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REVIEW ARTICLE

Christina Y. Bethin. *Slavic Prosody: Language Change and Phonological Theory.* (Cambridge Studies in Linguistics, 86.) New York: Cambridge University Press, 1998. Pp. xvi + 349. Price: $69.95. ISBN 0521591481.

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Professor Bethin's ambitious and challenging book has a chapter titled 'The syllable in Slavic: form and function' (12-111), one titled 'Beyond the syllable: prominence relations' (112-87), and a miscellany titled 'Theoretical considerations' (188-265). They are preceded by a preface and introduction (xii-11) and followed by end notes (266-301) and an imposing list of references (302-46). The Slavic of her title includes Proto-Slavic (up to the middle of our first millennium), Common Slavic (6th-8th centuries), and Late Common Slavic (9th-12th centuries).

Chapter 1 is concerned with the development of diphthongal syllable rhymes. Displaying an encyclopedic knowledge of the Slavistic literature, Bethin reviews the history of how oral, nasal, and liquid diphthongs were monophthongized, recasting it in the framework of autosegmental phonology. These syllable rhymes, she argues, were shaped by the interplay of various constraints on syllable structure.

'Proto-Slavic had a front/back, a high/nonhigh, and a long/short opposition in vowels', quite traditionally begins the section titled 'Monophthongization' (39). These features defined a square system with four vowels: [+high, -back] *i,* [+high, +back] *u,* [-high, -back] *ɛ,* and [-high, +back] *ɔ.* Bethin and many other Slavists use the more familiar symbols *e, o,* and *a* for the nonhigh vowels, but I find *ɛ* and *ɔ* useful as a reminder that Proto-Slavic fused PIE **o* and **a* into a single nonhigh back vowel and so converted the inherited triangular system with three degrees of opening to a square system with two. The vowels being also long, they included [+high, -back] *ii,* [+high, +back] *uu,* [-high, -back] *ɛɛ,* and [-high, +back] *ɔɔ.* Bethin uses a feature representation for long vowels (*ī, ū,* etc.), but for discussing monophthongization I find a geminate representation more convenient.[1]

Still in traditional terms, Bethin continues: 'There were oral diphthongs (*ɛi, ɛu, ɔi, ɔu*), nasal diphthongs (*in, im, ɛn, ɛm, un, um, ɔn, ɔm*), and eight liquid diphthongs (*il, ir, ul, ur, ɛl, ɛr, ɔl, ɔr*)'. (I have substituted my vowel symbols for hers.) But as we read on we become aware of the author's ambivalence on the subject of diphthongs. A diphthong is commonly understood to be two sonorants in the same syllable nucleus; for example, monosyllabic E *proud* consists of an

onset *pr,* a diphthongal nucleus *ou,* and a coda *d.* A Proto-Slavic example would be the last syllable of **kɔ.zi.lɛnt* 'kid' (nom. sg.; I mark syllable boundaries with '.'), which comes down to us as OCS *kozĭlę.* The derivation of the nasal vowel *ę* from *ɛnt* is traditionally related to the Law of Open Syllables and the Law of Rising Sonority, two laws that Bethin would supercede with her contraints-based approach. The former may be said to account for the loss of the syllable-final obstruent, *lɛnt* > *lɛn,* the latter for the monophthongization of *lɛn* to *-lę.* Bethin would relate the loss of the syllable-final obstruent to what she calls the Moraic Constraint ('Syllables must end in a moraic segment', 28) and the monophthongization of *lɛn* to *-lę* to a No Coda Constraint ('Syllables do not have codas', 39). But the reason intermediate *lɛn* ended in a moraic segment, i.e., a sonorant, is that the nonmoraic segment, i.e., the obstruent, had been lost. As for the monophthongization of *lɛn,* this syllable being already codaless, it shouldn't have been affected by a No Coda Constraint.

But my equating moraicity with sonority may be wrong. Bethin writes that nasal sonorants when they occurred in syllable codas could be nonmoraic. Her example is the infinitive form **uu.zim.tɛi* 'to take up', which yields OCS *vŭzęti.* She explains: '[W]hen nonmoraic nasals occurred in the syllable coda, they constituted violations of the emerging Moraic Constraint in Proto-Slavic. So the nasal acquired a mora, creating a diphthong' (44). In the preceding section dealing with oral diphthongs, Bethin claims that even *i* and *u* could constitute the coda of a syllable,[2] e.g., in **snɔi.gɔs* 'snow' and **tɔu.rɔs* 'bull' (OCS *sněgŭ, turŭ*), and that subsequently there was a 'mov[e of] the sonorant coda into a mora-bearing position in accordance with the Moraic Constraint'. Even after we correct the obvious keyboarding error and read '... in accordance with the No Coda Constraint' (43), we are left with an unclear picture of how Bethin understands syllable structure. It seems the final sonorant in *zim,* initially nonmoraic, forms a diphthong with *i* when it becomes moraic, even while remaining in the coda, while on the other hand the final sonorant in *snɔi,* presumably already moraic because it is a vowel, shifted from the coda to 'a mora-bearing position' (the nucleus?).

