Ulwa possessed property concepts

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In Ulwa (Misumalpan; Nicaragua), property concept (PC) words like *sik-ka* 'big', *yam-ka* 'good', and *baras-ka* 'black' appear suffixed with *–ka*, which is also the third singular nominal possessive (NP) marker, as shown in (1).

(1) Kim balah-ka
Kim table-3SING.POSS
'Kim's table'

In this paper, we examine the relationship between PC *–ka* and NP *–ka*. We first give arguments, both typological and diachronic, suggesting that this syncretism is unlikely to be an accident. We then lay out an analysis that semantically motivates the syncretism, arguing that both types of *–ka* suffixation are ways of introducing the possessive π relation. Its use with possessive NPs is straightforward. In the case of PC words, we argue that possession is used to imitate predication, given that PC roots denote properties. Possession of a property, we argue, is one way of attributing them of entities and is truth-conditionally equivalent to predication (via the up operator), thereby explaining why PC words would appear with possessive morphology.

There are two arguments suggesting that the PC/poss syncretism is likely not an accident. First, Ulwa is not unique in showing a PC/poss syncretism. This same syncretism is also observed in a number of Oceanic languages (Ross 1998), Hausa (Newman 2000), and Moseten (Sakel 2003), among other languages, and has also been the subject of a recent descriptive discussion in the typological literature (Malchukov 2000). The fact that this syncretism occurs (if somewhat uncommonly) across genetically unrelated languages suggests that there must be some reason why this happens. More compelling evidence that the syncretism, in Ulwa specifically, is not an accident comes from Misumalpan diachrony. As shown in (2), both Ulwa and its sister language Mayangna (Norwood 1997) have the PC/poss syncretism.

(2)

	3sing poss	PC words
Ulwa	–ka	–ka
Mayangna	–ni	–ni

The phonological shape of the suffix, *–ni*, is different from that of its Ulwa counterpart, *–ka*, yet both languages show the syncretism. This came about through a systematic diachronic shift. Benedicto and Hale (2000:98) argue that there was a "'person shift' ... according to which [Mayangna] third person morphology corresponds to Ulwa first person inclusive morphology, replacing the original Misumalpan ... third person morphology." Their claim is that the Ulwa NP paradigm, laid out in (3), represents the Proto-Misumalpan system.

(3) Ulwa (and Proto-Misumalpan) NP paradigm

1SING	–ki	1PL.EXCL	–ki-na	1PL.INCL	**–ni**
2SING	–ma	2PL	–ma-na		
3SING	**–ka**	3PL	–ka-na		

When Ulwa and Mayangna split from Proto-Misumalpan, while the person/number marking remained intact in Ulwa, in Mayangna the morphology that in Proto-Misumalpan (and still in Ulwa) marks first inclusive came to mark third singular (with impersonal uses of first plural inclusive, presumably the motivating force). That is, *–ni*, which marked first plural inclusive in Proto-Misumalpan (and presently in Ulwa), shifted in Mayangna, to marking third singular. So, when *–ni* shifted to marking the third singular NP in Mayangna, *PC marking followed, so that –ni became the marker not only of third singular NP, but also the PC marker.* We believe that combined with the crosslinguistic facts, the diachronic facts show convincingly that the explanation for the syncretism must be grammatical. We develop an explanation rooted in the semantics of possession, drawing on Barker (1995).

For possessive NPs, we assume a syntax in which possessive nouns are in the specifier of an NP headed by the *–ka* suffixed (possessed) noun. Semantically, *–ka* has the denotation of Barker's *poss* operator in (4a), a function mapping properties to relations. This function takes a property and returns a set of pairs of individuals $\langle a, b\rangle$ such that b is P and stands in the underspecified possessive relation π to a.

(4) a. $[\![-ka]\!] = \lambda P_{(et)}\lambda x\lambda y[\pi(x,y)\&P(y)]$ b. $[\![Kim\ balauhka]\!] = \lambda y[\pi(Kim,y)\ \&\ table(y)]$

In this way, a possessive NP like *Kim balauh-ka* denotes the set of tables standing in the π relation to Kim, as in (4b).

By contrast with the nouns that *–ka* composes with, PC roots are not words, but rather morphologically bound roots that require a host in order to enter into any kind of syntactic relation. The *–ka* suffix is one such host. The mystery of this paper is why it's the possessive morpheme that hosts these morphologically bound roots, turning them into free-standing syntactic words. Our answer is that PC-roots are names of primitive properties, i.e., they denote what is denoted by English forms derived by means of *nominalization*, e.g., *happiness*. One way in which a property can function in a predication relation is by standing in the possessive relation to an individual. That is, we argue that predication of a function and possession of its nominalized counterpart are truth-conditionally equivalent, as stated explicitly in (5) (where $^{\cup}$ is the function mapping properties (with $\wp$ a variable over properties) into their functional <e,t> counterparts).

(5) For all $\wp \in D_p$ and for all $a \in D_e$, $\pi(a,\wp) \Leftrightarrow {}^{\cup}\wp(a) = 1$

Suffixation of a PC root with *–ka* maps the property denoted by the root to a function characterizing the set of entities that "have" that property. In this guise, we assume that *-ka* is associated with a second denotation, given in (6a), that is closely related to the one we assumed for *–ka* in the context of a possessive NP. In this way, a PC word suffixed by *–ka*, like *baraska* 'black' denotes the set of entities possessing the BLACKNESS property, as shown in (6b).

(6) a. $\lambda\wp\lambda x.\pi(x,\wp)$ b. $\lambda x[\pi(x, BLACKNESS)]$

We show how the compositional semantics of a range of constructions in Ulwa, including predicative PC constructions, attributive constructions, and others, are captured by the theory of possession laid out by Barker (1995) coupled with the assumption that *–ka* has the denotation in (6) when composing with PC roots. The leading idea is that predication of *–ka* suffixed PC words is, in fact, possession of a property by a possessor, so that a sentence like (7), in literal terms means that Kim possesses the BLACKNESS property.

(7) Kim ya baras-ka.
Kim the black-ka

Although we do indeed posit distinct denotations for possessive *–ka* and PC *–ka*, we believe that the two form a very natural semantic class. The denotation of poss *–ka* intersects (the extension of) any predicate P with the set of things that stand in the possessive relation to some individual a. Thus, applying poss *–ka* to a predicate P yields the binary relation that two individuals a and b stand in iff $\langle a, b\rangle$ is in the extension of π and b is in the extension of P. PC *–ka* denotes a very similar binary relation, namely the relation that two individuals a and b stand in iff $\langle a, b\rangle$ is in the extension of π and b is a property. Both poss *–ka* and PC *–ka* therefore serve to relate an individual to another individual by π, and it is this element of their meaning that, we believe, is the semantic essence of *–ka*, the element of meaning that conceptually links the two denotations. The difference between the two is essentially type-theoretic—a predicate derived by suffixing poss *–ka* to an $\langle e, t,\rangle$ function P requires the second member of any pair in its extension (i.e. the possessed entity) to be in the extension of P, whereas the denotation of PC *–ka* sortally restricts the second entity of any pair in its extension to be a property. The contribution to truth conditions that *–ka* makes is uniformly stated in terms of the possessive relation π. We therefore believe that it makes sense to think of the two denotations as part of a single lexical entry and that the diachronic facts discussed above follow from this and more broadly from the fact that Ulwa uses possession of a property as a way of mimicking predication of its functional counterpart.

Selected references

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