

# Les marqueurs de personne du kurde sorani à l'interface morphologie-syntaxe

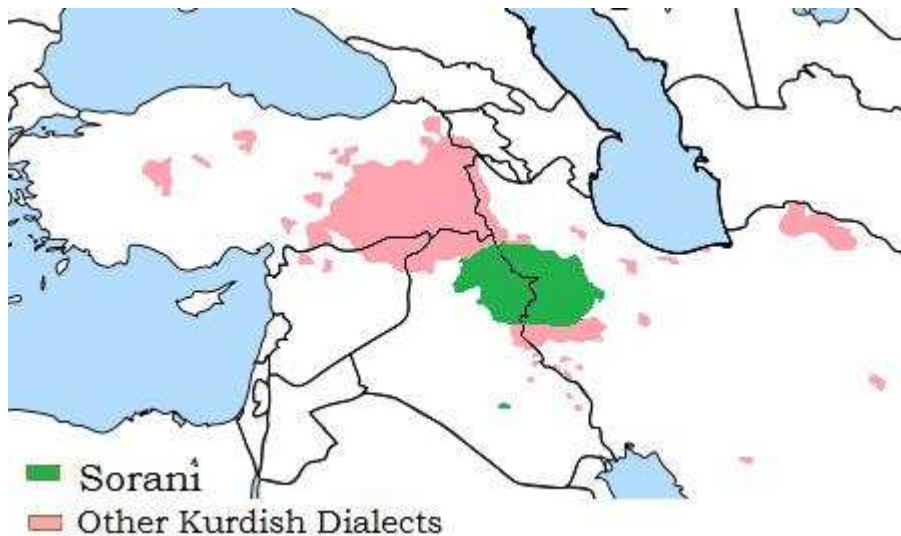
Olivier Bonami<sup>1</sup>   Pollet Samvelian<sup>2</sup>

<sup>1</sup>U. Paris-Sorbonne &  
UMR 7023 "Laboratoire de Linguistique Formelle"

<sup>2</sup>U. Sorbonne Nouvelle &  
UMR 7528 "Mondes iranien et indien"

Conférences du LLF, 30 mars 2009

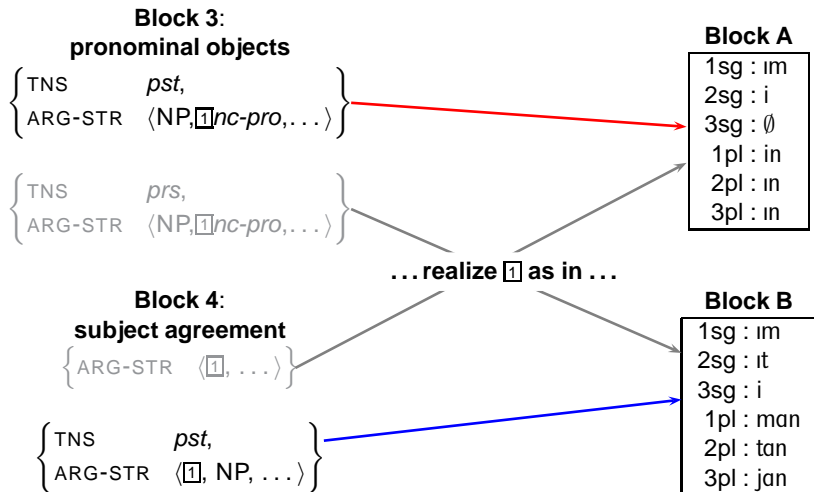
## Répartition géographique des dialectes kurdes







# Past transitive



## Deriving Figures 7 and 8: block 0

- To be realized:

$$X, \left[ \begin{array}{l} \text{krin} \\ \text{STEMS} \left[ \begin{array}{ll} \text{SLOT1} & \text{kr} \\ \text{SLOT2} & \text{kir} \end{array} \right] \end{array} \right], \left[ \begin{array}{ll} \text{TENSE} & \text{prs} \\ \text{REALIS} & + \\ \text{POLARITY} & + \\ \text{ASPECT} & \text{unbd} \\ \text{ARG-ST} & \langle [\text{canon}, 3\text{sg}], [\text{nc-pro}, 3\text{pl}] \rangle \end{array} \right]$$

