On the structure of reduplicants: Iconicity and preferred form in reduplication

Thomas Schwaiger (Karl-Franzens-Universität Graz)[1]

Cases of total reduplication perhaps most clearly demonstrate the special nature of the reduplication process in morphology. Nevertheless, considering the many attested forms of partial reduplication, they are by far not the only reduplicative patterns found in the languages of the world. Furthermore, these rather well known facts have time and again been supplemented by a range of data which indicate that the definitional systematic repetition of phonological material within a word for morphological purposes (cf. Rubino 2005a: 11) can often be countered by various dissimilatory tendencies that seem to avoid exact and/or too long sound sequences of the same kind within a reduplicated word form. Some examples follow:

Vietnamese, an Austro-Asiatic tone language, shows full segmental reduplication which at the same time very often displays differences on the tonal level: e.g. *to* 'large' – *to*∼*to* 'rather large' vs. *xám* 'gray' – *xam*∼*xám* 'grayish' (cf. Nguyen 1997: 27), where in the latter case a high/mid level tone contrasts with a high/mid rising tone after fully reduplicating the simplex form which carries the latter of the two tones. The Austronesian language Tawala forms its durative aspect by either an initial disyllabic reduplicant, an initial CV reduplicant, or an initial V.C[2] reduplicant, the respective form depending on the complex interaction between the structure of the simplex form on the one hand and a set of markedness constraints[3] prohibiting identical adjacent syllables on the other hand (see Hicks Kennard 2004). Finally, the reduplication patterns found in languages like Pangasinan and Chamorro are particularly interesting in the present context. In these two Austronesian languages one occurring type of reduplication does not strictly focus on the first (or sole) syllable of a simplex form but rather extracts a CV sequence as the reduplicant from it, ignoring all following or intervening consonants and thus forming an optimal syllable in the sense of Vennemann 1988: e.g. Pangasinan *plato* 'plate' – *pa*∼*pláto* 'plates' (cf. Rubino 2005a: 11) and Chamorro *dos* 'two' – *man-a-do*∼*dos* 'two-by-two'[4] (cf. Topping 1973: 168).

It is hypothesized that

> the process of copying phonological material in reduplication is accompanied by a tendency to optimize its resulting structure, i.e. the reduplicant.

This hypothesis stems from the observations and the study of the reduplication systems of a number of genetically and typologically diverse languages with the help of a typological online database.[5] A sample of 25 languages, including their genetic affiliation and a very condensed overview of the reduplication types (i.e. forms and functions) they possess, is given in the

[1]E-mail address: *thomas.schwaiger@edu.uni-graz.at*

[2]The period between the vowel and consonant symbols represents a syllable boundary.

[3]The analysis referred to here (i.e. Hicks Kennard 2004) is conducted within the framework of Optimality Theory.

[4]The two prefixes preceding the reduplicant are irrelevant for the present purpose.

[5]The database in question is the Graz Database on Reduplication *(gdr)*, accessible via http://reduplication.uni-graz.at/.

appendix. Owing to the greatest familiarity with the reduplication systems of the languages in question it is this small pilot sample from which the initial hypothesis has been derived and from which the conclusions further below will be drawn. Nevertheless, a first quick glance upon the larger dataset of the *gdr* seems to support the ideas described here.

The term *optimize* in the hypothesis stated above needs some elaboration: Reduplication is perceived as a genuine morphological process in the present context, albeit one with the special characteristic of being formally totally dependent on the particular simplex form that undergoes the process. Consequently, and especially in the light of the many possible varieties of partial reduplication (as opposed to straightforward total reduplication) that can be observed, chances are good that in describing the phenomenon functional motivations of morphological structure become intertwined with tendencies of reduction and simplification in phonology. It is proposed that the morphological process of reduplication should be divided into a morphological level and a phonological level. The former concerns all forms of full reduplication for it is certain units of morphology which are targeted here as bases (words, stems, roots, affixes, etc.). The latter concerns the many forms of partial reduplication ranging from foot reduplicants to single vowel or consonant reduplication. Obviously, the term *optimization* cannot mean the same thing on these two levels of description. Being concerned with the relationship between form and meaning (cf. Kiyomi 1995: 1152), it is suggested that on the morphological level the principle of iconicity is governing the configuration of reduplication systems; hence it is expected that full reduplications should always target linguistic units like words, stems, or roots[6] before, for example, targeting affixes. Indeed, affix reduplication is a rather rare phenomenon (e.g. Fijian *vanua* 'country' – *vei-vanua* 'various countries' – *vei∼vei-vanua* 'large number of countries'; Schütz 1985) and never seems to occur in a language that does not also show full reduplication of lexical units.[7] This is hardly surprising given the fact that the iconic consecutive (plurality, repetition/continuation) and cumulative (intensity) functions of reduplication (see Kiyomi 1995) are semantically more compatible with more concrete lexemes than with more abstract affixes. On the other hand, the phonological level seems to be driven by principles that are concerned with structure alone and do not care about the meaning of reduplication or the latter's relationship with its respective form. So far almost every language showing partial reduplication seems to necessarily possess some kind of CV pattern (the optimal syllable as hinted at above), this also being the case in languages like Classical Greek and Latin, where traces of a former productive reduplication process are found exclusively in such a pattern. To conclude, the optimization tendencies are concerned with optimal symbolization of linguistic categories on the morphological level and with optimal segmental and suprasegmental structures on the phonological level of reduplication (i.e. full and partial reduplication, respectively).

