

THAI SERIAL VERB CONSTRUCTIONS - AN HPSG IMPLEMENTATION AND ANALYSIS

Vipasha Bansal
University of Washington

SVC DEFINITION

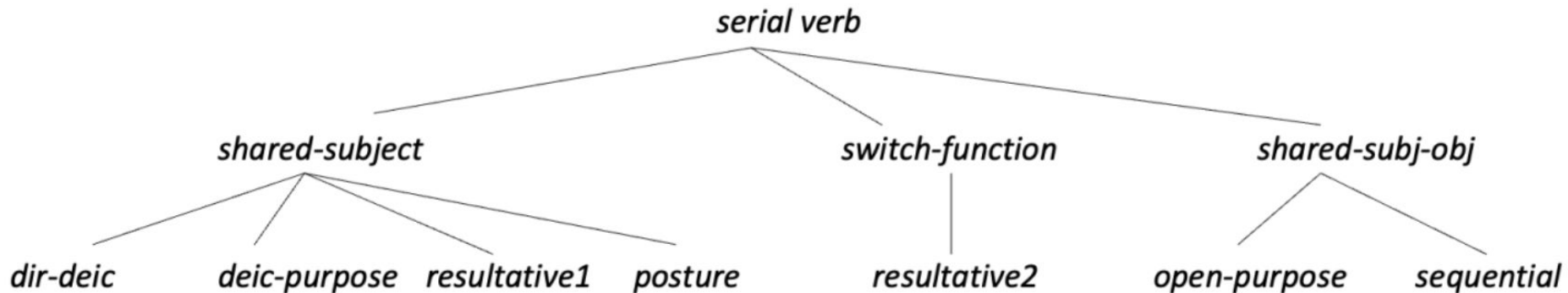
Aikhenvald (2006):

- Each verb in an SVC must also be able to stand alone as the only verb in a sentence
- All verbs must have the same tense, aspect, and polarity value
- No overt marker of coordination, subordination, or other types of syntactic dependency can be present
- Single event or closely-related events

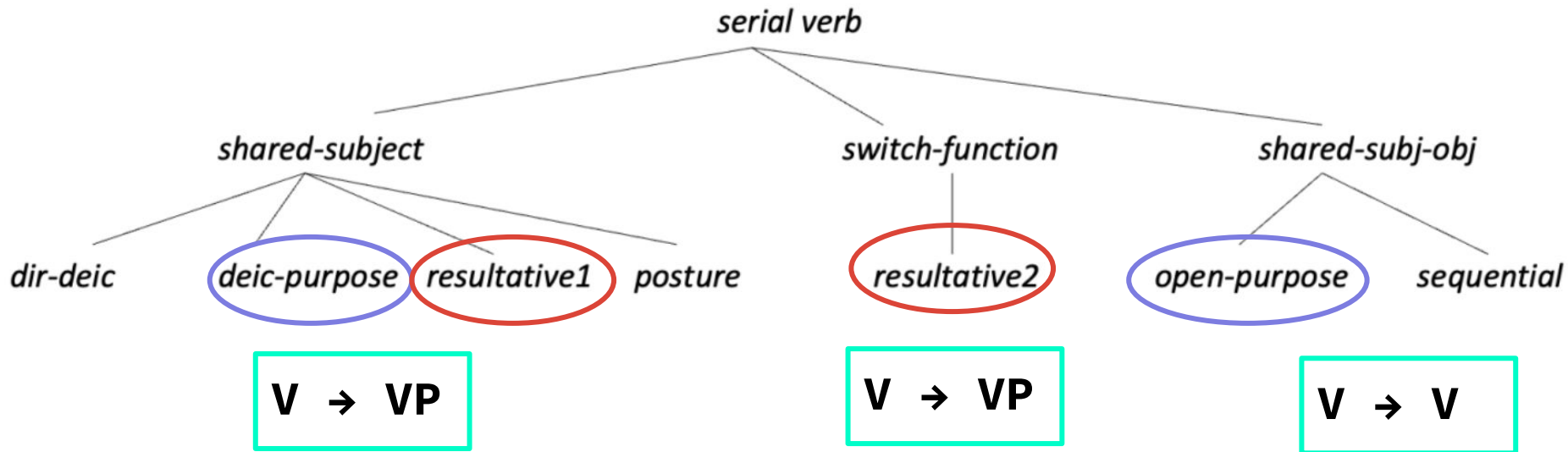
FEATURES

- 5 semantic types - resultative, directional, purposive, sequential, simultaneous (posture)
- 3 argument sharing configurations
 - Shared subject
 - Switch function (object of V1 is the subject of V2)
 - Shared subject and object
- 3 syntactic configurations -> V VP, V V, VP VP
 - First 2 can be handled using lexical rules, last needs phrase structure rule
- Semantics of final SVC depend on argument sharing properties and the features of the two verbs involved

TYPE HIERARCHY



TYPE HIERARCHY



DIRECTIONAL-DEICTIC SVCs: TARGET MRS

สุริ วิ่ง มา

Suri wîŋ ma:

