A Derivational Account for Sorani Kurdish Passives.

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In this paper we propose a new analysis for Sorani Kurdish passive formation. We argue that passivisation in Sorani Kurdish actually is a derivational process and propose four arguments supporting this claim.

Within lexicalist approaches to morphosyntax, the question whether to treat passivisation as an inflectional or a derivational process has often been raised. The traditional treatment of passive considers it to be an inflectional process. This traditional view is followed by certain number of recent studies (Stump, 2006; Hippisley, 2007) that presuppose the existence of one single paradigm for both the active and the passive verb forms of a given lexeme. On the other hand, (Sadler and Spencer, 1998) claim a derivational analysis of passives while (Bresnan, 1982) states that passives may serve as an input for derivational processes. If one accepts that inflected forms cannot function as an input for derivational processes, (Bresnan, 1982) inevitably entails a derivational treatment of passivisation. (Blevins, 2003) proposes a treatment for passives as a morphological process called *Passive Lexical Rule (PLR)* applicable to a whole series of languages. (Sag *et al.*, 2003) argue that the argument-structure-changing operation triggered by passivisation are evidence for a derivational analysis for passives.

Others, like (Kiparsky, 2005) do not explicitly choose between the two approaches. Yet the data Kiparsky presents for Latin rather favours a derivational analysis. Usually, derivation is said to operate semantic change in an unpredictable way: as opposed to inflectional processes, given one derivational process, there is not necessarily one unique predictable semantic change that systematically occurs. Based on data from Latin, (Kiparsky, 2005) shows that morphological passive forms may have several distinct values, not only syntactic passive value. These values are lexically specified, i.e. not directly predictable.

In this paper we analyse the morphological passive of the Western Iranian language *Sorani Kurdish*. We use the more common name *Sorani* to refer to its standardised dialect, corresponding to what (Haig, 2010) refers to as *Suleimani*. Sorani mainly distinguishes itself through its verbal morphology and its intricate system of *"endoclitic" person markers* (Samvelian, 2007). Sorani verb forms roughly consist of a set of prefixes and suffixes clustered around a given stem (cf. Table 2). Most traditional descriptions of Sorani morphology concur in stating the existence of two distinct verbal stems: one for the present tense forms and one for the past and non-finite forms. Clustered around these stems, prefixes mostly convey tense, aspect and mood *(TAM)* and polarity features, whereas suffixes may encode TAM and person information. Sorani also displays three sets of personal endings (Table 1): PE1 for the present verb and the perfect subjunctive , PE2 for imperfective, preterite and past perfect forms and PE3 for the remaining perfect forms. In past tenses, Sorani verbs display remnant features of split ergativity (Haig, 2010): if a verb is transitive, the normal person markers are replaced with the endoclitic person markers as subject-verb agreement markers in the past tenses. They are inserted in verb-internal second position (Samvelian, 2007).

Passives are formed by inserting the sequence *–rê/–râ* between the stem and the other suffixes (shaded column in Table 2). Descriptive grammars implicitly present *–rê/–râ* as just another set of inflectional suffixes for transitive verbs (McCarus, 1958; MacKenzie, 1961; Blau, 2000; Thackston, 2006).

In order to get a more precise view of Sorani passive, we have developed a full *Paradigm Function Morphology (PFM, (Stump, 2001))* account for both possible analyses of Sorani passivisation — inflection or derivation. **We argue that passivisation in Sorani Kurdish is a derivational process and propose four arguments supporting this claim.** Instead of inflectional **Voice Realisation Rules**, we propose a **Lexical Passive Derivation Rule**.

Personal Endings		**PE3** Enclitic endings	
PE1 Present personal endings		*–m*	*–în*
–m	*–în*	*–î(t)*	*–n*
–î(t)	*–n*	*–a*	*–n*
–ê(t)	*–n*	**Endoclitic person markers**	
PE2 Past personal endings		**EPM** Endoclitic person markers	
–m	*–în*	*–m*	*–mân*
–î(t)	*–n*	*–t*	*–tân*
–ø	*–n*	*–î*	*–yân*

Table 1. Person marking

-2	-1	0	P	1	2	3
ma	da	STEM	râ	û	im	aja
na	bi	(1, 2, 3, 4)	rê	bû	î(t)	a
nâ				b	ê(t)	
					a	
					în	
					in	
					ø	
				n		

