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Designing an Artificial Language:

Opposites

by [Rick Morneau](#)

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[The following is an edited version of my contribution to a discussion on the Conlang email list. The discussion was about opposites and about how to deal with them in constructed languages. The Conlang mailing list is dedicated to the discussion of the construction of artificial languages. To subscribe, send an email message with the single line:

SUBSCRIBE CONLANG *your name*
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Questions about the implementation of opposites in artificial languages (henceforth ALs) are really questions about the interaction between morphology and lexical semantics - two of my favorite subjects.

Linguists have written quite a lot on the subject of opposites. For a highly readable reference, I recommend *Lexical Semantics* by D.A. Cruse, Cambridge University Press, 1986. The book contains three chapters just on opposites. Here's a partial breakdown of the kinds of opposites you can run into:

Complementaries: mutually exclusive - no gray area, such as true/false, dead/alive, hit/miss

Antonyms: gradable, such as long/short, good/bad, hot/cold. This group has several sub-groups.

Directional opposites: north/south, up/down, forwards/backwards

Antipodals: cellar/attic, head/toe, full/empty

Counterparts: male/female, ridge/groove, heaven/hell

Reversives: rise/fall, enter/leave, tie/untie

Converses: before/after, above/below, in front of/behind

Relational: doctor/patient, predator/prey, parent/child

and much more.

Fortunately or unfortunately, I've never heard of a natural language that marks its words consistently and equally for polarity. When it occurs at all, there is always an imbalance, as with the English "un-" (For example, the word "marked" is unmarked, while the word "unmarked" is marked.)

However, both natural and artificial languages mark their words for many other things, and I see no reason why we can't extend this idea to cover polarity. For example, in many Malayo-Polynesian languages (Indonesian, Tagalog, Fijian, et al.) verbs are derived from primitives to mark their transitivity and whether they are active or passive. Or, consider Iroquoian languages, such as Mohawk and Cherokee, which mark their verbs for the semantic roles agent and patient played by the arguments. As for nouns, consider the Bantu languages which mark for class (which is often semantically relevant).

What if we extended these morphological derivations to indicate their polarity by doubling the number of marker morphemes? In other words, where you may now have one morpheme to mark a specific feature, instead have two: one for positive and one for negative. For example, let's say your AL marks its verbs for transitivity, like this:

ke- = positive, transitive (X does something to Y)

bu- = negative, transitive

di- = positive, intransitive (something happens to X)

sa- = negative, intransitive

If the root meaning *free, non-captive* is **booga**, then we could create the following words:

kebooga = to free, to release

bubooga = to capture

dibooga = to escape

sabooga = to surrender

This approach is okay for a crude first pass, but it is unsatisfying as a real solution because transitivity is a **syntactic** phenomenon. I feel that a **semantic** solution based on thematic relations would be much more flexible, and I have LOTS to say on this in my (very long!) monograph [Lexical Semantics](#). Also, this solution is too simplistic, because it fails to deal adequately with gradeable concepts, like *hot*, *warm*, *lukewarm*, *ambient*, *cool*, *cold*, *frigid*. For these, you could start with derived primitives to handle basic (+), (0) and (-) concepts, and then add fine-tuning morphemes to cover the cases in between. For example:

positive (+) primitives: CVNC
where N is a nasal, homorganic with the C that follows it.

neutral (0) primitives: CVLC
where L is a liquid, such as /l/ or /r/

negative (-) primitives: CVSC
where S is either /s/ or /z/, agreeing in voicing with the C that follows it.

Next, add the fine-tuning morphemes:

ki- = to move in a positive direction
no- = to move in a negative direction

So, to put it all together, let *pend* = 'hot', *peld* = 'ambient', and *pezd* = 'cold'. With the fine-tuning morphemes, you can now get:

kipend = scalding, red-hot
pend = hot
nopen = warm, not too hot

kipeld = lukewarm, tepid
peld = ambient, room-temperature
nopeld = slightly cool

kipezd = cool
pezd = cold
nopezd = frigid

You can, of course, add more fine-tuning morphemes to handle finer distinctions or more extreme ones, such as 'super hot' and 'super cold'.

The only problem I have with all of this is that it is definitely unnatural, and I would normally be reluctant to include a feature in an AL that could potentially go against some linguistic universal.

However, I doubt if this is a serious problem, since linguistic purists could always regard the combination of a *primitive + polarity marker* as a single morpheme.

I will say no more about this because I've written a lengthy monograph [Lexical Semantics](#) that goes into considerably more detail on the whole topic of lexical semantics for ALs, and I prefer to say it all there rather than here. Besides, the approach I discuss in the monograph is considerably different than the one discussed here, and, in my opinion, considerably better as well. :-)

End of Essay