Suri run come

‘Suri ran towards the speaker’

สุริ ข้าม

Suri khâam

Suri cross

‘Suri crossed the bridge away from the speaker’

สะพาน

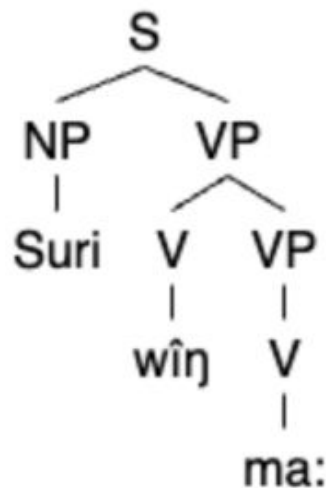
saphaan

bridge

ไป

paj

go



| | |
|-------|---|
| LTOP | 6 |
| INDEX | e3 |
| RELS | $\left\langle \left[\begin{array}{l} \text{named} \\ \text{LBL} \quad 1 \\ \text{ARG0} \quad 2 \end{array} \right], \left[\begin{array}{l} \text{exist_q} \\ \text{LBL} \quad 3 \\ \text{ARG0} \quad 2 \\ \text{RESTR} \quad 4 \\ \text{BODY} \quad 5 \end{array} \right], \left[\begin{array}{l} \text{run_v} \\ \text{LBL} \quad 6 \\ \text{ARG0} \quad e1 \\ \text{ARG1} \quad 2 \end{array} \right], \left[\begin{array}{l} \text{come_v} \\ \text{LBL} \quad 6 \\ \text{ARG0} \quad e2 \\ \text{ARG1} \quad 2 \end{array} \right], \left[\begin{array}{l} \text{path_rel} \\ \text{LBL} \quad 6 \\ \text{ARG0} \quad e3 \\ \text{ARG1} \quad e1 \\ \text{ARG2} \quad e2 \end{array} \right] \right\rangle \oplus \text{null}$ |
| HCONS | $\left\langle \left[\begin{array}{l} \text{qeq} \\ \text{HARG} \quad 4 \\ \text{LARG} \quad 1 \end{array} \right] \right\rangle \oplus \text{null}$ |

$$\left[\begin{array}{l} \textit{motion-deictic} \\ \\ \\ \\ \\ \end{array} \left[\begin{array}{l} \text{HEAD} \\ \\ \text{VAL} \\ \\ \text{DTR} \\ \\ \text{C-CONT} \end{array} \left[\begin{array}{l} \text{SV-TYPE} \left[\begin{array}{l} \text{DIRECTION} \quad + \\ \text{RESULTATIVE} \quad - \\ \text{DEIC-PURPOSE} \quad - \\ \text{OPEN-PURPOSE} \quad - \\ \text{POSTURE} \quad - \\ \text{SEQUENTIAL} \quad - \end{array} \right] \\ \\ \text{COMPS } \boxed{\text{A}} \oplus \left\langle \boxed{4} \text{VP} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \text{SVC} \quad - \\ \text{TYPE} \quad [\text{DEICTIC } +] \end{array} \right] \\ \text{SEM} \left[\begin{array}{l} \text{CONT} \left[\text{HOOK} \left[\text{LTOP } \boxed{5} \right] \right] \end{array} \right] \end{array} \right] \right\rangle \\ \\ \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{AUX} \quad - \\ \text{SVC} \quad - \\ \text{TYPE} \quad [\text{MOTION } +] \end{array} \right] \\ \text{VAL} \left[\text{COMPS } \boxed{\text{A}} \right] \\ \text{SEM} \left[\begin{array}{l} \text{CONT} \left[\begin{array}{l} \text{HOOK} \left[\begin{array}{l} \text{XARG } \boxed{1} \\ \text{LTOP } \boxed{5} \\ \text{INDEX } \boxed{2} \end{array} \right] \end{array} \right] \end{array} \right] \\ \\ \text{RELS} \left\langle \begin{array}{l} \text{PRED } \textit{path_rel} \\ \text{ARG0 } \boxed{3} \\ \text{ARG1 } \boxed{2} \\ \text{ARG2 } \boxed{4} \\ \text{LBL } \boxed{5} \end{array} \right\rangle \\ \text{HOOK} \left[\begin{array}{l} \text{INDEX } \boxed{3} \\ \text{LTOP } \boxed{5} \\ \text{XARG } \boxed{1} \end{array} \right] \end{array} \right] \end{array} \right]$$

