Accents According to Nature: Underlying Representations from Sanskrit to Saussure

Jesse Lundquist

Princeton University

jl4656@princeton.edu

Roadmap:

I. Saussure on underlying accents; on generative grammar (I.2); on diachrony (I.3); passages in support (I.4); passages complicating (I.5)

II. Analogues of underlying accents 1: Pāṇini, *prakṛtyā,* and *prātiśākhyas*

III. Analogues 2: Ancient Greek grammarians on levels of representation (κατὰ φύσιν τόνος)

I. Saussure on underlying accents

1. For the first(?) time in Western linguistics, the youthful Saussure (1879:236–37) reconstructs an UR:

$$t\acute{a}_1 ig + ya_1 s + \Lambda i \quad \text{produit } t\acute{u}_1 igia_1 s\Lambda i \text{ (skr. } t\acute{e}j\bar{i}yase\text{)}.$$
$$ya_1 ug + t\acute{a}_1 i + a_1 s \quad \text{»} \quad yukt\acute{a}_1 ya_1 s \text{ (skr. } yukt\acute{a}yas\text{)}.$$
$$wa_1 id + wa_1 s + \Lambda i \quad \text{»} \quad widus\Lambda i \text{ (skr. } vid\acute{u}\bar{s}e\text{)}.$$

2. In more modern terminology (and translating his a_1 into PIE $*e$) his middle example can be recast:

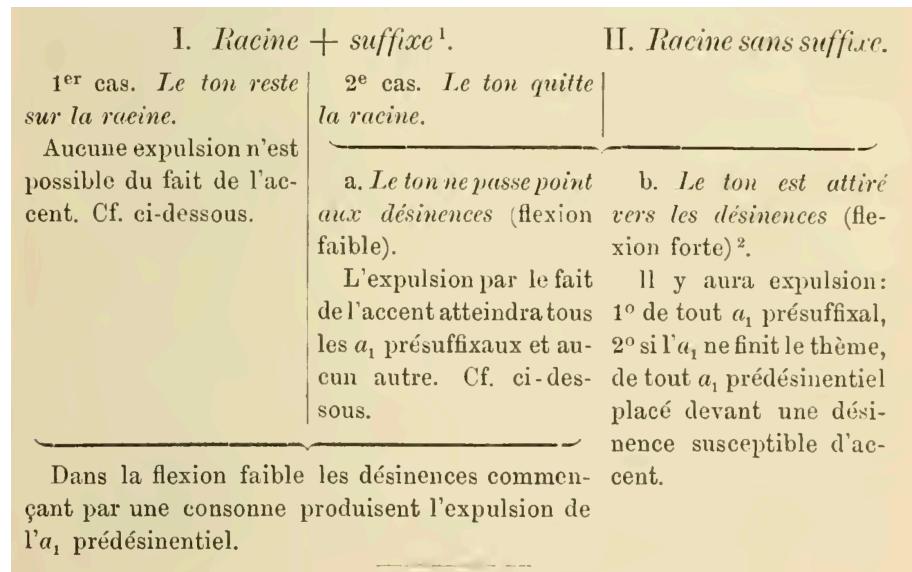|			
UR	/yeug-téy-es/		
[pretonic ø-grade/devoicing]	*yuktéyes*		
SR	*yuktéyes*	>	Skt. *yuktáyas* (nusquam invenitur, JL)

3. Saussure's devoicing as UR mapped to SR is immediately akin to, e.g., lex Stang (Schindler 1973:153):

/dyéw + m/, /gʷow+ m/ ➔ "Outputformen" [dyḗm], [gʷṓm]

4. Or two levels in Hale (2014:6–7). Proto-Indo-Europeans *build* phonology: take the 'phonemic' /*dyew/ + /m/, "put the result through the phonological computation system, which will produce the phonetic target [dyēm]."

5. Yet building morphophonology, such as Saussure practiced it, remains underused.

6. Saussurean flowchart. I find these levels of representation in flow- or decision-chart form helpful.

I. *Racine + suffixe*[1].

1er cas. *Le ton reste sur la racine.*

Aucune expulsion n'est possible du fait de l'accent. Cf. ci-dessous.

