Uniformity, Subparadigm Precedence and Contrast derive stress patterns in Ukrainian nominal paradigms

We present an analysis of stress patterns in Ukrainian nominal paradigms, which develops the O(ptimal) P(aradigms) OT approach (McCarthy 2005). The main features of our approach are:

- We make a case for McCarthy-style OP Paradigm Uniformity constraints: constraints which work symmetrically on the whole paradigm, and penalize each instance of nonidentity between the stem accent of any members.
- At the same time, we argue that the singular and the plural subparadigms stand in a relation comparable to that between a base and its derivative, in the sense that the base accent, once computed, is held constant (a base priority effect (Benua 1998); it is the derivative paradigm that is accentually modified in order to satisfy the requirements of distinctness/identity between the Sg and the Pl. We note three differences between the asymmetric relation we motivate between the Sg and the Pl subparadigms and the familiar B(ase)-D(erivative) relation: 1) the usual BD constraints force uniformity, while we demonstrate the need for a constraint requiring accentual distinctness between the singular and the plural stem; 2) the usual BD is a relation between one form and its derivative (cf. Rebrus & Törkenzy 2005), while we while we show something like a base priority effect between two *sets* of forms; 3) the usual BD base must be a whole word (Kager 1999), while our constraints only compare the stems, not taking into account the endings.
- The original OP proposal (McCarthy 2005) asserted that each form in a paradigm stands in correspondence with all other forms. We argue against that, and allow certain forms to be exempt from correspondence restrictions once they start to be too different from others in certain important respects, thus coming close to Burzio's ideas.

We note that while the features of our analysis just sketched are novel, we build on the preceding literature on Ukrainian, Russian, and more generally Slavic and Proto-Slavic stress, including Zaliznjak (1985), Dybo (2000), Alderete (2001), Butska & Truckenbrodt (2003), and share some of general ideas of our predecessors, though our implementations of those ideas are usually quite different.

Main patterns. Ukrainian has 4 main patterns of stress, shown schematically below. □ stands for stem, ○, for ending, and stress is shown by filling. Stress which should have been on the null ending falls on the last syllable of the stem, and is counted as regular □●
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a, fixed stem stress:	Sg, Pl ■○	*N.Sg*: naˈdij-a, ˈosin^j-∅, ˈranok-∅, koˈlin-o
b, fixed desinential stress:	Sg, Pl □●	*N.Sg*: staˈt^{j}t^j-a, ˈstil-∅, ˈdošš, biˈd-a
c, Sg stem, Pl desinential:	Sg ■○ Pl □●	*N.Sg*: ˈsad-∅, ˈmor^j-e, *N.Pl*: saˈd-y, moˈr^j-a
d, Sg desinential, Pl stem:	Sg □● Pl ■○	*N.Sg*: kin^j-∅, seˈl-o, *N.Pl*: ˈkon^j-i, ˈsel-a

Our analysis is as follows: Stem syllables may be + or − stress. Faithfulness to the stem wins over faithfulness to the ending, which is positioned at the very bottom of the paradigm, so it never matters which stress the ending underlyingly has.

In *a*, there is at least one +stress in the stem, in *b*, there is none. From this it follows that in *a*, we have fixed stem stress, and in *b*, fixed ending stress. What is interesting is how *c* and *d* classes are produced. It could be that they have two stem URs, one for

the singular and one for the plural; or it can be that there is a constraint against having same stems in the Sg and the Pl. The former option is highly unlikely because some words have deviating case-number forms which show stem stress where the general type predicts ending stress — e.g., Acc Sg may be such a form. So if we want to go with the two stems hypothesis, we need to posit different stems not only for the general plural and singular subparadigms, but for many other forms as well, which makes the theory too expressive and too stipulative.

We conclude there must be a constraint against having the same stems in the singular and the plural, which we call Sg≠Pl. If that is all that is at work, we expect random distribution between *c* and *d* stems. But the two classes have an important difference. For *c* nouns, it is impossible to predict the placing of stem stress in the singular knowing the stress pattern of the plural: e.g., there are polysyllabic-stem nouns with exactly the same pattern in the plural, and yet fixed stress on the first or second stem syllable in the singular. Lexical-semantic categories are also bad predictors, though Zaliznjak notes certain correlations. So while there are some tendencies among *c* nouns (e.g., more *c* nouns show stem-initial stress than non-stem-initial stress), the singular of type *c* has irrecoverable information.

In *d* nouns, on the contrary, we can find valid predictors of the plural stem stress. Knowing the singular forms and knowing the Gen Pl form, we can predict the stress in all other forms, which can belong to one of three patterns. There are independent reasons to think that the Gen Pl form is special and can be associated with additional constraints which cannot be overridden by uniformity-contrast considerations. There is evidence coming from *d*-nouns with alternating vowels appearing in the Gen Pl form only which supports the independence of stress placement in Gen Pl: in *mit'la*, stress uniformly falls on the first stem syllable in the plural, and in *kor'tsma*, the stress in Gen Pl does not match the stress in the other plural forms. So stress in Gen Pl in general cannot be predicted from the other forms, and it is OK to use it as an independent predictor for polysyllabic *d* nouns along with the knowledge of the singular.

To sum up, stem stress in the Sg in *c* cannot be predicted, but the stem stress in the Pl in *d* can be. Only the former carries irrecoverable information. We conclude that stems of classes *c* and *d* correspond to those of *a* and *b*: *c* nouns have stems marked for stress, and *d* nouns have –stress stems. The difference between *a*/*b* and *c*/*b* is caused by the presence or absence of the effect of a paradigmatic constraint Sg≠Pl, which assigns one violation for each Sg form having the same stem as some Pl form; this constraint is coupled with the assumption that computation of the Sg precedes the computation of the Pl.

Since there is yet no plural forms when the singular is computed, the contrast constraint does not make any work yet, and the singular is more faithful to the UR. The plural of *c* and *d*, however, must change in order to satisfy Sg ≠ Pl, and shifts from the faithful in the direction of the unmarked. A simplicistic ranking summarizing the pattern is HaveStress >> Sg≠Pl >> Ident Stress IO stem >> Ident Stress IO ending, where underlining marks a constraint indexed to a particular class in the lexicon.

(Instead of the) Conclusion. In this abstract, we have not had enough space to examine more interesting complexities supporting the main features of our analysis outlined in the beginning. Crucial pieces of evidence come, for instance, from the shifting stem-stress type of *dzerkalo*, stress placement in zero-ending case-number forms, the paradigms with deviating case forms, and the exact patterns of polysyllabic *d*-roots.