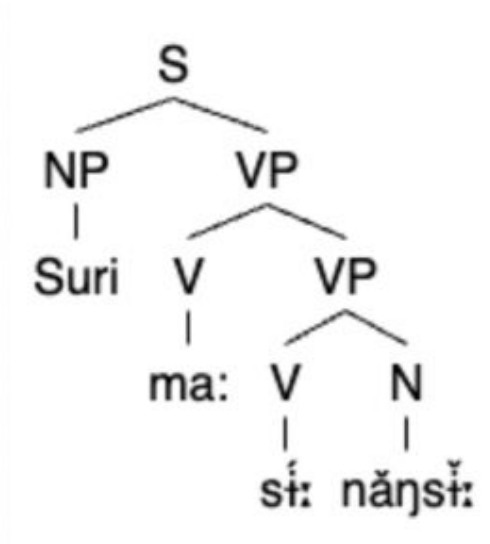
DEICTIC-PURPOSE SVCS: TARGET MRS

สุริ มา ชัย หนังสือ

Suri ma: sɛ́: nəŋsɛ́:

Suri come buy book

'Suri came to buy a book'


$$\begin{array}{|l|l|}
\hline
\text{LTOP} & \boxed{6} \\
\hline
\text{INDEX} & \boxed{e3} \\
\hline
\text{RELS} & \left\langle \begin{bmatrix} \textit{named} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{bmatrix}, \begin{bmatrix} \textit{exist_q} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{bmatrix}, \begin{bmatrix} \textit{come_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \end{bmatrix}, \begin{bmatrix} \textit{buy_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{7} \end{bmatrix}, \begin{bmatrix} \textit{book_n} \\ \text{LBL} \quad \boxed{8} \\ \text{ARG0} \quad \boxed{7} \end{bmatrix}, \begin{bmatrix} \textit{exist_q} \\ \text{LBL} \quad \boxed{9} \\ \text{ARG0} \quad \boxed{7} \\ \text{RESTR} \quad \boxed{10} \\ \text{BODY} \quad \boxed{11} \end{bmatrix}, \begin{bmatrix} \textit{purpose_rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{bmatrix} \right\rangle \oplus \textit{null} \\
\hline
\text{HCONS} & \left\langle \begin{bmatrix} \textit{qeq} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{bmatrix}, \begin{bmatrix} \textit{qeq} \\ \text{HARG} \quad \boxed{10} \\ \text{LARG} \quad \boxed{8} \end{bmatrix} \right\rangle \oplus \textit{null} \\
\hline
\end{array}$$

| | | | |
|------------------------|---|--|--|
| <i>deictic-purpose</i> | | | |
| HEAD | SV-TYPE | $\begin{bmatrix} \text{DIRECTION} & - \\ \text{RESULTATIVE} & - \\ \text{DEIC-PURPOSE} & + \\ \text{OPEN-PURPOSE} & - \\ \text{POSTURE} & - \\ \text{SEQUENTIAL} & - \end{bmatrix}$ | |
| VAL | COMPS $\boxed{\text{A}} \oplus \left\langle \boxed{4}\text{VP} \right\rangle$ | $\begin{bmatrix} \text{HEAD} & \begin{bmatrix} \text{SVC} & - \\ \text{TYPE} & \begin{bmatrix} \text{INTENTION} & + \\ \text{STATIVE} & - \\ \text{DEICTIC} & - \end{bmatrix} \end{bmatrix} \\ \text{SEM} & \begin{bmatrix} \text{CONT} & [\text{HOOK} [\text{LTOP} \boxed{5}]] \end{bmatrix} \end{bmatrix} \right\rangle$ | |
| DTR | HEAD | $\begin{bmatrix} \textit{verb} \\ \text{AUX} & - \\ \text{SVC} & - \\ \text{TYPE} & [\text{DEICTIC} +] \end{bmatrix}$ | |
| | VAL | [COMPS $\boxed{\text{A}}$] | |
| | SEM | $\begin{bmatrix} \text{CONT} & \begin{bmatrix} \text{HOOK} & \begin{bmatrix} \text{LTOP} & \boxed{5} \\ \text{XARG} & \boxed{1} \\ \text{INDEX} & \boxed{2} \end{bmatrix} \end{bmatrix} \end{bmatrix}$ | |
| C-CONT | RELS | $\left\langle \begin{bmatrix} \text{PRED} & \textit{purpose.rel} \\ \text{ARG0} & \boxed{3} \\ \text{ARG1} & \boxed{2} \\ \text{ARG2} & \boxed{4} \\ \text{LBL} & \boxed{5} \end{bmatrix} \right\rangle$ | |
| | HOOK | $\begin{bmatrix} \text{INDEX} & \boxed{3} \\ \text{LTOP} & \boxed{5} \\ \text{XARG} & \boxed{1} \end{bmatrix}$ | |