2e cas. *Le ton quitte la racine.*

a. *Le ton ne passe point aux désinences* (flexion faible).

L'expulsion par le fait de l'accent atteindra tous les a_1 présuffixaux et aucun autre. Cf. ci-dessous.

Dans la flexion faible les désinences commençant par une consonne produisent l'expulsion de l'a_1 prédésinentiel.

II. *Racine sans suffixe.*

b. *Le ton est attiré vers les désinences* (flexion forte)[2].

Il y aura expulsion: 1° de tout a_1 présuffixal, 2° si l'a_1 ne finit le thème, de tout a_1 prédésinentiel placé devant une désinence susceptible d'accent.

7. In these levels of representation, Saussure anticipates developments associated with generative grammar; he was ahead of his time. I have never seen these passages cited in a history of linguistics; they deserve pride of place.

I.1 genau im Sinne der generativen Grammatik?

8. Saussure (1879:188) posits three laws to account for the accent of "flexion forte" esp. in the verb.

9. For Watkins (1969:24–25), this passage illustrated the first synchronically ordered rules in IE "precisely in the sense of generative grammar" ("genau im Sinne der generativen Grammatik"). [Appreciated in an otherwise grumpy review by Kiparsky 1972; cf. Watkins 1967 with my intro. for bib.]

10. Watkins held that in these processes, mapping UR to SR, the kernel of IE morphophonology resides (*id.* 25, "In diesen Prozessen liegt der Kern der idg. Morphonologie.")

11. Watkins (1973:104) returned to this passage: Saussure's rigorously synchronic statements were "cast in the form of synchronically ordered rules, be it noted." Watkins concludes that "his task as historian was to free the ancient vowel system from 'the modern humus which various accidents had heaped up.' Once so freed, the original system could be and was described as a synchronic fact."
[Watkins translates from *Mémoire* p. 50, "il s'agissait de dégager l'*a* … de tout l'humus moderne que différents accidents avaient amassé sur lui."]

12. Pinault 2012 discovered a slightly later letter to L. Havet where Saussure elucidates this paragraph (following Pinault 2012:184-5 [=Saussure folio 366, p.4], with the editor's transcription):

> <<Toutes les alternances de formes <u>plus pleines</u> avec des formes moins pleines consistent dans des expulsions d'<u>e</u>">> voilà la 1er principe, mais il est intimement lié à̶ <ou plutôt il contient> cette autre notion-ci: <<l'<u>e</u> lui-même ne connaît pas de degré." >>

13. Saussure contrasts morphological replacement with phonological weakening: "J'ai en conséquence protesté contre cette idée de Brugman [sic] que l'<u>e</u> est comme un <u>o</u> dégradé."

14. Pinault aptly cites Watkins 1969:24 on "l'importance historique de cette concomitance entre accent et degré vocalique." I agree but would go further: Saussure synchronically orders the rules.

15. *Envoi*: As Anna Morpurgo Davies puts it, "The *Mémoire* is full of unbelievable riches – most of which, sometimes in an altered form, have become part of what we now find in our basic handbooks; some are still to be rediscovered." (Davies 2004: 21–22) I submit that this insight is one worth rediscovering.

I.3 Saussurean diachrony

16. Saussure (1879:230) treats "Thèmes en -ta͜i (flexion faible)" (=our *-*ti*-stems) under accent, syllable structure (the heart of *flexion faible* or *forte*), and vocalic alternations in "proethnic" PIE.

- Greek: Mostly zero-grade root, recessive accentuation: βάσις, πίστις, φύξις
- Germanic: *id.*, but with Verner's Law Variants (Go. *ga-kunþi- ~ ga-mundi-, dēdi-* etc.)
  [On Gothic data cf. Miller (2017:335–36), on VLV *in extenso* Sandell (2023:ch.7, esp. 672-86)]

17. The clincher is Vedic: "Les probabilités sont malgré tout pour que le ton frappât le suffixe." Why?

18. Diachronic change: *matí-, kīrtí-* of RV become later (prose) *máti-, kī́rti-*. In RV *gáti-* 'the way' (V.64.3a, tr. Jamison-Brereton), Saussure (1879:230–31n.2) sees accent change, *contra* Brugman's *gṇ́ti*.

