

# A constructional approach to passive in HPSG

## Abstract

In this paper I suggest an analysis of passive for HPSG where a syntactic element PASS is treated as an argument following *the new analysis* for passive in GB by Jaeggli (1986), Baker (1988) and Áfarli (1992). I propose one type that can account for the formal properties and basic meaning of both the morpheme in morphological passive and the passive auxiliary in the periphrastic passive, as well as the valence rule that realizes the subject of a unaccusative verb. In order to achieve this, I assume that verbs have four function-independent valence features ARG1, ARG2, ARG3 and ARG4 instead of the features SUBJ and COMPS.

## 1 The lexical approach

In most HPSG approaches to passive in HPSG, a lexical rule is assumed. This holds for implemented grammars like the English Resource Grammar (ERG) (Flickinger, 2000) and NorSource (Hellan and Haugereid, 2004). A simplified version of the lexical rule usually assumed for passive is presented in Figure 1.

$$\left[ \text{CAT} \mid \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} \rangle \\ \text{COMPS} \langle \boxed{1} \rangle \oplus \boxed{2} \end{array} \right] \right] \Rightarrow \left[ \text{CAT} \mid \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \boxed{1} \rangle \\ \text{COMPS} \boxed{2} \end{array} \right] \right]$$

Figure 1: Passive lexical rule

In the passive lexical rule the first element of the COMPS list in the input  $\boxed{1}$  becomes the subject of the output. The rest of the COMPS list  $\boxed{2}$  becomes the COMPS list of the output. If there is more than one possible realization of the subject, as is the case in passive ditransitive sentences in Scandinavian, there must be a corresponding amount of lexical rules. NorSource has three different lexical rules for passive.

## 2 An alternative constructional approach

Here I present an approach that draws on the analyses of passive in Jaeggli (1986), Baker (1988) and Áfarli (1992) that treat passive as a syntactic argument and not as a lexical process. Their assumption is that PASS realizes the external theta role, but that it does not take the nominative Case assigned by the verb. Therefore some other argument of the verb that already has been assigned a theta role (or an expletive) will take the nominative Case.

In my approach, I mimic the theta roles in GB with valence features such as ARG1, ARG2, ARG3 and ARG4. The ARG1 feature corresponds to the external theta role. The ARG2 feature corresponds to the internal theta role that can

function as direct object. The ARG3 feature corresponds to the internal theta role that can function as indirect object, and the ARG4 role corresponds to *delimiters*, that is, resultatives and goal phrases. Each valence feature has a negative or positive specification. A transitive verb like *admire* is lexically specified with positive values for ARG1 and ARG2, and negative values for ARG3 and ARG4.

What happens when a theta role (or what I call an argument role) is realized is that the positive specification is switched from positive to negative. At the same time something I call a “linking relation” is added. These relations are assumed to represent abstract meanings expressed when the argument roles are taken. So when the ARG1 specification is switched from positive to negative, an *arg1-relation* is added, which represents the meaning of the expression.

Passive is assumed to be one possible expression of the realisation of the ARG1 role. Also a valence rule that realizes the subject of an unergative verb expresses the realization of the ARG1 role. In my grammar I use the type hierarchy to make generalizations over these different expressions. The type for the realization of the ARG1 role is given in Figure 2.

$\left[ \begin{array}{ll} \textit{arg1-sign} & \\ \text{IN} \mid \text{VAL} \mid \text{ARG1} \mid \text{LINK} & \textit{arg1+} \\ \text{OUT} \mid \text{VAL} \mid \text{ARG1} \mid \text{LINK} & \textit{arg1-} \\ \text{MEANING} & \textit{arg1-relation} \end{array} \right]$
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Figure 2: Definition of *arg1-sign*

The passive auxiliary and passive morphology will both inherit from this type and make sure that the IN information reaches the main verb and that the OUT information goes up the tree, in the same manner as a valence rule does.

## References

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