Table 2. Sorani Kurdish verbal position classes within a PFM analysis

Voice Realisation Rules:

$$\begin{bmatrix} \textit{lexeme} \\ \text{PRES-STEM } x \\ \text{PAST-STEM } y \end{bmatrix} \longrightarrow \begin{bmatrix} \textit{word} \\ \text{PERSON } \textit{3} \\ \text{NUMBER } \textit{sg} \\ \text{TENSE } \textit{past} \\ \text{VOICE } \textit{active} \\ \text{FORM } x \end{bmatrix} \vee \begin{bmatrix} \textit{word} \\ \text{PERSON } \textit{3} \\ \text{NUMBER } \textit{sg} \\ \text{TENSE } \textit{past} \\ \text{VOICE } \textit{passive} \\ \text{FORM } x\textit{+rê} \end{bmatrix} \vee \ldots$$

Lexical Passive Derivation Rule (LPD):

$$\begin{bmatrix} \textit{active lexeme} \\ \text{PRES-STEM } x \\ \text{PAST STEM } y \end{bmatrix} \longrightarrow \begin{bmatrix} \textit{passive lexeme} \\ \text{PRES-STEM } x\text{+rê} \\ \text{PAST-STEM } x\text{+râ} \end{bmatrix}$$

1. According to (McCarus, 1958) **voice change does not trigger a unique semantic change in Sorani**. In (1), two semantic changes triggered by morphological passive compete with each other: syntactic passive value and a potential meaning. In (2), the only available semantic change is the potential meaning. However, this data still requires a more thorough investigation. If the semantic irregularity triggered by morphological passive is confirmed, **the data will semantically support a derivational analysis of Sorani passives.**

(1) a. akiŕen **–rê**
to rubb off m-passive
"It is rubbed off." SYNTACTIC PASSIVE

b. akiŕen **–rê**
to rubb off m-passive
"It can be rubbed off." POTENTIAL

(2) a. twani
to be able
SYNTACTIC ACTIVE

b. atwan **–rê**
to be able m-passive
"It is possible." POTENTIAL

2. Treating voice change as a derivational operation also **significantly simplifies the morphology-argument-structure interface**. Lexically specified voice allows for lexically specified argument structures (Sag *et al.*, 2003). Passivisation thus appears as a derivational operation capable of changing a lexeme's argument structure. No separate mechanism is needed to account for the differences in the derived lexeme's argument structure (Blevins, 2003).

3. Within Sorani verb paradigms, **the passive (sub-)paradigm exactly matches the intransitive paradigm** using the same prefixes and suffixes, except for the presence of *–rê/–râ*. Active transitives differ from them through their use of endoclitic person markers as subject-verb agreement. The fact that the intransitive and passive endings completely match is a new element to the understanding of Sorani passives, since, to our best knowledge, none of the reference grammars (McCarus, 1958; MacKenzie, 1961; Blau, 2000; Thackston, 2006) mention the complete paradigm of Sorani passives: in spite of their existence, passive subjunctives for perfect tenses seem nowhere described. This exact correspondence between passive and intransitive paradigms argues towards the existence of **a specific inflection class** common

to these two types of verbs and thus to the existence of separate passive lexemes that possess this precise inflection class. Hence, passives of transitives should be obtained through the derivation of active transitive lexemes. Moreover, our PFM models also show that there are no further inflectional endings sharing the position class available to *–rê/–râ* (Table 2). The suffix *–rê/–râ* linearly directly follows the stem and hence requires adding before any further inflection, which would also be expected from derivational affixes. Moreover, the fact that the *–rê* and *–râ*. appear in their very own distinct position class tends to argue towards **morphological independence of passive from the inflectional system**.

4. Our PFM implementations also highlight an additional, although more technical, argument for preferring a derivational approach to Sorani passivisation: it concerns stem selection rules. Indeed, Sorani Kurdish shows a non-predictable morphomic (Aronoff, 1994) stem alternation for present and past tense forms. In addition to these two traditional stems, (Bonami and Samvelian, 2008) suggest the existence of a third stem for the passive forms. The passive stems are usually built on the present stem, yet for some verbs, the selection of the passive stem is irregular: it may be based on the past stem or even display more unexpected changes in form. These stem alternations have to be treated previous to the PFM rules generating the verb paradigms, which requires specific stem selection principles for each given lexeme X.

The derivation hypothesis allows for treating the *passive stem* independently of the other two stems and hence **simplifies the stem selection rules**. Moreover, this makes for a description that is closer to the traditional ones stating two stems.

Inflectional analysis	**Derivational analysis**
X,σ: {VOICE *active*, TENSE *present*} $\rightarrow$ PRES-STEM(X)	X (default) $\rightarrow$ PAST-STEM(X)
X,σ: {VOICE *active*, TENSE *past*} $\rightarrow$ PAST-STEM(X)	X,σ: { TENSE *present*} $\rightarrow$ PRES-STEM(X)
X,σ: {VOICE *passive*} $\rightarrow$ PASS-STEM(X)	

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