19. Lundquist 2015 in wake of Kiparsky (2010:162 n.27) and Kümmel (2014:165–66) all apparently and unfortunately writing in ignorance of Saussure (I hope I added some philological details, at least!)

20. On how I valued these doublets, some seem happier (Jasanoff 2017:8–9 with n.25, i.a.), while Ringe (2017:58n.48) critiques. Vedic subdialects "are not necessarily direct descendants of Rigvedic or of each other, so that the traditional interpretation of the pattern as leveling in different directions is not certainly false." Ringe asserts a "fossil" in PGmc. *e*-grade and VLV **dēdiz* 'deed' (but cf. Vine 2004).

21. Ringe (2017:58, 60-1) reconstructs an underlying morpheme **/-tey-/* and PK paradigm but does not specify the mapping from UR to SR. Gives nom.pl. **ménteyes* against, e.g., the dative singular **mṇtéyey*; but what motivates mobility? Keep with Saussure's example:

Saussure (1879:206 for paradigm)	Ringe
UR **/yeug-téy-es/, /yeug-téy-ei/*	UR **yeug* + /-tey-/ + *es*, **yeug* + /-tey-/ + *-ei*
SR **yuktéyes, yuktéyei*	SR **yéukteyes, yuktéyey*

22. Two time-depths: Saussure's PIE and Ringe's pre-PIE (not certainly false, but is earlier). Cf. Pedersen (1926:23–25) on the initial proposal that already by PIE "des innovations et des actions analogiques nombreuses" fundamentally changed the pre-PIE picture to the point where "tout le système a été refait" by "une longue série d'actions analogiques et d'innovations." (Cf. Pedersen 1933:21)

I.4 A passage in support: Saussure's *Cours de lituanien* (1901-2)

23. Saussure in his Lithuanian teaching introduced a "nouvelle classification, afin de distinguer le plan concret de la réalisation effective de l'accent dans la flexion d'un niveau abstrait…" (Piccini 2020:96).

24. Indirectly, Saussure's terms percolate to his student Bally 1945. Summarized in Piccini (2020:92): "l'accent en puissance" (abstract level) and "l'accent en acte" (acoustic/production, surface level).

25. Applied to Greek along the lines sketched by Gunkel (2014:7), i.a., under "[m]orphemes themselves have accentual properties…The last inherently accented morpheme imposes its accent on the entire derivative." (approach pioneered by Steriade 1988; 2013). Gunkel illustrates with Gk. -άδ-, -ικός (to φυγ-)
   - "l'accent en puissance" with Gunkel's UR: /pʰugád-ikó/
   - "l'accent en acte" with Gunkel's SR: ➔ φυγαδικός 'of/for exile' (not **φυγάδικος).

26. Others have found this style of analysis insightful. Familiar refrain: it's already in the *Mémoire*! Saussure (1879:235n.1) notes the "principe du dernier déterminant" is almost "la loi générale de l'accent indo-européen." (cf. Probert 2006:104–5 on this "loi", (Sandell 2023, 143–67, chap.4 esp. 354–62 on morphological headedness).

I.5 A passage complicating this reading: A tale of two Saussures

27. Ferdinand in the *Cours* (1971:229) set the terms for a debate: a "European" (≈ word-and-paradigm) and a "Hindu" (≈ morpheme-based) morphology, as "According to the dominant tendency in each linguistic group, the theoreticians of grammar tend toward the one or the other of these methods."

28. Brother René responded (tentatively) that "the method of Hindu grammar is the only satisfying one" (Anderson and de Saussure 2018, 27–28 nn.1-3): words are made up of smaller parts.

