>13</sup> Note that these developments need not have preceded the pre-Latin voicing of intervocalic single \*-s- to \*-z-. The change of \*-s- to \*-z- (whence later -r-) was a purely subphonemic event; both before and after the rule, \**magisomos* was phonologically /magisomos/, and the cluster that resulted from the syncope of \*-i- was phonologically /-gs-/. That the phonological sequence /-gs-/ would have been read [-gs-] and not [-gz-] is shown, in the last analysis, by its development to [-ks-] in *māximus*. I am indebted to John Penney for helping me clarify these issues.

Since \**magisṃmos* yielded *māximus*, it might have been expected that the parallel \**pedisṃmos* ‘worst’ (cf. *peior* ‘worse’ < \**ped-īōs-*) would yield \**pēsīmus* (< \**pēss-* < \**pēts-* < \**ped-s-*). The actual form is *pēssīmus*—presumably reflecting the influence of the normal superlative type in *-issīmus*, which ‘protected’ the \*-ss- of \**pēssīmus* and triggered shortening of \*-ē- to -ĕ- by the ‘littera-rule’.

<sup>14</sup> Andersen (1969) is the ‘forthcoming study’ to which Watkins refers his readers (ibid.).



sonant clusters, including combinations of a voiced/lax obstruent with a following voiceless/tense obstruent, were introduced into the East Slavic phonological system. In many dialects, including those which led to Standard Ukrainian, such clusters were maintained. Dialects of this type exploited the new acceptability of voiced + voiceless combinations to introduce a secondary contrast between, for example, (Ukr.) *vesty* 'to lead' and *vezty* 'to convey'—the latter 'helped' by the restitution of *-z-* from the present stem. In some varieties of Ukrainian and Russian the process was taken further: forms like *peči* (: *pek-*) and *bereči* (: *bereg-*, Ukr. *bereh-*)<sup>15</sup> were remade to *pekti*, *berehti* or to *pekči*, *berehči*, with the hybrid groups *-kč-*, *-hč-*.

These facts, parallel in almost every respect to the first part of Sausure's scenario for Latin, completely undercut any possible objection to the Neogrammarian approach *in principle*. It remains only to see how an updated Neogrammarian account would work in detail. The first step, clearly, must be to assume that at a stage of Latin following the earliest syncope rules<sup>16</sup>—a stage, for example, when the preform of *māximus* was *\*magso-mos* (*vel sim.*)—root-final *\*-g-* was restored before suffixes beginning with a voiceless obstruent:

*\*aktos*, *\*rektos*, *\*striktos* ⇒ *\*agtos*, *\*regtos*, *\*strigtos*  
(cf. Ukr. *vesty* ⇒ *vezty*)

When the root ended in *\*-d-*, the sequence *\*-ss-* (or its predecessor *\*-ts-*) was remade to the hybrid cluster *\*-ds-*:

*\*kassos*, *\*tussos*, *\*fissos* ⇒ *\*kadsos*, *\*tudsos*, *\*fidsos*  
(cf. Ukr. *bereči* ⇒ *berehči*)<sup>17</sup>

Voiced *\*-g-* and *\*-d-* would not, of course, have been restored in synchronically opaque forms like *\*lassos* 'tired' (< *\*lad-to-*) and *\*tussis* 'cough' (< *\*tud-ti-*), both discussed by Kiparsky (cf. above). On the other hand, when a clear morphological boundary was present, there is no reason to assume that the analogical reintroduction of voicing would have been confined to the perfect passive participle.<sup>18</sup> Thus, for example, the 'faxim-type'

<sup>15</sup> The consonant transcribed *h* in Ukrainian is a voiced velar fricative, the reflex of PS�. *\*g*.

<sup>16</sup> Syncope is attested at all periods of Latin (cf. Leumann 1977: 95 ff.); the precise formulation and chronology of the individual rules is of no concern to us here.

<sup>17</sup> This type of contamination, in which the form targeted for analogical renewal is blended with a form that might otherwise have replaced it entirely, is familiar to speakers of English from child language plurals like *feets* (= *feet* × *foots*), *geeses* (= *geese* × *gooses*), etc.

<sup>18</sup> Nor, indeed, is there any reason to rule out the possibility of restorations of the

subjunctive \*aksīm, \*aksīs, \*aksīt, etc. would presumably have been remade to \*agsīm, etc. in tandem with the remodelling of \*aktos to \*agtos.<sup>19</sup> Similarly, the nom. sg. of the word for 'foot', originally \*pōs(s) (< \*pōd-s), was probably remade to \*ped-s at this time, with the 'weak' stem-form \*ped-.<sup>20</sup>

Lachmann's Law proper converted the participles \*agtos, \*regtos, \*kad-sos, \*tudsos, etc. to \*āktos, \*rēktos, \*kātsos, \*tūtsos (> āctus, rēctus, kā(s)sus, tū(s)sus),<sup>21</sup> and the non-participles \*magsomos, \*agsī-, \*peds to \*māksomos, \*āksī-, \*pēts (> māximus, āxī-, pēs(s)). The rule itself was typologically unremarkable, recalling changes like the lengthening of vowels before devoiced syllable-final obstruents in Polish (cf. *Bóg* < *Bogū* 'God', gen. *Boga*; *wódka* < *wodūka* 'vodka' beside *woda* 'water').<sup>22</sup> Pre-Lat. \*-i- was not subject to LL lengthening (cf. *strictus*, *fissus*), in keeping with the cross-linguistic tendency of high front vowels to remain short (cf. e.g. OIr. *dét* [d'é:d] 'tooth' < pre-Ir. \*dant, but -icc [ig'] 'goes' < pre-Ir. \*inket).