INTERACTIONS: DIRECTIONAL + DEICTIC PURPOSE

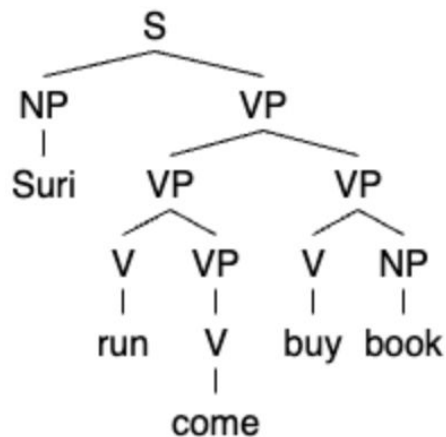
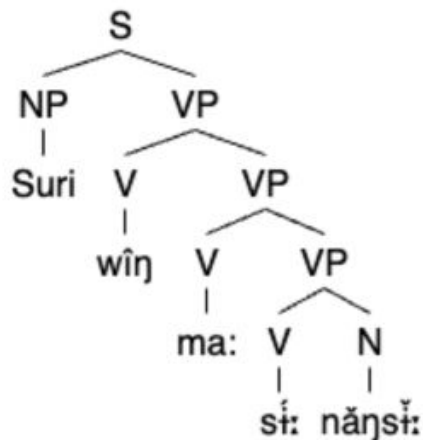
สุริ วิ่ง มา ซื้อ หนังสือ

Suri wĭŋ ma: sǎi: nǎŋsǎi:

Suri run come buy book

‘Suri ran towards the speaker to buy a book’

2 Potential Structures:



INTERACTIONS: DIRECTIONAL + DEICTIC PURPOSE

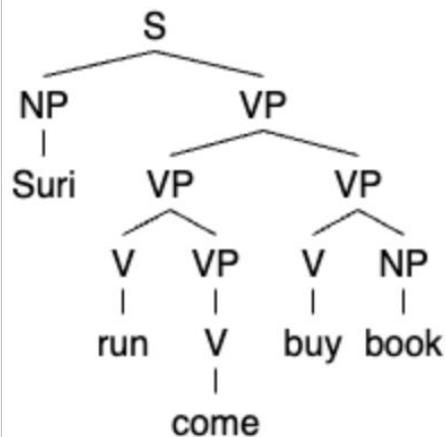
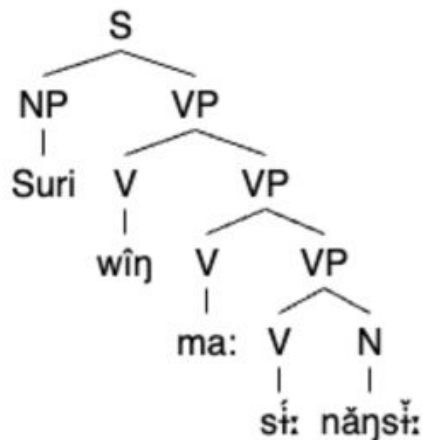
สุริ วิ่ง มา ซื้อ หนังสือ

Suri wîŋ ma: sǎi: nǎŋsǎi:

Suri run come buy book

‘Suri ran towards the speaker to buy a book’

2 Potential Structures:



| | | | | | |
|------|-------|------|----------|-----|-------|
| สุริ | เข้า | มา | ห้องครัว | ดู | ข้าว |
| Suri | khâw | ma: | hɔŋkhraw | duu | khâ:w |
| Suri | enter | come | kitchen | see | rice |

| | | | | | |
|------|-------|------|-----|-------|----------|
| สุริ | เข้า | มา | ดู | ข้าว | ห้องครัว |
| Suri | khâw | ma: | duu | khâ:w | hɔŋkhraw |
| Suri | enter | come | see | rice | kitchen |

‘Suri entered the kitchen to look at the rice’

INTERACTIONS: DIRECTIONAL + DEICTIC PURPOSE

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e5} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \text{named} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \text{exist_q} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \text{run_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{come_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{buy_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{9} \end{array}, \begin{array}{l} \text{book_n} \\ \text{LBL} \quad \boxed{10} \\ \text{ARG0} \quad \boxed{9} \end{array}, \begin{array}{l} \text{exist_q} \\ \text{LBL} \quad \boxed{11} \\ \text{ARG0} \quad \boxed{9} \\ \text{RESTR} \quad \boxed{12} \\ \text{BODY} \quad \boxed{13} \end{array}, \begin{array}{l} \text{purpose_rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e4} \\ \text{ARG1} \quad \boxed{e2} \\ \text{ARG2} \quad \boxed{e3} \end{array}, \begin{array}{l} \text{path_rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e5} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e4} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{12} \\ \text{LARG} \quad \boxed{10} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e5} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \text{named} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \text{exist_q} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \text{run_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{come_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{buy_v} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{9} \end{array}, \begin{array}{l} \text{book_n} \\ \text{LBL} \quad \boxed{10} \\ \text{ARG0} \quad \boxed{9} \end{array}, \begin{array}{l} \text{exist_q} \\ \text{LBL} \quad \boxed{11} \\ \text{ARG0} \quad \boxed{9} \\ \text{RESTR} \quad \boxed{12} \\ \text{BODY} \quad \boxed{13} \end{array}, \begin{array}{l} \text{purpose_rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e4} \\ \text{ARG1} \quad \boxed{e2} \\ \text{ARG2} \quad \boxed{e3} \end{array}, \begin{array}{l} \text{path_rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e5} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{12} \\ \text{LARG} \quad \boxed{10} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

