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The Phonology of Possession

The first goal of this talk is to demonstrate that phonological distinctions between Inalienable (INAL) and Alienable (AL) constructions in synthetic possessives are remarkably consistent cross-linguistically. In AL constructions, the marker of agreement (AGRPOSS) with the possessor (POSS) that appears on the possessed noun has the properties of a clitic; it is phonologically and morphologically 'distant' from the noun. In INAL constructions, on the other hand, these markers have a tendency to behave like true affixes; they are inseparable from the noun and are phonologically 'close'. This morpho-syntactic closeness is widely discussed in the syntactic literature as being due to a featural specification ([+relational], following Barker 1995) on the INAL noun, but the parallel phonological closeness has received little attention in the phonological literature. The proposed [+rel] feature on the INAL noun entails that it must itself enter into a relationship with a POSS argument, while an AL noun's status with POSS must be mediated by a functional morpheme, F (null or overt). Examples of this contrast will be offered from languages such as (1) Ojibwe (Eastern Algonquian), (2) Nvikh (isolate/Paleosiberian), (3) Akan (Niger-Congo), and languages such as Mangap-Mbula (Oceanic), Lango (Nilotic), Cupeño (Uto-Aztec) and Nanti (Arawakan).

(1) a. **no:**komis   'my grandmother'   b. **nid**ogima:m   'my leader'
          ni-o:komis   1P-grandmother   ni-o:gima:-im 1P-leader-POSS'
(2) a. pʰnaχ   'one's own eyes'   b. pʰinaχ   'one's own bed'
          pʰ-naχ   1P-eyes   pʰ-⊘-naχ   pʰ-POSS-naχ
(3) a. ǹ-sá   'hand'   b. ǹ-sá   'drink'
          Kòfí ń-sá   'Kofi's hand'   Kòfí ń-!-sá   'Kofi's POSS-drink'

Each of the above INAL/AL pairs differs phonologically in a manner that reveals a variance in distance between AGRPOSS and the possessed N. We can see that hiatus is resolved through deletion in (1a), but by epenthesis in (1b) (Newell & Piggott 2014). In (2a), the consonant prefix combines with the root-initial consonant to form an overt cluster, while in (2b), the relatively greater distance between the consonant and the root is signalled by vowel epenthesis. In (3a) the POSS relation is indicated by a high tone, which undergoes downstep in (3b), triggered by an intervening low tone that is considered to be the exponent of a POSS morpheme (Dobler 2008).

The phonological differences in (1-3) are argued here to be due to the fact that in each of the INAL (a) examples the noun and AGRPOSS are interpreted within the same phonological domain ([PWd]), while in the AL (b) examples the noun and AGRPOSS are separated by a phonological boundary ([PWd[PWd]]). It is argued here that this pattern is due to a mirroring of syntactic and phonological domains. Each synthetic possessive structure is a DP, which contains an *n*P. Within the literature on syntactic cycles (Chomsky 1999, Marantz 2007), each of these domains is predicted to undergo spell-out. In the INAL constructions we argue, following Newell & Piggott (2014) and Dobler (2008), that the possessor is merged in Spec, DP and the INAL noun raises to D to check its [+rel] feature. Both AGRPOSS and the N therefore undergo phonological interpretation together when the DP undergoes spell-out (4a). An alternate account, where the possessor is merged low would make the same phonological predictions. In AL constructions, the possessor does not need to check a feature on the noun. The noun therefore remains low, in *n*P, while the possessor (introduced low as an argument of a functional head, F) raises to Spec, DP. AGRPOSS and the AL nouns are therefore interpreted in separate syntactic cycles. Their more complex phonological structure is determined by their more complex syntactic structure (4b).

(4) a.   [$_{DP}$ POSS **AGRPOSS-N$_i$** [$_{nP}$ N$_i$]] b.   [$_{DP}$ POSS **AGRPOSS** [$_{nP}$ POSS$_i$ **F N**]]

As an illustration of how phonology tracks these structures, consider the Nivkh case. From the perspective of Government Phonology, there must be a properly governed empty nucleus between

the initial CC in (2a). However, the greater distance of the consonant prefix from the root in (2b) prohibits such a relationship; proper government cannot extend across a PWd boundary.

(5) a. $[C\ V_1\ C\ V_2\ C\ V_3]_{PWd}$ b. $[C\ V_1\ [C\ V_2\ C\ V_3\ _{PWd}]_{PWd}$
         $p^h \oslash$ n a $\chi \oslash$ $p^h \oslash$ n a $\chi \oslash$
         $p^h na\chi$ $p^h ina\chi$

V_1 in (5a) is properly governed by V_2, while in (5b) the PWd boundary blocks government. Each of the distinctions in the languages listed above are argued here to be due to differences in the application of phonological operations that are dependent on the distinct phonological structures that emerge in mono- or bi-cyclic derivations. **The second goal** of this talk is to introduce a phonological confound to the analysis presented above that is solved when other morphological facts are taken into account. Contrary to the conventional thinking, evidence from Kokota (Oceanic) (Palmer 2009) and Maybrat (West Papuan) (Dol 2007) demonstrate that the possessive functional morpheme, F, is found in **both** of the distinct INAL and AL constructions. This morpho-syntactic structure causes INAL derivations to emerge with the nested PWd structure predicted by the cyclic interpretation of AL constructions in (4b). Therefore, the structure $[_{DP}$ POSS$_i$ **AGRPOSS** $[_{nP}$ POSS$_i$ **F N**]] determines the initial phonological structures in the INAL examples in (6).

(6) a. $[t[xaf]_{PWd}]_{PWd}$ → $[t\partial xaf]_{PWd}$ 'my stomach'
     b. $[t[s\partial niem]_{PWd}]_{PWd}$ → $[s\partial niem]_{PWd}$ 'my in-law (male, same sex)'

In (6a) the prefix emerges in the output, but induces epenthesis before a C-initial root. In (6b) the prefix does not emerge. The Maybrat challenge is to explain why schwa epenthesis must apply when AGRPOSS is attached to a monosyllabic root, but the process fails to apply when the root is polysyllabic. An analysis of the INAL POSS construction that requires both the N and AGRPOSS to emerge in the same cycle in a derivation would generate the CC context for the insertion of schwa in both (6a & b). We argue that the correct analysis must be that a root that is smaller than a foot will attract the prefix in the outer cycle/domain in order to satisfy minimality restrictions in the language (Piggott 2015), while a larger root will not. Crucially, this analysis rests on the original PF output of these constructions being $[t[xaf]_{PWd}]_{PWd}$ and $[t[s\partial niem]_{PWd}]_{PWd}$. The prefix in (6b), unlike the one in (6a), does not undergo phonological merger to the inner domain, and cannot project its own prosodic domain, and so is deleted. Given the cross-linguistic phono-syntactic analysis above, the conclusion must be that here the [+rel] feature on the INAL noun may, in some languages, be checked by a POSS head in the nP domain, allowing the INAL noun to remain low in the structure. The phonology therefore gives insight into the syntactic analysis of POSS derivations. **In conclusion**, the analysis of the phonology of possessive structures offered here demonstrates (i) a previously un-acknowledged cross-linguistic phonological pattern, and (ii) an exception to this pattern not expected in the standard analysis of possessive derivations. This demonstrates the importance of inquiries at the interface, as analyses in the syntactic and phonological domains may offer insight into the workings of the other.

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