Two forms—*uīsus* with -ī- and *sēssum* with -ě-—show the 'wrong' Lachmann treatment. *uīsus* 'seen' is evidently a neologism based on the perfect *uīdī* 'saw'; such a form may have been needed because the inherited participle \*uīssus < \*wid-to-, like its cognates in Celtic (OIr. -fess) and Germanic (\*wissa-), had been specialized in the meaning 'known' in the IE dialect

type \*missos ⇒ \*mitsos (: mittō) or \*iussos ⇒ \*iubtos (: iubeō), involving consonants other than etymological voiced stops. But since there would have been reassimilation without lengthening in such cases, there is no obvious way to recover them.

<sup>19</sup> The length of the *a*- in *āxīm*, -īs, etc. is guaranteed by the absence of vowel weakening in Plautine forms of the type 3 pl. *adaxint*.

<sup>20</sup> The long vowel of the regular nom. sg. *pēs* is more interesting than may at first appear. Lengthening no longer functions as a synchronic mark of the nom. sg. in Latin; lengthened-grade nominatives normally survive only in cases where they are synchronically perceived as suppletive (e.g. *homō*, stem *homin-* 'man'; *uerrēs*, stem *uerr-* 'boar'), or where the long vowel has been levelled throughout the paradigm (e.g. *uōx*, stem *uōc-* 'voice'; *lēx*, stem *lēg-* 'law'). This makes it hard to see how the remodelled word for 'foot,' with its conspicuously innovated lack of qualitative ablaut, could have acquired an analogical lengthened-grade nom. sg. \*pē(d)s, thereby becoming the only noun in Latin with a nom. sg. in -*V*-s and an oblique stem in -*VC*-. The assumption of a remade nom. sg. \*ped-s, with subsequent LL-type lengthening, seems much more efficient.

Here too perhaps belongs *coniūnx*, *coniūg-* 'spouse', if the presence of the nasal in the nom. sg. points to an older, synchronically irregular nom. sg. \*coniūx < (secondary) \*-iug-s. Such 'false' lengthened grades in the nom. sg. would have been natural targets for levelling; this is probably what explains *rēmex* (stem *rēmig-*) 'oarsman', with \*-āx for expected \*-āx < \*-ag-s).

<sup>21</sup> The simplification of low-level \*-ts- to \*-ss-, of course, is independently motivated by *assistō* < *ad-sistō*, *asserō* < *ad-serō*, and countless other examples.

<sup>22</sup> Example from Pisani (1981); contrast *plot* < *plotū* 'wall', gen. *plota*. Lengthening in Polish does not depend on devoicing, however, since it also operates before sonorants (cf. OPol. *dóm* < *domū* 'house'; Michael Flier (pcrs. comm.)).

ancestral to Italic.<sup>23</sup> In the case of *sessum*, the initial pre-LL remodelling was not to *\*sedsum*, which would have given *\*sē(s)sum*, but to *\*sezdsūm*, with *\*sezd-* extracted from the perfect *sēdī* < *\*sezd-* and the present *sīdō* < *\*sīzdō* 'sit down'. A preform of this shape, with loss of the *\*-d-* through normal cluster reduction, would almost certainly have given *sēssum*.<sup>24</sup>

We have thus come full circle. During its brief period in the limelight, LL was made into something much more than it was—a metaphor for the claim that abstract phonology was 'real', that Neogrammarianism and structuralism were different faces of the same bad coin, and that surface-driven analogy was as outdated as the Model T. Today we can take a calmer view of these issues. Both Kiparsky and Kuryłowicz saw LL as a proving ground for extreme positions, the one wishing to attribute almost nothing, and the other almost everything, to analogy. In fact, the truth lies somewhere in between. Sound change and analogy are both primary mechanisms of linguistic change, and the results of their interaction are varied and often surprising. LL, as a sound change that operated mainly on inputs created by analogy, is interesting in its own right. In the last analysis, however, its claim to a place in the history of linguistics stems not from what it is but from what it is not.

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<sup>23</sup> Alternatively, of course, one could take the view—much less likely in my opinion—that LL *did* apply to *\*-i-*, and that phonologically regular *\*strīctus*, *\*fī(s)sus*, *\*scī(s)sus* were analogically shortened on the model of *pingō*: *pīctus*, *fingō*: *fīctus*, etc.

<sup>24</sup> Cf. n. 13. Phonologically, *\*sezdsūm* would have been */sesdsūm/*, which with deletion of the *\*-d-* would have given */sessūm/*. To be sure, no exact parallel is quotable apart from the now largely discredited derivation of *cādō* 'yield': *cessī*: *cessus* from *\*ke-zd-ō*, *\*ke-zd-s-*, *\*ke-zd-to-* (IEW 887).

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