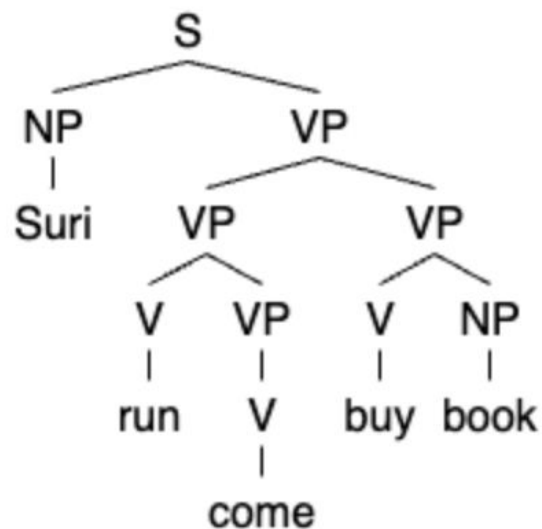
| | |
|-----------------------|--|
| <i>motion-deictic</i> | |
| HEAD | $\left[\begin{array}{l} \text{SV-TYPE} \left[\begin{array}{l} \text{DIRECTION} \quad + \\ \text{RESULTATIVE} \quad - \\ \text{DEIC-PURPOSE} \quad + \\ \text{OPEN-PURPOSE} \quad - \\ \text{POSTURE} \quad - \\ \text{SEQUENTIAL} \quad - \end{array} \right] \end{array} \right]$ |
| VAL | $\left[\text{COMPS } \boxed{\text{A}} \oplus \left\langle \boxed{\text{4VP}} \left[\text{HEAD} \left[\begin{array}{l} \text{SVC} \\ \text{SV-TYPE} \quad + \end{array} \right] \left[\text{DEIC-PURPOSE} \quad + \right] \right] \right\rangle \right]$ |
| DTR | $\left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{AUX} \quad - \\ \text{SVC} \quad - \\ \text{TYPE} \quad [\text{MOTION} \quad +] \end{array} \right] \\ \text{VAL} \quad [\text{COMPS } \boxed{\text{A}}] \\ \text{SEM} \quad \left[\text{CONT} \left[\text{HOOK} \left[\begin{array}{l} \text{XARG} \quad \boxed{\text{1}} \\ \text{INDEX} \quad \boxed{\text{2}} \end{array} \right] \right] \right] \end{array} \right]$ |
| C-CONT | $\left[\begin{array}{l} \text{RELS} \quad \left\langle \begin{array}{l} \text{PRED} \quad \textit{path_rel} \\ \text{ARG0} \quad \boxed{\text{3}} \\ \text{ARG1} \quad \boxed{\text{2}} \\ \text{ARG2} \quad \boxed{\text{4}} \\ \text{LBL} \quad \boxed{\text{5}} \end{array} \right\rangle \\ \text{HOOK} \quad \left[\begin{array}{l} \text{INDEX} \quad \boxed{\text{3}} \\ \text{LTOP} \quad \boxed{\text{5}} \\ \text{XARG} \quad \boxed{\text{1}} \end{array} \right] \end{array} \right]$ |

| | | | |
|----------------|--|--|--|
| <i>Posture</i> | | | |
| HEAD | SV-TYPE | $\begin{bmatrix} \text{DIRECTION} & - \\ \text{RESULTATIVE} & - \\ \text{DEIC-PURPOSE} & - \\ \text{OPEN-PURPOSE} & - \\ \text{POSTURE} & + \\ \text{SEQUENTIAL} & - \end{bmatrix}$ | |
| VAL | COMPS $\boxed{A} \oplus \langle \boxed{4VP}$ | $\left[\text{HEAD} \begin{bmatrix} \text{SVC} & - \\ \text{TYPE} & \begin{bmatrix} \text{MOTION} & - \\ \text{DIRECTION} & - \\ \text{STATIVE} & - \\ \text{DEICTIC} & - \\ \text{POSTURE} & - \end{bmatrix} \end{bmatrix} \right] \rangle$ | |
| DTR | HEAD | $\begin{bmatrix} \text{verb} \\ \text{AUX} & - \\ \text{SVC} & - \\ \text{TYPE} & [\text{POSTURE } +] \end{bmatrix}$ | |
| | VAL | [COMPS \boxed{A}] | |
| | SEM | $\left[\text{CONT} \left[\text{HOOK} \begin{bmatrix} \text{XARG } \boxed{1} \\ \text{INDEX } \boxed{2} \end{bmatrix} \right] \right]$ | |
| C-CONT | RELS | $\left\langle \begin{bmatrix} \text{PRED } \textit{while_rel} \\ \text{ARG0 } \boxed{3} \\ \text{ARG1 } \boxed{2} \\ \text{ARG2 } \boxed{4} \\ \text{LBL } \boxed{5} \end{bmatrix} \right\rangle$ | |
| | HOOK | $\begin{bmatrix} \text{INDEX } \boxed{3} \\ \text{LTOP } \boxed{5} \\ \text{XARG } \boxed{1} \end{bmatrix}$ | |