A constraint-based approach shifts attention from what sound changes occurred to why certain sound changes were favored over others. But Bethin does not neglect what she believes actually took place on the segmental and moraic tiers when **snɔi.gɔs, *tɔu.rɔs, *kɔ.zi.lɛnt,* etc. monophthongized (39).

> [T]he features associated with the second part of the diphthong, whether [high] in /i/ and /u/ or [nasal] in the case of vowel plus nasal sequences, were no longer represented in a separate position in the syllable, yet total syllable quantity remained the same: two-mora nuclei were retained. The retention of a mora in such cases may be seen as the reassociation of that mora to a tautosyllabic segment by *mora conservation* or a faithfulness constraint on total syllable weight. Mora conservation within the domain of the syllable was a critical feature of Common Slavic since total syllable weight tended to be preserved regardless of changes in the segment sequences.

In case this was not clear enough, a few pages later she adds (43):

> Monopththongization did not eliminate moras (for the resulting vowels were long), but it did have an effect on the sequencing of segments within the syllable nucleus [*sic*]. In other words, changes in the diphthongs were independent of the moraic tier: the No Coda Constraint does not affect the mora count of the syllable in Slavic. Monophthongization was not simply the loss of a coda [*sic*] or the loss of a mora on the glide with compensatory lengthening of the preceding vowel; the vowel resulting from this process was often qualitatively (though not quantitatively) different from the original diphthong. The features of the high segment merged with those of the preceding vowel and the original sequence of decreasing sonority was thereby eliminated. When coalescence is interpreted as involving two components of syllable structure, the mora and the segments or features, then vowel lengthening and the loss of the glide may be seen as being concomitant.

I have no objection to autosegmental phonology, but I think Bethin's commitment to it sometimes has her breaking down unlocked doors. What gives monophthongization this appearance of multitiered complexity is the feature representation of long vowels. Otherwise, *ɔu* > *uu* and *ɛi* > *ii* is simply regressive assimilation for the feature +high and *ɔi* > *ɛɛ* is mutual assimilation for the features -back and -high.[3] As for the nasal vowels, Bethin writes that in **uu.zim.tɛi* > *vǔzętі* 'the place of articulation [of *m*] became nondistinctive, and nasality was transferred to the preceding vowel' (44). I would say *m* LOST its (labial) articulation, becoming -consonantal, and nasality was SPREAD to the preceding vowel, *im* > *ĭ̄ū̄*. Then both segments lowered, > *ɛ̃ɔ̃* (conditioned by nasality), and the second segment assimilated for [-back], > *ɛ̃ɛ̃*.

Oral and nasal diphthongs monophthongized relatively early in Common Slavic, and the results were uniform throughout the Slavic speaking area. They present less of a challenge to our understanding because the monophthongization of diphthongs and diphthongization of long vowels are common occurrences in the languages of the world, as are changes like CVN → CṼ. Liquid diphthongs are another matter. They developed later and owing to the geographic expansion of Slavic speakers in the first millennium show a wide range of reflexes. For example, **gɔr.dɔs* 'enclosed place' is reflected as *gradŭ* in Old Church Slavonic and elsewhere in what Bethin calls South Central Slavic, as *gorod* in Russian (her (North) East Slavic), and as *gród,* gen. sg. *grodu,* in Polish (her (North) West Slavic). As for tautosyllabic VR being a diphthong, the non-Slavist may wonder how the first syllable rhyme in **gɔr.dɔs* merits this analysis any more than, say, the first syllable rhyme of E *Gor.don.* On this issue Bethin sounds an uncertain trumpet. Speaking of 'tautosyllabic sequences of vowels followed by liquids, also known as "liquid diphthongs"', she states: 'Although I take these sequences to be syllable nuclei followed by a coda, I will refer to them as liquid diphthongs both for historical reasons and because the absence of any

other codas in Slavic at this time does not specifically require a distinction between complex nuclei and nuclei plus coda structures' (47).