29. Arguably – and the editor, "amorphous" Anderson (2018:241), argues the point at length – Ferdinand by the time of the *Cours* has landed on a different vision, one that might not countenance morphemes, much less accentual properties on morphemes
[Anderson classifies as a type of "realizational-inferential morphology" after the taxonomy in Stump 2001:1-3)]

30. And the "Hindu grammarians"? Or, "Where Does the *Aṣṭādhyāyī* Fit?" (Lowe 2024:§4.3, surprising conclusion ad 105-6). Different debate for another day. We turn to Sanskrit analyses of accents in UR.

II.1 Analogues of underlying accents 1: What the Hindu grammarians said

31. In the Pāṇinian spirit: "morphemes are endowed with accent properties of their own and the place of accent in a word is determined compositionally by a general principle on the basis of the morphemes that make it up." (Kiparsky 1982:56)

32. Not only morphemic properties but resolution in cases of conflict, such as CULMINATIVITY
[Esp. Yates (2017:107–10), akin to Pā. 6.1.155. On resolution, see *vipratiṣedhe* 'in case of conflict'? Pā.1.4.2; *al.*).]

33. On *-ti*-stems in particular, whose fortunes we've followed, cf. Lundquist (2015:47 with n.8) after Thieme (1935:39–41) on the rules Pāṇini sets up (3.3.96) for an accented suffix in the ancient language (*mantre*) and the change to barytone in the forms of his speech.

34. Pāṇini on bahuvrīhi compounds, where accent persists through derivation by *prakṛtyā* 'by nature':
      6.2.1 *bahuvrīhau prakṛtyā pūrvapadam*
      "Dans un composé possessif le membre antérieur garde l'état (accentuel) primitif"
      (tr. Renou 1966, cf. Sharma 2001 *ad loc.*; blocking to *sūtra* 6.1.220 *samāsasya*; with 6.1.155)

35. On levels of representation in Sanskrit grammarians generally: two levels of representation is *de rigueur*, and we witness change (progress, avers Thieme) within the tradition (see esp. Lowe 2024:86):

Prātiśākhya system of change >	Pāṇinian system of replacement
$X_1 \rightarrow^{vikāra} Y_2$	(In place of [*sthāne*]) $X_6 \rightarrow^{ādeśa} Y_1$

> Pāṇini does not speak of a sound or any other grammatical element as being 'changed into' or 'becoming' another one by a grammatical operation. Throughout his grammar, he keeps strictly to the notion of 'substitution' (*ādeśa*). As for Meillet [ref. to *Intro.*[8]] so for him, the elements of language are 'éléments de substitution'. I think we should recognize that in this he shows a remarkable degree of theoretical insight. He is far above the customary usage of historical linguistics that designates as a 'sound change' what should, correctly, be said to be a 'sound substitution'. (Thieme 1958:45)

III. Analogues 2: Greek grammarians on levels of two representation (κατὰ φύσιν τόνος)

36. Greek grammarians? Telling subtitle of Matthews (2019:196), "Morphology without morphemes."

37. Yet Greek grammarians recognized levels of representation: every word has an 'accent according to its nature' (κατὰ φύσιν τόνος), or its 'own accent' (ἴδιος/κύριος τόνος; on these terms, Probert *fthcm.*)

38. This accent can be modified by rules, such as "lulling" rules, knocking oxytones to grave (καλός ➜ καλὸς ἀνήρ) or putting clitic accents to sleep (καλός γέ ➜ καλός γε).

39. We see "two levels of description: a level at which each word has its 'natural accent', and then a level that we arrive at by applying rules." (Probert 2019:51–52. Rule ordering? See Probert 2024)

40. Example following Probert (2019: exx.3.1-2)

> ἦγχε δέ μίν πολύκεστος ἱμάς ἁπαλήν ὑπό δειρήν,
>
> ὅς οἵ ὑπό ἀνθερεῶνος ὀχεύς τέτατο τρυφαλείης.
>
> (*Iliad* 3.371–2, showing natural accents, bold emph. JL)

> ἦγχε δέ μιν πολύκεστος ἱμὰς ἁπαλὴν ὑπὸ δειρήν,
>
> ὅς οἱ ὑπ᾽ ἀνθερεῶνος ὀχεὺς τέτατο τρυφαλείης.
>
> (*Iliad* 3.371–2, showing surface accents in context)

41. Conclusion on the Greek material: Not oriented towards derivation but clearly using two levels of representation. These levels proved helpful to native speakers, early (often pedagogical) grammarians.