INTERACTIONS: DIRECTIONAL + POSTURE

| | | | | |
|------|------|------|------|---------|
| สุรี | วิ่ง | มา | ซื้อ | หนังสือ |
| Suri | wîŋ | ma: | sǎi: | nǎŋsǎi: |
| Suri | run | come | buy | book |

‘Suri ran towards the speaker and bought a book’



- This example can also have an overlapping reading, like posture SVCs.
- But in this case [INTENTION -] verbs are also permitted e.g. ‘find book’

INTERACTIONS: DIRECTIONAL + POSTURE

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e5} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \text{named} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \text{exist-}q \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \text{run-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{come-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{buy-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{9} \end{array}, \begin{array}{l} \text{book-}n \\ \text{LBL} \quad \boxed{10} \\ \text{ARG0} \quad \boxed{9} \end{array}, \begin{array}{l} \text{exist-}q \\ \text{LBL} \quad \boxed{11} \\ \text{ARG0} \quad \boxed{9} \\ \text{RESTR} \quad \boxed{12} \\ \text{BODY} \quad \boxed{13} \end{array}, \begin{array}{l} \text{path-rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e4} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array}, \begin{array}{l} \text{while-rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e5} \\ \text{ARG1} \quad \boxed{e4} \\ \text{ARG2} \quad \boxed{e3} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{12} \\ \text{LARG} \quad \boxed{10} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e5} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \text{named} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \text{exist-}q \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \text{run-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{come-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \text{buy-}v \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{9} \end{array}, \begin{array}{l} \text{book-}n \\ \text{LBL} \quad \boxed{10} \\ \text{ARG0} \quad \boxed{9} \end{array}, \begin{array}{l} \text{exist-}q \\ \text{LBL} \quad \boxed{11} \\ \text{ARG0} \quad \boxed{9} \\ \text{RESTR} \quad \boxed{12} \\ \text{BODY} \quad \boxed{13} \end{array}, \begin{array}{l} \text{path-rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e4} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array}, \begin{array}{l} \text{while-rel} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e5} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e3} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \text{qeq} \\ \text{HARG} \quad \boxed{12} \\ \text{LARG} \quad \boxed{10} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

THOUGHTS?

ADDITIONAL
INFORMATION AND
FEATURE STRUCTURES!

RESULTATIVE SVCs

Shared Subject

สุรี กิน ข้าว อิ่ม

Suri kin khâ:w ʔim

Suri eat rice be.full

‘Suri ate rice therefore she was full’

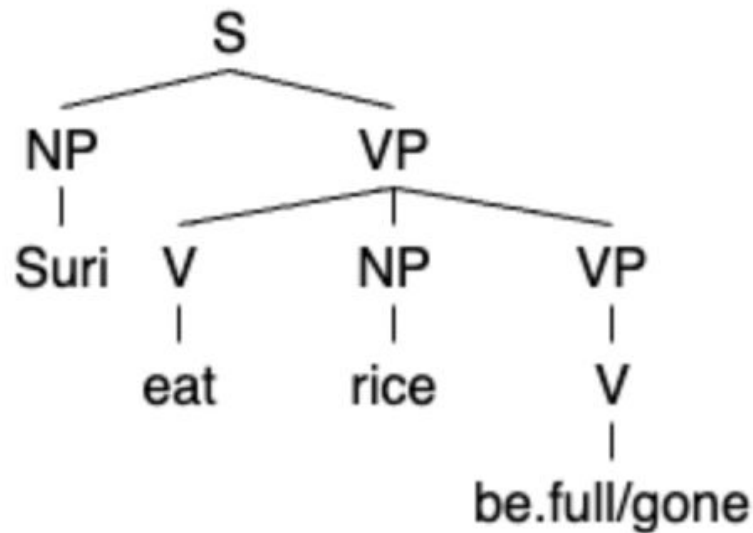
Switch Function

สุรี กิน ข้าว หหมด

Suri kin khâ:w mòd

Suri eat rice be.gone

‘Suri ate rice therefore the rice was gone’



(Muansuwan 2002)

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e3} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \boxed{\textit{named}} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \boxed{\textit{exist_q}} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \boxed{\textit{eat_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\textit{rice_n}} \\ \text{LBL} \quad \boxed{7} \\ \text{ARG0} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\textit{exist_q}} \\ \text{LBL} \quad \boxed{9} \\ \text{ARG0} \quad \boxed{8} \\ \text{RESTR} \quad \boxed{10} \\ \text{BODY} \quad \boxed{11} \end{array}, \begin{array}{l} \boxed{\textit{be.full_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \end{array}, \begin{array}{l} \boxed{\textit{cause_rel}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array} \right\rangle \oplus \textit{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \boxed{\textit{qeq}} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \boxed{\textit{qeq}} \\ \text{HARG} \quad \boxed{10} \\ \text{LARG} \quad \boxed{7} \end{array} \right\rangle \oplus \textit{null} \end{array} \right]$$