But we MUST distinguish between complex nuclei and nucleus-plus-coda syllable rhymes if we wish to understand what Jakobson called 'Slavic diphthongs ending in a liquid'. The criteria for making the distinction are chiefly accentual, and Ābele (1924:20–21) lays them out clearly in her discussion of rising and falling accent in Latvian:

> In Latv. *zãrks* 'coffin' and *dȁrgs* 'along the way' *ã* and *ȁ* fully determine the character of the intonation, rising in *zãrks,* falling in *dȁrgs.* The remaining phonemes *rks* join the vowel only after the nature of the intonation is fully defined, which is why they can be freely omitted without destroying the clarity and definition of the intonation type. But other cases are possible where the most sonorous phoneme by itself does not determine the syllabic type and the following phoneme is drawn into the syllabic function. [...] Let us compare such monosyllabic words as Latv. *baũkš* 'thunders' and *kàrš* [accented *r*] 'war', where the character of the intonation is determined only by the sequence *ar* (*aũ* or *àr*). Comparing the contours (No. 1 and No. 2 in Fig. 9), we see here that the vowel phoneme by itself does not fully express the difference between the rising and falling type of intonation; the main differentiation normally begins at the transition to the *r,* where under rising intonation (No. 1) the voice continues to rise and strengthen, while under the falling intonation there is a noticeable lowering and weakening.

Jakobson (1962:444) cites Ābele 1924 (presumably with this passage in mind) when he describes Proto-Slavic VR syllable rhymes as 'diphthongal syllable center[s]' which 'as one whole carried the syllabic length and intonation'.

Bethin's discussion of VR syllable rhymes seeks to show that 'the interaction of a No Coda Constraint, a Syllable Weight Constraint, and a Sonorant Constraint produced three major dialectal divisions [...]' (48), i.e., the three mentioned above. To follow the development of **gɔr.dɔs* to south-central *gradŭ,* northeastern *gorodŭ,* and northwestern *grodŭ* (as they were before the *ŭ* (jer) dropped), it is important to remember that +open -rounded *a* reflects bimoraic **ɔɔ* and -open +rounded *o* monomoraic **ɔ.* According to Bethin, in the south-central area the liquid lost its moraic status and its mora was transferred to the preceding vowel. Representing moraicity in consonantal sonorants with '̯' this would be *gɔr̯ > gɔɔr.* The resulting syllable ran afoul of the No Coda Constraint and so metathesis ensued, *gɔɔr > grɔɔ* (= *gra-*). In the northeast, *gɔr̯* was tolerated because the No Coda Constraint was weaker (assuming we go along with the author on *ɔr̯* being nucleus plus coda rather than a diphthong). But a constraint against bimoraic syllable rhymes was developing there, so *gɔr̯* was reanalyzed as two syllables, *gɔr̯ > gɔ.r̥.* The northeast also had a Sonorant Constraint (Consonantal sonorants are not moraic), and so *r̥,* to preserve its syllabicity, de-

veloped a svarabhakti vowel, thus *gɔ.r̥* > *gɔ.rə*, and it developed into *o*, thus *gɔ.rə* > *goro-*.

On the northwestern development of *gɔr̥* (to *gro-*) new light was shed in the early 1900's when it was observed that in Old Polish a prepositional jer (*ŭ*) before a *gɔr̥*-type noun form was consistently 'strong', e.g., *we proch* 'into dust'. This pointed to the likelihood that between *gɔr̥* and attested *gro-* there was an intermediate *gərɔ* stage, where a jer-like *ə* placed the jer in the preposition in strong position and conditioned its lowering to *e*. Where did this *ə* come from? Bethin follows Jakobson in proposing that *gɔr̥* metathesized to *gr̥ɔ*.[4] She suggests that moraic *r̥* may have accounted for *we* even without Jakobson's subsequent intermediate step *gr̥ɔ* > *gərɔ*.

It is also possible, it seems to me, that this *ə* was the original *ɔ*, which was reduced to a svarabhakti vowel when the following liquid became syllabic, thus *gɔr̥* > *gɔ.r̥*. All three branches of Slavic could have shared this intermediate stage, and also the stage *gɔ.rə*.[5] South-central Slavic then eliminated the svarabhakti vowels by grouping them both as full nonhigh vowels after the liquid, *gɔ.rə* > *grɔɔ;* northeastern Slavic realized them as full nonhigh vowels in situ, *gɔ.rə* > *gɔ.rɔ;* and northwestern Slavic realized only the second, reducing the first, *gɔ.rə* > *grɔ*. The reduction of *gər.* to *gr.* in Polish and Sorbian is consistent with the treatment of *gɔr* to the west and north, in Polabian and Kashubian, where as Jakobson (1962:445) notes the vowel of *gɔr̥* was also reduced, to a lower-sonority *u*. I make this counterproposal because I am not satisfied with Bethin's *gɔr̥* > *gɔɔr* for south-central Slavic. It amounts to a reversal of the Proto-Slavic development that resulted in liquid diphthongs, i.e., the restructuring of syllable-final liquids from the coda, where they may have been nonmoraic, to the nucleus, where they were surely moraic, in the process shortening any bimoraic vowels so as to keep syllable rhymes within the two-mora limit. Bethin's rule lengthens the nuclear vowel and recreates a coda, in conflict with the No Coda Constraint.