- Compatible block 0 rules:

$$\left[ \begin{array}{ll} \text{BASE} & \boxed{0} \\ \text{FEATS} & \left[ \begin{array}{ll} \text{TENSE} & \text{prs} \end{array} \right] \\ \text{CLASS} & \left[ \begin{array}{l} \text{verb} \\ \text{STEMS} \left[ \begin{array}{ll} \text{SLOT1} & \boxed{1} \\ \text{SLOT2} & \boxed{2} \end{array} \right] \end{array} \right] \\ \text{BLOCK} & 0 \end{array} \right] \rightarrow \boxed{0} \left\langle \left[ \begin{array}{l} \text{stem} \\ \text{PH} \quad \boxed{2} \end{array} \right] \right\rangle$$

- Output:  $\left\langle \left[ \begin{array}{l} \text{stem} \\ \text{PH} \quad \text{kir} \end{array} \right] \right\rangle$

## Deriving Figures 7 and 8: block 1

- To be realized:

|   |          |  |
|---|----------|--|
| $\left\langle \left[ \begin{array}{l} \text{stem} \\ \text{PH kir} \end{array} \right] \right\rangle, \text{krin},$ | TENSE    | <i>prs</i>   |
|   | REALIS   | +  |
|   | POLARITY | +  |
|   | ASPECT   | <i>unbd</i>  |
|   | ARG-ST   | $\left\langle [\text{canon}, 3\text{sg}], [\text{nc-pro}, 3\text{pl}] \right\rangle$ |

- Compatible block 1 rules:

|       |   |               |  |
|-------|---|---------------|--|
| BASE  | $\boxed{1}$   | $\rightarrow$ | $\left\langle \left[ \begin{array}{l} \text{pfx} \\ \text{PH dæ} \end{array} \right] \right\rangle \oplus \boxed{1}$ |
| FEATS | $\left[ \begin{array}{l} \text{ASPECT } \textit{unbounded} \\ \text{REALIS } + \end{array} \right]$ |               |  |
| CLASS | <i>verb</i>   |               |  |
| BLOCK | 1   |               |  |

- Output:  $\left\langle \left[ \begin{array}{l} \text{pfx} \\ \text{PH dæ} \end{array} \right], \left[ \begin{array}{l} \text{stem} \\ \text{PH kir} \end{array} \right] \right\rangle$

## Deriving Figures 7 and 8: block 2

- To be realized:

|  |          |   |
|--|----------|---|
| $\left\langle \left[ \begin{array}{c} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{c} stem \\ PH \quad kir \end{array} \right] \right\rangle, krin,$ | TENSE    | <i>prs</i>                                    |
|  | REALIS   | +   |
|  | POLARITY | +   |
|  | ASPECT   | <i>unbd</i>                                   |
|  | ARG-ST   | $\langle [canon, 3sg], [nc-pro, 3pl] \rangle$ |

- Compatible block 2 rules: none

- Output:  $\left\langle \left[ \begin{array}{c} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{c} stem \\ PH \quad kir \end{array} \right] \right\rangle$

## Deriving Figures 7 and 8: block 3

- To be realized:

$$\left\langle \left[ \begin{array}{l} pfx \\ PH \quad d\ae \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle, krin, \left[ \begin{array}{l} TENSE \quad prs \\ REALIS \quad + \\ POLARITY \quad + \\ ASPECT \quad unbd \\ ARG-ST \quad \langle [canon, 3sg], [nc-pro, 3pl] \rangle \end{array} \right]$$

- Compatible block 2 rules:

$$\left[ \begin{array}{l} BASE \quad \boxed{1} \\ FEATS \quad \left[ ARG-STR \quad \langle [], \boxed{2}nc-pro, \dots \rangle \right] \\ CLASS \quad verb \\ BLOCK \quad 3 \end{array} \right] \rightarrow \text{narrowest} \left( \left[ \begin{array}{l} BASE \quad \boxed{1} \\ FEATS \quad \boxed{2} \\ CLASS \quad verb \\ BLOCK \quad B \end{array} \right] \right)$$

- Output: go check  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad d\ae \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle, krin, [3pl]$  in block B

## Deriving Figures 7 and 8: block B

- To be realized:  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle, krin, [3pl]$