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e3} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \boxed{\textit{named}} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \boxed{\textit{exist_q}} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \boxed{\textit{eat_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\textit{rice_n}} \\ \text{LBL} \quad \boxed{7} \\ \text{ARG0} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\textit{exist_q}} \\ \text{LBL} \quad \boxed{9} \\ \text{ARG0} \quad \boxed{8} \\ \text{RESTR} \quad \boxed{10} \\ \text{BODY} \quad \boxed{11} \end{array}, \begin{array}{l} \boxed{\textit{be.gone_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\textit{cause_rel}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array} \right\rangle \oplus \textit{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \boxed{\textit{qeq}} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \boxed{\textit{qeq}} \\ \text{HARG} \quad \boxed{10} \\ \text{LARG} \quad \boxed{7} \end{array} \right\rangle \oplus \textit{null} \end{array} \right]$$

$$\left[\begin{array}{l} \textit{resultative1} \\ \\ \\ \\ \\ \\ \end{array} \left[\begin{array}{l} \text{HEAD} \\ \\ \text{VAL} \\ \\ \text{DTR} \\ \\ \text{C-CONT} \end{array} \left[\begin{array}{l} \text{SV-TYPE} \left[\begin{array}{l} \text{DIRECTION} \quad - \\ \text{RESULTATIVE} \quad + \\ \text{DEIC-PURPOSE} \quad - \\ \text{OPEN-PURPOSE} \quad - \\ \text{POSTURE} \quad - \\ \text{SEQUENTIAL} \quad - \end{array} \right] \\ \\ \text{COMPS } \boxed{\text{A}} \oplus \left\langle \boxed{4} \text{VP} \left[\text{HEAD} \left[\begin{array}{l} \text{SVC} \quad - \\ \text{TYPE} \quad [\text{DEICTIC } -] \end{array} \right] \right] \right\rangle \\ \\ \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{verb} \\ \text{AUX} \quad - \\ \text{SVC} \quad - \end{array} \right] \\ \text{TYPE} \left[\begin{array}{l} \text{MOTION} \quad - \\ \text{DIRECTION} \quad - \\ \text{DEICTIC} \quad - \\ \text{STATIVE} \quad - \\ \text{POSTURE} \quad - \end{array} \right] \end{array} \right] \\ \\ \text{VAL} \quad [\text{COMPS } \boxed{\text{A}}] \\ \\ \text{SEM} \quad \left[\text{CONT} \left[\text{HOOK} \left[\begin{array}{l} \text{XARG } \boxed{1} \\ \text{INDEX } \boxed{2} \end{array} \right] \right] \right] \\ \\ \left[\begin{array}{l} \text{RELS} \quad \left\langle \left[\begin{array}{l} \text{PRED } \textit{cause_rel} \\ \text{ARG0 } \boxed{3} \\ \text{ARG1 } \boxed{2} \\ \text{ARG2 } \boxed{4} \\ \text{LBL } \boxed{5} \end{array} \right] \right\rangle \\ \\ \text{HOOK} \left[\begin{array}{l} \text{INDEX } \boxed{3} \\ \text{LTOP } \boxed{5} \\ \text{XARG } \boxed{1} \end{array} \right] \end{array} \right] \end{array} \right] \end{array} \right]$$

OPEN PURPOSE AND SEQUENTIAL SVCS

Purpose OR Sequential (V2 is [INTENTION +])

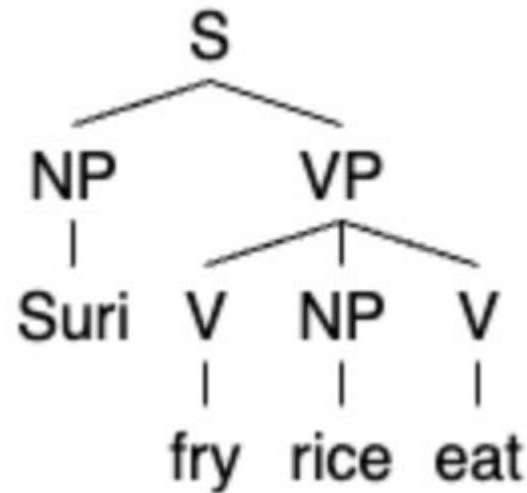
| | | | |
|------|------|-------|-----|
| สุริ | ผัด | ข้าว | กิน |
| Suri | phàt | khâ:w | kin |
| Suri | fry | rice | eat |

‘Suri fried rice to eat (rice)’
‘Suri fried rice then ate (rice)’

Sequential ONLY (V2 is [INTENTION -])

| | | | |
|------|------|-------------|------|
| สุริ | หา | ของขวัญ | พบ |
| Suri | hă: | khǎ:ŋ-khwǎn | phóp |
| Suri | seek | present | find |

‘Suri sought then found the present’



(Sudmuk 2005)