Common Slavic also had diphthongal syllable rhymes where the nonconsonantal element was a high vowel, e.g., in **mir̥.tuɔs* 'dead', **tur̥.gɔs* 'market', **uil̥.kɔs* 'wolf', **gul̥.kɔs* 'noise'. In south-central Slavic the vowel was lost, thus Cz. *mrtvý, trh, vlk, hluk* (*-lu-* is a reflex of **l̥*). This may have been a case of the liquid coming to form its own syllable, *mir̥* > *mi.r̥*, which was parallel to *gɔr̥* > *gɔ.r̥* except that the +high vowel with its lower sonority was lost. Northern Slavic realized these syllable rhymes with a vowel accompanying the liquid. In the east it is in its original position, thus Ru. *mërtvyj, torg, volk,* dial. *golk.* For reasons I do not understand, Bethin states that *mir̥, tur̥,* etc. were monomoraic. The occurrence (duly noted by her, 77) of dialect forms with 'second pleophony' like *verëx* 'peak' (lit. Ru. *verx*) supports a bimoraic **uir̥.x-* or even a transitional bisyllabic **ui.r̥.x-*. In the west the reflexes vary according to the environment. Thus, while Russian shows a uniform *volk, polnyj* 'full', *dolgij* 'long', Polish has *wilk, pełny, długi* Bethin believes Polish passed through a stage with 'liquid syllable peaks (as in the south) either alone or with a [ɚ], [əl] variant' (74) and that it 'in effect reconstruct[ed] (from syllabic liquids) the original jer (vowel) plus liquid sequence' (75). But in the case of *wilk* 'wolf' and *zgiełk* 'hubbub', the original

vowel-plus-liquid sequence that is indicated by Lith. *vil̃kas* and Latv. *gulkstêt* 'cackle, yell' is **uil̥.kɔs* and **gul̥.kɔs,* and there is no way Polish speakers could have reconstructed these contrasting syllable rhymes from a single transitional *l̥* or *əl.* See also Diels (1932:§15, n. 6).

Other issues addressed in Chapter 1 include the so-called tense jers (89–91). A tense jer, as the phrase suggests, is a jer, a [+high -long] vowel, that was or became [tense], or [+long] ('was' if we view it diachronically, 'became' if we view it synchronically). This happened when it was followed by [*j*], e.g., an *i* in the onset of the next syllable. For example, if we compare the OCS definite adjective form *novyi* 'new' with the indefinite form *novŭ,* we see that the the masc. nom. sg. ending *-ŭ* (= *u*) of the latter has lengthened to *-y-* (= *uu*)[6] in position before the enclitic pronoun *-i* (= [i̯ĭ] < **iɔs*). Bethin introduces the topic thus: 'In a majority of Late Common Slavic dialects (the exception being northeasternmost LCS [i.e., Russian]) the short high vowels or jers were often neutralized with the high front vowel /i/ [my *ii*] and the high back vowel /y/ [my *uu*] in position before the front glide [...]' (89).

We should ask what kind of neutralization this was. Was it a phonological neutralization of the form A → B / ___ C, such as occurs when voiced obstruents become voiceless in word-final position? Or was it a phonetic neutralization, where a distinction between AC and BC is phonetically impossible, like the neutralization of [+/-continuant] in position after [-continuant] that makes *prince* homophonous with *prints* and makes Ru. *borot'sja* 'to fight' rhyme with *vorotca* 'little gate', or the neutralization of [+/-delayed release] in position before [-continuant] in the second syllable of Ru. *kabatčik* 'tavern keeper'?[7] It is not clear which Bethin opts for. She writes (89–90):

> Within the framework of a syllable structure analysis, the phenomenon of 'tense jers' receives another reading: tense jers are found only in those areas that permitted bimoraic or bipartite syllable rimes. If we allow that quantity distinctions persisted in Late Common Slavic, with the exception of the northeastern territories, then the neutralization of /iĭ/ or /ьi/ with /ii/ (and /uĭ/ or /ъi/ with /yi/) could be interpreted as in (24). This means that a distinction between /ĭĭ/ and /ii/ would have been difficult to perceive, in other words, the syllable as a whole was bimoraic.

Diagram (24), if I read it correctly, shows /ĭ/ and /ŭ/ acquiring the mora of length of the following tautosyllabic /i/, which points to /ĭ/ → /i/ / ___ /i/, i.e., phonological neutralization. But 'difficult to perceive' suggests phonetic neutralization.

