

Cross-linguistic Distribution of Derived Numerals

This study was inspired by the work of Bauer (2000) where this author presents an overview of the semantic categories commonly expressed by derivational morphology and ranks them as regards their cross-linguistic frequency. In a similar fashion, the current paper explores the domain of derived numerals, that is ordinal, multiplicative, distributive, collective and other words which are derived from a numeral base, typically from a cardinal numeral, as for instance in Modern Greek *trís* 'three' vs. *trí-tos* 'third', *trí-plos* 'triples', *tri-áða* 'a group of three', *trí trí* 'three by three' (Joseph and Philipaki-Warburton 1987: 206-9). The purpose of this project is to outline the crosslinguistic distribution of such derivations as well as to give a general description of the strategies used for the expression of derived numeral senses such as ordinal 'Nth in a sequence', multiplicative 'N number of times', etc. The sample used for the pilot study is rather small: currently, it consists of 33 languages, each representing a different language family; it can be seen as geographically balanced in that all six geographical areas, outlined in Dryer (1992) are represented by at least five languages (see next page for the language list). The materials used are grammars or equivalent language descriptions.

The data allow for several generalizations as regards numeral derivatives that have so far (to my knowledge) passed without notice cf. (Hurford 1987, Gvozdanovic 1999). Specifically, some numeral derivatives are very common in that they are observed in a large amount of the investigated languages while others appear to be rare since they are observed in very few languages, typically, only one. In eight languages of the current sample there are no numeral derivatives of any kind.

The most common numeral derivatives are ordinal numerals as in shown by Modern Greek *trí-tos* 'third' above, (22 languages), followed by multiplicatives (19 languages) as in Bagirmi *m^wot-dokkene* 'ten times', cf. *dokkene* 'ten' (Stevenson 1969: 155-7), and finally distributives (14 languages) as in Lezgian *q'we-q'we(d)* 'two each', cf. *q'we* 'two' (Haspelmath 1993: 235). For the most part, ordinals as well as multiplicatives are derived by affixation, while the derivational strategies for distributives vary more: the predominant means appears to be suffixation, followed by reduplication as well as semi-bound constructions where postposed clitics or repetition are used.

Collective numerals, which express the sense 'a group of N', as in Cahuilla *k^wansúple-k^wal* 'a group of six', cf. *k^wansúple* 'six' (Seiler 1977: 333), are commonly derived by means of suffixes, and are observed in 10 languages. Expressions for the sense 'almost N', with a numeral as a head, as in Brahui *bīst-as* 'twenty or so' (Bray 1986: 73), are reported in the grammars of 15 languages. However, expressions for the sense 'almost N' are derived by bound morphological means in 8 of them; in the remaining 7 languages this sense is expressed by various kinds of periphrastic constructions, including juxtaposition of two numerals.

Numeral derivatives which appear as rare in the current data are those expressing age as in Modern Greek, *sarandepend-áris* 'forty-five-years old' cf. *sarandapende* 'forty-five' or numeral expressions for the sense 'all of N', labeled as **inclusive numerals** as in Lezgian *pud-ni* 'three-two' = 'all three' (Haspelmath 1993: 234).

The current sample allows for some broad hints as regards the cross-linguistic distribution of numeral derivatives. What appears from the current data is that some ordinals, multiplicatives and distributives are the most common numeral derivations; furthermore, it might be possible to set up an implicational scale for their occurrence in a language but this is contingent on collecting more data. Some areal patterns can be noted, though, again more data are necessary in order to make stronger conclusions in this regard.

LANGUAGES INCLUDED IN THE CURRENT SAMPLE

EURASIA	SOUTH EAST ASIA	NORTH AMERICA
Modern Greek (Indo-European)	Vietnamese (Mon-Khmer)	Central Alaskan Yup'ik
Lezgian (Northeast Caucasian)	Thai (Tai-Kadai)	(Eskimo-Aleut)
Meithei (Tibeto-Burman)	Japanese (Japanese)	Slave (Athapaskan-Eyak)
Brahui (Northern Dravidian)	Malay (Western Malayo-	Cahuilla (Takic)
Khalkha (Mongolian)	Polynesian)	Maricopa (Yuman)
Chukchi (Chukotko-	Samoa (Central-Eastern	Koasati (Muskogean)
Kamchatkan)	Malayo Polynesian)	Chalcatongo Mixtec (Mixtecan)
		Jakaltek (Mayan)
AFRICA	AUSTRALIA-NEW GUINEA	SOUTH AMERICA
Supyire (Atlantic Congo, Gur)	Yimas (Sepik-Ramu)	Awa-Pit (Barbacoan)
Bagirmi (Central Sudanic)	Usan (Madang Adelbert Range,	Apurinã (Arawakan, Maipuran)
Harar Oromo (Eastern Cushitic)	Trans-New Guinea)	Ndyuka (Creole)
!Xung (Northern Khoisan)	Maybrat (West Papuan)	Imbabura Quechua (Quechuan)
Gulf Spoken Arabic (Semitic)	Kuot (East Papuan)	Wari' (Chapacuran)
	Martuthunira (Pama Nyungan)	

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