- Compatible block B rules:  $\left[ \begin{array}{l} BASE \quad \boxed{1} \\ FEATS \quad [3pl] \\ CLASS \quad verb \\ BLOCK \quad B \end{array} \right] \rightarrow \boxed{1} \circ \left\langle \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right] \right\rangle$

- Output: either  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle$   
 or  $\left\langle \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle$

## Deriving Figure 7: block 4

- To be realized:

$$\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle, \textit{krin}, \left[ \begin{array}{l} TENSE \quad \textit{prs} \\ REALIS \quad + \\ POLARITY \quad + \\ ASPECT \quad \textit{unbd} \\ ARG-ST \quad \langle [\textit{canon}, 3sg], [\textit{nc-pro}, 3pl] \rangle \end{array} \right]$$

- Compatible block 4 rules:

$$\left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \left[ \text{ARG-STR} \quad \langle \boxed{2}, \dots \rangle \right] \\ \text{CLASS} \quad \textit{verb} \\ \text{BLOCK} \quad 4 \end{array} \right] \rightarrow \text{narrowest} \left( \left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \boxed{2} \\ \text{CLASS} \quad \textit{verb} \\ \text{BLOCK} \quad A \end{array} \right] \right)$$

$$\left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \left[ \begin{array}{l} TENSE \quad \textit{prst} \\ \text{ARG-STR} \quad \langle [\textit{3sg}], \dots \rangle \end{array} \right] \\ \text{CLASS} \quad \textit{verb} \\ \text{BLOCK} \quad 4 \end{array} \right] \rightarrow \boxed{1} \oplus \left[ \begin{array}{l} \textit{sfx} \\ PH \quad \textit{εt} \end{array} \right] \quad \leftarrow \text{most specific}$$

- Output:  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right], \left[ \begin{array}{l} \textit{sfx} \\ PH \quad \textit{εt} \end{array} \right] \right\rangle$

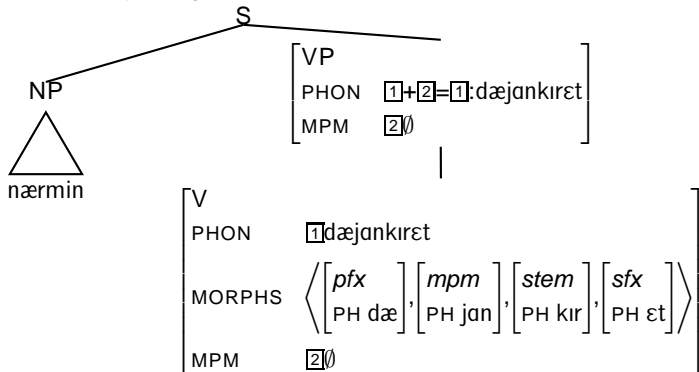
## Deriving Figure 7: word-level phonology

$$(37) \text{ word} \rightarrow \left[ \begin{array}{l} \text{PHON} \quad [1] + \dots + [n] \\ \text{MORPHS} \quad \left\langle \left( \left[ \begin{array}{l} \text{mpm} \\ \text{PHON} \quad [0] \end{array} \right] \right), [\text{PHON} \quad [1]], \dots, [\text{PHON} \quad [n]] \right\rangle \\ \text{MPM} \quad [0] \end{array} \right]$$

$$\text{Here:} \left[ \begin{array}{l} \text{PHON} \quad \text{dæ} + \text{jan} + \text{kir} + \text{ɛt} \\ \text{MORPHS} \quad \left\langle \left[ \begin{array}{l} \text{pfx} \\ \text{PH} \quad \text{dæ} \end{array} \right], \left[ \begin{array}{l} \text{mpm} \\ \text{PH} \quad \text{jan} \end{array} \right], \left[ \begin{array}{l} \text{stem} \\ \text{PH} \quad \text{kir} \end{array} \right], \left[ \begin{array}{l} \text{sfx} \\ \text{PH} \quad \text{ɛt} \end{array} \right] \right\rangle \\ \text{MPM} \quad \emptyset \end{array} \right]$$

## Deriving Figure 7: syntax

The value of MPM is inserted after the first VP constituent (39). But here MPM is the empty string  $\Rightarrow$  no effect.