I see two problems with this. First, as an earlier reviewer (Feldstein 1998:142) has already noted, in a form like OCS *novyi* the Onset Constraint (Syllables must have onsets, 32) would assign the initial *i* of the enclitic to the onset of the third syllable, not to the rhyme of the second. More broadly however, what evidence is there that jer tensing was not Common Slavic and occurred also in Russian ('northeasternmost LCS')? The fact that Russian shows a jer reflex in its counterpart of *novyi,* i.e., *nov*[ə]*j* in the traditional pronunciation, is not evi-

dence of this, because Russian shows a jer reflex also of a [+long, +high] vowel where [j] follows, e.g., a weak jer in *b'ët* [b'i̯ɔt] 'beats' (cf. *bit'* 'to beat') and a strong jer in *moet* 'washes' (cf. *myt'* 'to wash'). So Russian would show a jer reflex in 'new' also if it inherited it from Common Slavic with the same [+long] vowel as in OCS *novyi* and elsewhere. But I do not claim to have a full understanding of tense jers. To believe in phonological neutralization, i.e., [+high] → [+long] / _____ [+high, -back], one must dismiss as mere facts of spelling very many occurrences of the *ĭ* and *ŭ* letters occurring in OCS manuscripts where *i* and *y* would be indicated.[8] Also hard to explain are forms like *svętoi* 'holy' (masc. nom. sg.), where *svętŭ* plus enclitic *i* (= [i̯ĭ]) shows a strong rather than tense jer.

Compensatory lengthening is also discussed, a generally western development that affected Serbo-Croatian[9] and Polish, but not Bulgarian or Russian. Thus, S-Cr. *n`òsa* in this gen. sg. form shows a short vowel while nom. sg. *nôs*, which derives from bisyllabic *nɔ.sŭ*, shows a long vowel, lengthened by compensation for the loss of the final jer. 'Compensatory lengthening involving two syllables may be expressed as dissociation and reassociation on the moraic tier in a bisyllabic domain', Bethin writes (99). To save space we could write this linearly as [$_{\sigma}$ μ] [$_{\sigma}$ μ] > [$_{\sigma}$ μμ] [$_{\sigma}$ ∅]. This is surely true, but it is overly schematic, as is clear from Bethin's thorough discussion of the wide variation in patterns of compensatory lengthening and its various conditioning factors, such as the original accentuation of the root vowel and the category of the syllable-final consonant. The special relevance of the latter factor is brought out by her statement, 'If compensatory lengthening is interpreted as the transfer of a mora to the immediately preceding segment before transfer onto the preceding vowel, then the sonority (mora-bearing ability) of that segment would be relevant to CL' (103).

Chapter 1 includes fact- and reference-rich discussions of other issues in Common Slavic phonology, such as the contraction of two syllables separated by [j] into one and the jer shift.

In Chapter 2, Bethin discusses the development of Common Slavic accentuation from a broader perspective than one often finds in the Slavistic literature. As her chapter title indicates, she looks 'beyond the syllable' and is concerned with 'prominence relations' among syllables. The prominence of a syllable, she observes, is necessarily relative to that of another syllable in the same metrical unit or foot, and so we find either iambic feet (a weak syllable followed by a strong) or trochaic feet (strong followed by weak). She cites recent research claiming that 'prominence contrasts based on duration lend themselves to iambic grouping, while prominence contrasts based on intensity lend themselves to trochaic grouping' (119). It had not occurred to me that in, say, Cz. *od.chá.ze.jí·* 'they leave', we have two iambic feet where the long second and fourth syllables are more prominent than the first, which bears the word stress, and the third. Nevertheless, utilizing metrical theory Bethin develops a comprehensive teleology of Slavic prosody which seeks to explain such phenomena as the accent shifts of Polabian, Belarusian and Russian jakan'e and akan'e, the Slovak Rhythmic Law

(long vowel, as in *nový* 'new', shortens after long vowel, as in *múdry* 'wise'), and more. I simply call attention to this ambitious research program without attempting to evaluate its promise.

In a more traditional vein, Bethin lists the three accentual paradigms for Common Slavic roots (122): the acute, which has an accented root that receives the stress throughout the paradigm; the oxytone, the accent of which assigns stress the first post-root syllable; and the circumflex, which has no accent, so that the stress falls either on an accented ending or, in the absence of such, gets word-initial stress. The three paradigms are exemplified in Russian respectively by *gor'ox, gor'oxa, gor'oxu,* etc. 'peas', which stresses the accented syllable; *stol, stol'a, stol'u, stol'om,* etc. 'table', where the stress falls on the ending;[10] and *g'orod, gorod'a, z'a gorod, za gorod'ami* 'city', where the stress falls either on an accented ending or word-initially. In Czech, which has vowel quantity rather than distinctive stress, stress is initial (*'hrad, 'za hradem*) and an accented syllable is often long (*hrách* 'peas' and nom. sg. *stůl* 'table' with its retracted accent).