Some interesting consequences for reduplication research in historical linguistics and language typology arise from an investigation along the lines sketched above: Diachronic and cross linguistic work on the reduplication phenomenon over the past decades has yielded the common assumptions that partial reduplication always develops out of full reduplication and

[6] The delimitation of these units is a long standing problem in linguistics and no attempt will be made to settle it here.

[7] Affix recursions as in Italian *tavolinino* 'table:DIM:DIM' or French *il l'a re-re-répété* 'he has re-re-repeated it' are not counted as instances of genuine morphological reduplication in this paper.

that in no synchronic state of a language is there (productive) partial reduplication without full reduplication (see especially Bybee et al. 1994: 166–174, Niepokuj 1997, and the WALS map on reduplication in Rubino 2005b). Strictly adhering to these claims is tantamount to ignoring important structural facts about reduplication which manifest themselves in individual languages as well as across languages over and over again. A few languages in the sample below show partial reduplication but no full reduplication. Although the possibility remains that this is simply a matter of incomplete data, the less compliant way of doubting the infallibility of established views is chosen here. And not only the synchronic typological facts seem to opt for such a treatment; work like Hurch & Mattes 2005 has already shown that not all partial reduplication necessarily stems from a fully reduplicated predecessor diachronically. It is maintained here that while certain basic points of view on reduplication are definitely in need of modification and/or relaxation, functional and structural principles as the ones alluded to above can be adduced to give a systematic typological characterization of reduplication that is not arbitrary and which allows for important linguistic generalizations.

Appendix[8]

language (genetic affiliation)	full / partial RED	functions
Acoma (Keres)	stem / CV	PL, LE
Alamblak (Sepik-Ramu)	word, stem, root / –	PL, INT
Arapesh (Torricelli)	root / CV	INT
Bagirmi (Nilo-Saharan)	stem / CV	PL, INT
Berber, Middle Atlas (Afro-Asiatic)	– / C	PL
Burmese (Sino-Tibetan)	root / –	WCD
Cha'palaa (Barbacoan)	word / CV	PL, WCD
Chamorro (Austronesian)	– / CV, V	PL, INT, WCD
Chukchi (Chukotko-Kamchatkan)	stem / σ	CAS
Hmong Njua (Hmong-Mien)	word / –	PL, INT
Koasati (Muskogean)	– / CV	PL
Lavukaleve (East Papuan)	word / CV, F	PL, INT ...
Malagasy, Plateau (Austronesian)	root / CV, σ, F	PL, DIM, LE
Maung (Australian)	root / CV	PL
Maybrat (West Papuan)	stem / VC	INT
Ngiyambaa (Australian)	root / F	PL, DIM
Oromo, Eastern (Afro-Asiatic)	word / σ	PL, INT, WCD
Réunion Creole Fr. (Fr.-based Creole)	word, compound / –	PL, INT, DIM, WCD
Saisiyat (Austronesian)	stem / CV, σ	PL, DIM, LE, WCD ...
Somali (Afro-Asiatic)	word / σ, VC	PL
Swahili (Niger-Congo)	full / –	PL, INT, DIM, LE ...
Tiwi (Australian)	– / CV	PL
Tukang Besi (Austronesian)	stem / CV, F, V	PL, INT, DIM, LE
Vietnamese (Austro-Asiatic)	word / –	PL, INT, DIM
Yoruba (Niger-Congo)	word, compound / CV, F	PL, INT, DIM, WCD

[8]Uncommon abbreviations: CAS = case, LE = lexical enrichment, WCD = word class derivation.

Bibliography

Bybee, Joan, Revere Perkins & William Pagliuca. 1994. *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. Chicago: University of Chicago Press.

Hicks Kennard, Catherine. 2004. Copy but don't repeat: The conflict of dissimilation and reduplication in the Tawala durative. *Phonology* 21. 303–323.

Hurch, Bernhard & Veronika Mattes. 2005. Über die Entstehung von partieller Reduplikation. In Gertraud Fenk-Oczlon & Christian Winkler (eds.), *Sprache und Natürlichkeit: Gedenkband für Willi Mayerthaler*, 137–156. Tübingen: Gunter Narr Verlag.

Kiyomi, Setsuko. 1995. A new approach to reduplication: A semantic study of noun and verb reduplication in Malayo-Polynesian languages. *Linguistics* 33. 1145–1167.

Nguyen, Dinh-Hoa. 1997. *Vietnamese: Tieng Viet Khong Son Phan* (London Oriental and African Language Library 9). Amsterdam & Philadelphia: John Benjamins Publishing Company.

Niepokuj, Mary. 1997. *The development of verbal reduplication in Indo-European* (Journal of Indo-European Studies Monograph 24). Washington: Institute for the Study of Man.

Rubino, Carl. 2005a. Reduplication: Form, function and distribution. In Bernhard Hurch (ed.), *Studies on reduplication* (Empirical Approaches to Language Typology 28), 11–29. Berlin & New York: Mouton de Gruyter.

Rubino, Carl. 2005b. Reduplication. In Martin Haspelmath, Matthew S. Dryer, David Gil & Bernard Comrie (eds.), *The world atlas of language structures*, 114–117. Oxford: Oxford University Press.

Schütz, Albert J. 1985. *The Fijian language*. Honolulu: University of Hawaii Press.

Topping, Donald. 1973. *Chamorro reference grammar* (PALI Language Texts: Micronesia). Honolulu: University of Hawaii Press.

Vennemann, Theo. 1988. *Preference laws for syllable structure and the explanation of sound change: With special reference to German, Germanic, Italian, and Latin*. Berlin et al.: Mouton de Gruyter.