OVERALL CONCLUSION

42. A forgotten chapter in the history of morphophonology? Two levels of representation for accents have proven helpful: Gk. κατὰ φύσιν τόνος, Skt. *prakṛtyā*, Saussure's "l'accent en puissance."

43. Many handbooks use two levels for segmental phonology; very few for the suprasegmental.

44. More than of merely antiquarian interest: these tools are solid equipment for working on "new" languages too (Yates 2016, 2017, 2022 on Anatolian). For synchronic PIE and for morphophonological analyses of the daughter languages, I consider these well-honed tools up to the task.

REFERENCES

Anderson, Stephen R., and Louis de Saussure, eds. 2018. *René de Saussure and the Theory of Word Formation*. Berlin: Language Science Press.

Bally, Charles. 1945. *Manuel d'accentuation grecque*. Berne: Francke.

Davies, Anna Morpurgo. 2004. "Saussure and Indo-European Linguistics." In *The Cambridge Companion to Saussure*, edited by Carol Sanders, 9–29, 261. Cambridge: Cambridge University Press.

Gunkel, Dieter. 2014. "Accentuation." In *Encyclopedia Ancient Greek Language and Linguistics*, 1, A-F:7–10. Leiden: Brill.

Hale, Mark. 2014. "What Is Diachronic Syntax a Theory Of?" Handout presented at the Harvard Linguistics Circle, Cambridge, MA.

Jamison, Stephanie W., and Joel P. Brereton. 2014. *The Rigveda. The Earliest Religious Poetry of India*. Oxford: Oxford University Press.

Jasanoff, Jay H. 2017. *The Prehistory of the Balto-Slavic Accent*. Leiden / Boston: Brill.

Kiparsky, Paul. 1972. "Review: C. Watkins, *Indogermanische Grammatik III/1: Formenlehre. Geschichte Der Indogermanischen Verbalflexion*." *Foundations of Language* 9:277–86.

———. 1982. "The Vedic and Pāṇinian Accent Systems." In *Some Theoretical Problems in Pāṇini's Grammar*, 55–76. Poona, India: Bhandarkar Oriental Research Institute.

———. 2010. "Compositional vs. Paradigmatic Approaches to Accent and Ablaut." In *Proceedings of the 21st Annual UCLA Indo-European Conference*, edited by Stephanie Jamison, H. Craig Melchert, and Brent Vine, 137–81. Bremen: Hempen.

Kümmel, Martin. 2014. "Zum 'proterokinetischen' Ablaut." In *Das Nomen im Indogermanischen*, edited by Norbert Oettinger and Thomas Steer, 164–79. Wiesbaden: Reichert.

Lowe, John J. 2024. *Modern Linguistics in Ancient India*. Cambridge: Cambridge University Press.

Lundquist, Jesse. 2015. "On the Accentuation of Vedic *-ti*-Abstracts." *Indo-European Linguistics* 3:42–72.

Matthews, P. H. 2019. *What Graeco-Roman Grammar Was About*. Oxford: Oxford University Press.

Miller, D. Gary. 2017. *The Oxford Gothic Grammar*. Oxford: Oxford University Press.

Pedersen, Holger. 1926. *La cinquième déclinaison latine*. København: A.F. Høst.

———. 1933. *Études lituaniennes,*. København: Levin & Munksgaard.

Piccini, Silvia. 2020. "Termes et théories de Ferdinand de Saussure dans le Manuel d'accentuation grecque de Bally." *Cahiers Ferdinand de Saussure* 73:85–103.