Bethin emphasizes the difference between accent, which she calls tone, and stress. Tone is 'an autosegment on a level different from that of sounds, but connected to them by association lines', whereas stress, not an autosegment, is 'a rhythmic property of language [which] [r]ecent metrical theory views [...] as marking the head of a metrical constituent, i.e., the strong element in a strong–weak grouping' (116). She represents tone with an H associated with the mora that bears it and stress with an * over the syllable. The question arises whether we need both H and *. Stress in Russian is described by Zaliznjak (1985:8) as 'a certain way of singling out one of the syllables of a word form [...] the physical nature [of which] will not concern us in the present work'. And although Halle (1971:4) identifies his [+H] feature as 'the equivalent of the phonetic feature *high pitch*', it seems to function the same as the [+Stress] feature in Halle 1973. It is often noted (also by Bethin, 115) that with a geminate representation of long syllable nuclei, rising pitch, i.e., accute accent, can be represented as stress on the second mora of a long syllabic nucleus, thus μ'μ, while falling pitch, i.e., circumflex accent, is greater prominence on the first mora, thus 'μ μ. So, allowing for the fact that μ'μ occurs as a lexical feature of individual Slavic morphemes whereas 'μμ is assigned to the initial mora of certain sentence constituents, what would be lost if both H and * were represented as '?

Bethin writes: 'The retraction of ictus in the north and in the south had different effects: In the north the neo-acute was the retraction of stress (*); in the south it entailed a retraction of high tone (H)' (131). (Ictus for her is 'prominence of either tone or stress', p. 121.) One of her examples is the Common Slavic noun 'hair', which in the genitive plural form took the accented ending *-'u,* thus **uɔɻ.s'u.* When jers weakened to the point of no longer bearing accent, it was retracted one mora toward the beginning of the word, > **uɔ'ɻ̆.su.* This retracted accent is reflected in Russian as *vol'os* and in the Čakavian dialect of Serbo-Croatian as *vlás* (= *vla'as*). Compare the nom. sg. form with its default initial accent, **u'ɔɻ.su,* reflected as Ru. *v'olos* and Čak. *vlâs* (= *vl'aas*). I don't see much difference between the effect of the retraction of * in the north and of H in the south.

Discussing dialectal Common Slavic contraction (two syllables separated by a glide losing the glide and becoming one), reflected in the fact that contracted *pâs* 'belt' with long falling accent in Serbo-Croatian and *stát* 'to stand' with long rising accent in 'Proto-Serbo-Croatian' correspond to uncontracted *pójas* and *stoját'* in Russian, Bethin writes: 'The fact that contracted vowels preserved the pitch contour of the original bisyllabic group [...] is an argument for representing tone as an autosegment and for representing tone as associated with the mora.'[11] But with a geminate representation for long vowels, contracted southern *p'aas* (= *pâs*) and *sta'at* (= *stát*) turn out not to differ accentually from uncontracted northern *p'o.ias* and *sto.i'at'*, but only by the loss of the glide and by vowel assimilation .

I am suggesting that the H of CmSl. **gɔ'ɤ̯.xu* and Ru. *gor'ox* and the * of CmSl. **g'ɔɤ̯.du* and Ru. *g'orod* are in complementary distribution and so could both be represented as '. This works also in cases, just noted, where a retracted accent, as in gen. pl. *vol'os* and *vlás,* contrasts with the default initial accent in nom. sg. *v'olos* and *vlâs.* But how does it work where accent is retracted to an initial vowel that is monomoraic and therefore incapable of showing a μ'μ ~ 'μμ contrast? It was here that H and * could be contrastive. Garde (1976:270) calls this development 'le réaccentuation des formes inaccentuables' and represents it as the change, e.g., of *(')zimu* to *z'imu.* He says it is 'le dernier en date des changements phonétiques qui affectent le système accentuel. Désormais le russe, ne connaiss[e]nt plus qu'un seul trait prosodique, l'accent [...]'. And Zaliznjak (1985:178) calls it 'the chief strictly phonetic development in the history of East Slavic accentuation'. We see the resulting state in Ru. *'osen'* 'autumn', CmSl. **ɔ.sɛ.ni,* the default initial stress of which is now identical to the retracted accent of Ru. *v'osem'* 'eight', CmSl. **ɔ.sm'i.* The difference between these two initial syllables, now phonemic, reflects a difference that prior to the change in question must have been only phonetic. Prior to that change, the initial syllables of these two forms, before the assignment of default initial stress, were phonemically /o/ vs. /'o/ and phonetically [ɔ] vs. [u̯'ɔ]. With the falling together of H and * these initial syllables became phonemically /'o/ vs. /v'o/. The proposed phonetic [u̯'ɔ], which may or may not have been bimoraic,[12] is somewhat problematic. Bethin writes: 'If the northeastern LCS dialects indeed generalized syllables of one mora, one would not expect these dialects to show either length or tone distinctions' (156). She concludes by suggesting that [u̯'ɔ] 'could simply be the asynchronic pronunciation of labialization (phonetically, but not phonologically, long)' (156). Still, labialization in the case of *vosem',* even if conditioned by length that was nonphonemic, nevertheless resulted in a phonemic contrast with *osen'.*

The Neoštokavian accent retraction of Serbo-Croatian shifted accent one mora toward the beginning of the word. So in contrast to *xvaal'a* 'praise' and *vod'a* 'water' in Čakavian (in my notation), which did not experience accent retraction, Neoštokavian dialects have what is spelled *hvála,* i.e., *xva'ala,* and *vòda,* with a 'short rising accent' on the *o.* This short rising accent entails stress on the *o* followed by high pitch on the following syllable, and so Bethin's distinction

between * and H is ultimately justified, at least for modern standard Serbo-Croatian.