## Back to block B

- To be realized:  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle, krin, [3pl]$

- Compatible block B rules:  $\left[ \begin{array}{l} BASE \quad \boxed{1} \\ FEATS \quad [3pl] \\ CLASS \quad verb \\ BLOCK \quad B \end{array} \right] \rightarrow \boxed{1} \circ \left\langle \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right] \right\rangle$

- Output: either  $\left\langle \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle$   
 or  $\left\langle \left[ \begin{array}{l} mpm \\ PH \quad jan \end{array} \right], \left[ \begin{array}{l} pfx \\ PH \quad dæ \end{array} \right], \left[ \begin{array}{l} stem \\ PH \quad kir \end{array} \right] \right\rangle$

## Deriving Figure 8: block 4

- To be realized:

$$\left\langle \left[ \begin{array}{l} \text{mpm} \\ \text{PH } \text{jan} \end{array} \right], \left[ \begin{array}{l} \text{pfx} \\ \text{PH } \text{dæ} \end{array} \right], \left[ \begin{array}{l} \text{stem} \\ \text{PH } \text{kir} \end{array} \right] \right\rangle, \text{krin}, \left[ \begin{array}{l} \text{TENSE} \quad \text{prs} \\ \text{REALIS} \quad + \\ \text{POLARITY} \quad + \\ \text{ASPECT} \quad \text{unbd} \\ \text{ARG-ST} \quad \langle [\text{canon}, 3\text{sg}], [\text{nc-pro}, 3\text{pl}] \rangle \end{array} \right]$$

- Compatible block 4 rules:

$$\left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \left[ \text{ARG-STR} \quad \langle \boxed{2}, \dots \rangle \right] \\ \text{CLASS} \quad \text{verb} \\ \text{BLOCK} \quad 4 \end{array} \right] \rightarrow \text{narrowest} \left( \left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \boxed{2} \\ \text{CLASS} \quad \text{verb} \\ \text{BLOCK} \quad A \end{array} \right] \right)$$

$$\left[ \begin{array}{l} \text{BASE} \quad \boxed{1} \\ \text{FEATS} \quad \left[ \begin{array}{l} \text{TENSE} \quad \text{prst} \\ \text{ARG-STR} \quad \langle [3\text{sg}], \dots \rangle \end{array} \right] \\ \text{CLASS} \quad \text{verb} \\ \text{BLOCK} \quad 4 \end{array} \right] \rightarrow \boxed{1} \oplus \left[ \begin{array}{l} \text{sfx} \\ \text{PH } \text{εt} \end{array} \right] \quad \leftarrow \text{most specific}$$

- Output:  $\left\langle \left[ \begin{array}{l} \text{mpm} \\ \text{PH } \text{jan} \end{array} \right], \left[ \begin{array}{l} \text{pfx} \\ \text{PH } \text{dæ} \end{array} \right], \left[ \begin{array}{l} \text{stem} \\ \text{PH } \text{kir} \end{array} \right], \left[ \begin{array}{l} \text{sfx} \\ \text{PH } \text{εt} \end{array} \right] \right\rangle$

## Deriving Figure 8: word-level phonology

$$(37) \text{ word} \rightarrow \left[ \begin{array}{l} \text{PHON} \quad [1] + \dots + [n] \\ \text{MORPHS} \quad \left\langle \left( \left[ \begin{array}{l} \text{mpm} \\ \text{PHON} \quad [0] \end{array} \right] \right), [\text{PHON} \quad [1]], \dots, [\text{PHON} \quad [n]] \right\rangle \\ \text{MPM} \quad [0] \end{array} \right]$$

$$\text{Here:} \left[ \begin{array}{l} \text{PHON} \quad \text{dæ+kɪr+ɛt} \\ \text{MORPHS} \quad \left\langle \left[ \begin{array}{l} \text{mpm} \\ \text{PH} \quad \text{jan} \end{array} \right], \left[ \begin{array}{l} \text{pfx} \\ \text{PH} \quad \text{dæ} \end{array} \right], \left[ \begin{array}{l} \text{stem} \\ \text{PH} \quad \text{kɪr} \end{array} \right], \left[ \begin{array}{l} \text{sfx} \\ \text{PH} \quad \text{ɛt} \end{array} \right] \right\rangle \\ \text{MPM} \quad \text{jan} \end{array} \right]$$

## Deriving Figure 8: syntax

The value of MPM is inserted after the first VP constituent (39). Here a genuine second position clitic (*jan*) is realized.