Pinault, George-Jean. 2012. "Inédits de Ferdinand de Saussure, extraits de la correspondance avec Louis Havet en 1879." *Cahiers Ferdinand de Saussure* 65:173–214.

Probert, Philomen. 2006. *Ancient Greek Accentuation: Synchronic Patterns, Frequency Effects, and Prehistory*. Oxford: Oxford University Press.

———. 2019. *Latin Grammarians on Latin Accents: The Transformation of Greek Grammatical Thought*. Oxford: Oxford University Press.

———. 2024. "Ordered Rules in Greek Grammarians." Presentation, Corpus Christi College, Oxford.

———. fthcm. "Que veut dire « κύριος τόνος »?" Chapter in MOM Éditions series, edited by C. Le Feuvre and D. Marcotte. Paris.

Renou, Louis. 1966. *La Grammaire de Pāṇini,* Vol. 2. *Adhyāya 5 à 8. Texte Sanskrit, traduction française, avec extraits des commentaires*. Paris: École française d'extême-orient.

Ringe, Donald A. 2017. *From Proto-Indo-European to Proto-Germanic*. 2nd edn. Oxford: Oxford University Press.

Sandell, Ryan. 2023. *Towards a Dynamics of Prosodic Change: Corpus-Based and Computational Studies in the Synchronic and Diachronic Prosodic Phonology of Indic, Greek, and Germanic*. Habilitationsschrift an der Fakultät für Sprach- und Literaturwissenschaften Ludwig-Maximilians Universität, München.

Saussure, Ferdinand de. 1879. *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*. Leipsick: B.G. Teubner.

———. 1971. *Cours de Linguistique Générale*. Edited by Charles Bally, Albert Sechehaye, and Albert Riedlinger. Paris: Payot.

Schindler, Jochem. 1973. "Bemerkungen zur Herkunft der idg. Diphthongstämme und zu den Eigentümlichkeiten ihrer Kasusformen." *Die Sprache* 19 (2): 148–57.

Sharma, Rama Nath. 2001. *The Aṣṭādhyāyī of Pāṇini.* Vol. V (*adhyāya 6*). New Delhi: Munshiram Manoharlal.

Steriade, Donca. 1988. "Greek Accent: A Case for Preserving Structure." *Linguistic Inquiry* 19:271–314.

———. 2013. "A Synchronic Analysis of Ancient Greek Accent." Harvard lectures, 2012-13, Cambridge, MA.

Stump, Gregory T. 2001. *Inflectional Morphology: A Theory of Paradigm Structure*. Cambridge: Cambridge University Press.

Thieme, Paul. 1935. *Pāṇini and the Veda. Studies in the Early History of Linguistic Science in India*. Allahabad (India): Globe Press.

———. 1958. "Review of *Terminologie grammaticale du Sanskrit* by Louis Renou." *Göttingische Gelehrte Anzeigen* 212:19–49.

Vine, Brent. 2004. "On PIE Full Grades in Some Zero-Grade Contexts: *-tí-, *-tó-*." In *Indo-European Word Formation: Proceedings of the Conference Held at the University of Copenhagen 20th-22nd 2000*, edited by James Clackson and Birgit A. Olsen, 357–80. Copenhagen: Museum Tusculanum Press.

Watkins, Calvert. 1967. *A History of Indo-European Verb Inflexion*.

———. 1969. *Geschichte der indogermanischen Verbalflexion*. Vol. III/1: *Formenlehre*. Indogermanische Grammatik. Heidelberg: Winter.

———. 1973. "Language and Its History." *Daedalus* 102 (3): 99–111.

Yates, Anthony. 2016. "Stress Assignment in Hittite and Proto-Indo-European." *Proceedings of the Linguistic Society of America* 1:25/1-15.

Yates, Anthony D. 2017. *Lexical Accent in Cupeño, Hittite, and Indo-European*. Ph.D. thesis, University of California, Los Angeles.

———. 2022. "A New Prosodic Reconstruction of Proto-Indo-European *-mon*-Stems." *Indo-European Linguistics* 10:214–88.