In her chapter on 'Theoretical considerations', Bethin touches on 'certain problems of Slavic linguistics [which] have a bearing on issues of phonological representation' (188). For example, Bulgarian has alternations like *grəm* 'thunder' / *gərmət* 'the thunder': Bethin examines them and finds (correctly, it seems to me) 'no convincing argument for metathesis' (199). Regarding Common Slavic glides, Bethin proposes that for the short high vowels /i/ and /u/ the vowel-glide distinction was a matter of syllable structure. In syllable onsets they were nonmoraic ([i̯], [u̯]) and, following an obstruent, consonantal ([ɣ] and [v] if voiced, [ç] and [f] if voiceless); in syllable nuclei they were moraic, although of lesser sonority when accompanied by a nonhigh vowel; if they occurred in syllable codas they are nonmoraic and consonantal.[13] Bethin writes: '[A]fter a consonant and before a more sonorous vowel, the /i/ lost its association to the mora and coalesced with the preceding consonant in a process known as iotation' (201–02). This may account for forms like **pii.tiɔɔ* 'food', where suffixal *i,* was syllabified with root-final *t* into a syllable onset, coalesced with it, and yielded *št* (OCS *pišta*). But it does not account for verbal alternations like OCS *pustiti* / *puštǫ* 'let go' (inf./ 1sg.), where Bethin sees a common post-root /i/ causing iotation in the latter form but not in the former. As Birnbaum (1997:90) reminds us, the theme vowel in the former was *ii,* and had it occurred in the 1sg. form the result would have been OCS **pustǐjǫ.*

The section titled 'Vowel-zero alternations' (205–14) offers a comprehensive survey of what has been written about the morphophonemic complications caused by the fact that the short high vowels of Common Slavic in some environments disappeared (**pi.sɔɔ* 'dog' (gen. sg.) > Polish *psa*), in others fell together with other vowels (**pi.su* (nom. sg.) > S-Cr. *pas*), as well as by the fact that vowels sometimes crop up before consonantal sonorants where there was no vowel earlier (**krɛɛ.slu* 'chair' (gen. pl.) > Slovak *kresiel*). Other sections deal with the Rhythmic Law of Slovak, the reflexes of **ɛɛ* in Serbo-Croatian (monosyllabic in ekavian *réka* and ikavian *ríka,* but bisyllabic in ijekavian *rijèka*), consonant gemination in Ukrainian (**brɔɔ.ti.iɔɔ* 'brethren' yielded *brattja*), stress and length in Slovene, and accent and stress in Serbo-Croatian.

In sum, although I have chosen in this review to focus on individual points where I disagree with some of Professor Bethin's formulations (or simply fail to understand them), I hope I have managed to give the reader some idea of the broad scope and intellectual power of *Slavic Prosody.*

NOTES

[1] Kenstowicz (1970:97) observes that geminate representation works better for prosodic rules, while feature representation works better for handling vowel quality. Indeed, the Late Common Slavic rule which makes [-high, +long] vowels [+low], would be better stated as *ɛ̄* > *ǣ* and *ɔ̄* > *ā* than as *ɛ* and *ɔ* > [+low] both before and after *ɛ* and *ɔ*.

[2] To be exact, she writes: 'these diphthongs may be represented as vowels followed by sonorants equivalent to /i/ and /u/, whose glide-like pronunciation is a consequence of syllable structure. In other words, an /i/ in the coda position of a syllable would be pronounced as [*i̯*], but is basically an /i/' (40–41). The 'glide-like pronunciation' of /i/ and /u/ occurs only in syllable onsets, for example, when verb roots like *pɔi* 'sing' and *plɔu* 'sail' are realized heterosyllabically before a vowel, thus in 3rd sg. pres. *pɔ.iɛ.tu, plɔ.uɛ.tu*. Here notations like *i̯* and *u̯* are appropriate, although redundant. They are redundant also when such diphthongs surface tautosyllabically, e.g., in Ru. *daj* 'give', Po. *dał* [dau] 'gave', E *boy, cow,* since here the non-peak role of /i/ and /u/ is predictable from their lesser sonority vis-à-vis their nucleus mates (compare the redundant *y, w* spellings of the English forms in standard orthography with the phonetic transcriptions found in dictionaries, [boɪ], [kæʊ]). But when /i/ and /u/ occur underlyingly in syllable nuclei that are monophthongized, e.g., **pɔi.tɛi* 'to sing', **plɔu.tɛi* 'to sail' (OCS *pěti, pluti*), there is no basis for marking *i* and *u* as non-nuclear because they surface as the second mora of *ɛɛ* and *uu*.

