The lexical problem

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It seems to me that Archi is not particularly unusual in not having any word class where every member shows agreement. It is not unusual for languages to have word classes where some members show agreement and some do not. In English most verbs show agreement with a third person singular subject in the present tense but modals do not. On the other hand, most determiners do not show agreement with the associated noun but *this* and *that* do. Similarly in Welsh most prepositions show agreement in person, number and gender with a pronominal complement, but a few don't. A typical agreeing preposition is *ar* 'on', while one of the non-agreeing prepositions is *gyda* 'with'. The following illustrate:

(1) a. ar y dyn
        on the man
    b. arno   fo
        on-3SGM he
    c. arni   hi
        on-3SGF she

(2) a. gyda Gareth
        with Gareth
    b. gyda fo
        with he
    c. gyda hi
        with she

(Notice that there is no agreement in (1a).) On the other hand, most Welsh attributive adjectives do not agree with the noun they modify, but a few do (at least in the literary language), e.g. *gwyn* 'white', which has the feminine form *gwen* and the plural form *gwynion*.

On the face of it, there are two possible approaches in any framework to situations where some members of a word class show agreement while others do not. Either all members of the class have agreement features (whatever form they may take) but with some they are not realized or some members of the class have agreement features but others do not. The former makes the realization of agreement features more complex than one might like. The latter makes the assignment of agreement features more complex than one might like.

Within HPSG there are two ways to ensure that some members of a word class do not have agreement features. Firstly, one might propose that they lack the features that encode agreement, in the case of Archi as analysed in Borsley (2012), the features AGR-NOMINAL encoding NP-internal agreement and AGR-CLAUSAL encoding clausal agreement. Part of an HPSG grammar is a specification of what features the various types have. For example, the type *noun* has the feature CASE but the type *verb* does not. Hence, it would be possible in the case of Archi to postulate two subtypes of the type *adjective*, *agreeing-adjective* and *non-agreeing-adjective*, and stipulate that only the former has the feature AGR-NOMINAL. Similarly, one might postulate two subtypes of the type *verb*, *agreeing-verb* and *non-agreeing-verb*, and to stipulate that only the former has the feature AGR-CLAUSAL.

Secondly, one might propose that the features are present but do not have their normal values. One might assume that as well as their normal values the two agreement features can

have the special value *none*. Given this special value, one might propose the following constraints:

(3) a.   *non-agreeing-adjective* $\rightarrow$ [AGR-NOMINAL *none*]
     b.   *non-agreeing-verb* $\rightarrow$ [AGR-CLAUSAL *none*]

The constraints that are responsible for agreement would then apply to adjectives that are [AGR-NOMINAL $\neg$ *none*] to verbs and other words that are [AGR-CLAUSAL $\neg$ *none*]. In Borsley (2012), I proposed that NP-internal agreement is the product of the constraint on phrases in (4) and clausal agreement the product of the constraint on order domains in (5).

(4)
$$\begin{bmatrix} \text{HD-DTR[1]N'[CONCORD[2]]} \\ \text{DTRS} < [1], [\text{AGR-NOMINAL[3]}] > \end{bmatrix} \Rightarrow [2] = [3]$$

(5)   [DOM <…[AGR-CLAUSAL [1]]…NP[CASE *abs*, INDEX [2]]…

     [AGR-CLAUSAL [3]]]…>] $\Rightarrow$ [1] = [2] & [2] = [3]

If non-agreeing elements are [AGR-NOMINAL *none*] and [AGR-CLAUSAL *none*] we would instead have the constraints in (6) and (7).

(6)
$$\begin{bmatrix} \text{HD-DTR[1]N'[CONCORD[2]]} \\ \text{DTRS} < [1], [\text{AGR-NOMINAL[3]} \neg none] > \end{bmatrix} \Rightarrow [2] = [3]$$

(6)   [DOM <…[AGR-CLAUSAL [1] $\neg$ *none*]…NP[CASE *abs*, INDEX [2]]…

     [AGR-CLAUSAL [3]] $\neg$ *none*]…>] $\Rightarrow$ [1] = [2] & [2] = [3]

However, it may be that this approach is most appropriate for a situation where words show agreement under some circumstances but not others. I use it in Borsley (2009) for typical Welsh prepositions which show agreement with a pronominal complement but not with a non-pronominal complement. In the former case AGR has PERSON, NUMBER and GENDER features as its value while in the latter case it has the value *none*.

It seems, then, that there are three ways of deal with elements which do not show the agreement that one might expect. One possibility is that the agreement features are present as usual but are not realized. The second is that the features which encode agreement are present but have not their usual value but the special value *none*. The third is that the features which encode agreement are absent. It is not easy to choose between these approaches.

In each pair of Archi examples it is fairly clear how the agreeing example should be analysed, but there are three possible analyses for the non-agreeing example. Consider first (1) and (2). In (2), *mut:-ib* will have the feature specification in (8).

(8) $\begin{bmatrix} \text{AGR-NOMINAL[NUMB } plur \text{]} \end{bmatrix}$

In example (1), *marči* will either have the same feature specification or the feature specification in (9) or it will lack the AGR-NOMINAL feature altogether.

(9) $\left[\text{AGR - NOMINAL} \, \textit{none}\right]$

Consider now (3) and (4). In example (4), *da-qˤa* will have the feature specification in (10).

(10) $\left[\text{AGR - CLAUSAL} \begin{bmatrix} \text{NUMB} \, \textit{sing} \\ \text{GEND} \, \textit{ii} \end{bmatrix}\right]$

In example (3), *boqʼˤo* will either have the same feature specification or the feature specification in (11) or it will lack the AGR-CLAUSAL feature altogether.

(11) $\left[\text{AGR - CLAUSAL} \, \textit{none}\right]$

The other pairs are apparently quite similar to (3) and (4). In each case the element that shows agreement in the second member will have an appropriate value for the AGR-CLAUSAL feature and the similar element in the first member which does not show agreement will have a similar value for AGR-CLAUSAL or will have the value *none* or will lack this feature.

References

Borsley, R. D. (2009), On the superficiality of Welsh agreement, *Natural Language and Linguistic Theory* 27, 225-265.

Borsley, R. D. (2012), The domain problem, http://fahs-wiki.soh.surrey.ac.uk/groups/fromcompetingtheoriestofieldworkarchi/wiki/a8671/The_HPSG_approach_to_the_domain_problem.html.