But can a vowel (nonconsonantal sonorant) be a syllable coda? Surely E *boy* and *cow* consist of an onset and a diphthongal nucleus, not of onset, nucleus, and coda. In Russian, as long as *moj* 'my' is pronounced [mɔɪ] with a [-consonantal] final segment, that segment must be the less sonorous component of a nuclear falling diphthong. The more emphatic pronunciation [mɔç] also occurs (Panov 1967:36), where the obstruent [ç] surely pertains to the coda. The same holds for the labial counterpart. The second syllable of *stolov* 'table' (gen. pl.), which is [lɔf], is surely structured onset-nucleus-coda. But some Russian speakers have a [-consonantal] final segment here, and their [stʌ.l'ɔu] must end in a diphthong.

[3] The monophthongization of *ɛu* to *(i)uu* is more complicated, as much for autosegmental analyses as for more traditional ones.

[4] I find it easier to imagine a falling diphthong in a *Cɔr̥* syllable than a rising diphthong in a *Cr̥ɔ* syllable, which supposedly contrasts with a *Crɔ* syllable by whether the *r* belongs to the nucleus (*Cr̥ɔ*) or to the onset (*Crɔ*). But Bethin claims that the liquid belonged to the syllable nucleus and refers us to *Ā̄bele* (1924:30), where just such a contrast is described.

[5] This more or less what Mareš (1956:456-60) proposes, i.e., a stage where a syllabic liquid was both preceded and followed by a svarabhakti vowel.

[6] While *ŭ* and *y* are transliterations of Old Church Slavonic spellings, *u* and *uu* respectively represent my phonemic analysis of these vowels, based on the my be-

lief (not widely shared by Slavists) that the vowel with the OCS spelling *u* is phonemically the diphthong *ɔu*. For example, *pustynĭnikŭ* 'hermit' in my phonemic analysis would be /pɔu.stuu.ni.nii.ku/.

[7] Some Slavists believe that it is neither, that the change in question resulted in a B' distinct from B and that B also changed to B' in the same environment. For example, Flier (1988:91) introduces his discussion of tense jers as follows: 'In Late Common Slavic the environment before [j] was, with few exceptions, a position of neutralization for tense diffuse vowels /ѝ, y/ and lax diffuse vowels /ь, ъ/. The nongrave vowels /i, ь/ were realized as [ĭ]; the grave vowels /y, ъ/ were realized as [y̆], the háček here denoting a degee of intensity lower than that for /ѝ, y/ and higher than that for /ь, ъ/'.

[8] The fact that the *ĭ* letter occurs in imperfective verb forms like *ubĭěete* 'you kill' (= *ubĭjaete*), where it represents a root vowel that we know was +long (cf. Cz. *ubíjet*) supports the view that the use of *ĭ* was a mere spelling convention.

[9] Bethin's 'Serbian and Croatian' is probably more correct.

[10] When we represent accent linearly rather than with tiers, our lexical representation of 'table' is /stol'/. But I am not satisfied with this representation, in which the last element, an unassociated accent, defies description in phonetic features. Halle and Kiparsky (1981:175) describe oxytone stems with a LH rising melody associated with their syllable nuclei. They write: 'Unlike the B[alto]Sl[avic] protolanguage, Slavic allowed only a single tone to be linked to a single phoneme in the lexicon. Monosyllabic stems with LH melody were therefore represented in the lexicon with a linked L and a "floating" H', so that the H in a form like **stɔ.l'u* may be assigned to the ending. This explains the post-stem accent of monomoraic stems like **stɔl-*, but with bimoraic stems like **siil-* 'strength' and **piil-* 'saw' it is not clear why in the former the LH rising melody remains associated with the root (Ru. *s'ila*) but in the latter the H 'floats' (Ru. *pil'a*).

[11] P. 134. Also earlier (95) with regard to the same examples: 'The preservation of accentual characteristics during contraction strongly suggests that they are designated on a separate tier from that of segmental features'.

[12] When [u̯] occupies the onset of the syllable it is of course nonmoraic. But the same accentual development occurs also in postconsonantal position in dialectal Russian, e.g., in *stôl* 'table', which is also attested as *stu̯ol* with a rising diphthong.

[13] I do not claim this is an accurate summary of what the author says about /i/ and /u/. See note 2 and also Gladney 1997.

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