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e3} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \boxed{\text{named}} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \boxed{\text{exist_q}} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \boxed{\text{fry_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{rice_n}} \\ \text{LBL} \quad \boxed{7} \\ \text{ARG0} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{exist_q}} \\ \text{LBL} \quad \boxed{9} \\ \text{ARG0} \quad \boxed{8} \\ \text{RESTR} \quad \boxed{10} \\ \text{BODY} \quad \boxed{11} \end{array}, \begin{array}{l} \boxed{\text{eat_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{purpose_rel}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \boxed{\text{qeq}} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \boxed{\text{qeq}} \\ \text{HARG} \quad \boxed{10} \\ \text{LARG} \quad \boxed{7} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

$$\left[\begin{array}{l} \text{LTOP} \quad \boxed{6} \\ \text{INDEX} \quad \boxed{e3} \\ \\ \text{RELS} \quad \left\langle \begin{array}{l} \boxed{\text{named}} \\ \text{LBL} \quad \boxed{1} \\ \text{ARG0} \quad \boxed{2} \end{array}, \begin{array}{l} \boxed{\text{exist_q}} \\ \text{LBL} \quad \boxed{3} \\ \text{ARG0} \quad \boxed{2} \\ \text{RESTR} \quad \boxed{4} \\ \text{BODY} \quad \boxed{5} \end{array}, \begin{array}{l} \boxed{\text{fry_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e1} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{rice_n}} \\ \text{LBL} \quad \boxed{7} \\ \text{ARG0} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{exist_q}} \\ \text{LBL} \quad \boxed{9} \\ \text{ARG0} \quad \boxed{8} \\ \text{RESTR} \quad \boxed{10} \\ \text{BODY} \quad \boxed{11} \end{array}, \begin{array}{l} \boxed{\text{eat_v}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e2} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{8} \end{array}, \begin{array}{l} \boxed{\text{then_rel}} \\ \text{LBL} \quad \boxed{6} \\ \text{ARG0} \quad \boxed{e3} \\ \text{ARG1} \quad \boxed{e1} \\ \text{ARG2} \quad \boxed{e2} \end{array} \right\rangle \oplus \text{null} \\ \\ \text{HCONS} \quad \left\langle \begin{array}{l} \boxed{\text{qeq}} \\ \text{HARG} \quad \boxed{4} \\ \text{LARG} \quad \boxed{1} \end{array}, \begin{array}{l} \boxed{\text{qeq}} \\ \text{HARG} \quad \boxed{10} \\ \text{LARG} \quad \boxed{7} \end{array} \right\rangle \oplus \text{null} \end{array} \right]$$

| | | | | | | | | | | | | | | | | | | | |
|---------------------|---|-------------|--|-------------|---|--------------|-------------|--------------|---|---------|---|------------|---|---------|---|-----|---------------------|-----|---|
| <i>open-purpose</i> | | | | | | | | | | | | | | | | | | | |
| HEAD | SV-TYPE <table> <tr><td>DIRECTION</td><td>-</td></tr> <tr><td>RESULTATIVE</td><td>-</td></tr> <tr><td>DEIC-PURPOSE</td><td>-</td></tr> <tr><td>OPEN-PURPOSE</td><td>+</td></tr> <tr><td>POSTURE</td><td>-</td></tr> <tr><td>SEQUENTIAL</td><td>-</td></tr> </table> | DIRECTION | - | RESULTATIVE | - | DEIC-PURPOSE | - | OPEN-PURPOSE | + | POSTURE | - | SEQUENTIAL | - | | | | | | |
| DIRECTION | - | | | | | | | | | | | | | | | | | | |
| RESULTATIVE | - | | | | | | | | | | | | | | | | | | |
| DEIC-PURPOSE | - | | | | | | | | | | | | | | | | | | |
| OPEN-PURPOSE | + | | | | | | | | | | | | | | | | | | |
| POSTURE | - | | | | | | | | | | | | | | | | | | |
| SEQUENTIAL | - | | | | | | | | | | | | | | | | | | |
| VAL | COMPS $\langle \boxed{6}, \boxed{4}V \left[\text{HEAD} \left[\text{SVC} \begin{array}{c} - \\ \text{DEICTIC} \quad - \\ \text{STATIVE} \quad - \\ \text{INTENTION} \quad + \end{array} \right] \right] \rangle$ | | | | | | | | | | | | | | | | | | |
| DTR | <table> <tr> <td>HEAD</td><td> <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> </td></tr> <tr> <td>VAL</td><td>COMPS $\boxed{6}NP$</td></tr> <tr> <td>SEM</td><td>CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$</td></tr> </table> | HEAD | <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> | <i>verb</i> | | AUX | - | SVC | - | TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | VAL | COMPS $\boxed{6}NP$ | SEM | CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$ |
| HEAD | <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> | <i>verb</i> | | AUX | - | SVC | - | TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | | | | | | |
| <i>verb</i> | | | | | | | | | | | | | | | | | | | |
| AUX | - | | | | | | | | | | | | | | | | | | |
| SVC | - | | | | | | | | | | | | | | | | | | |
| TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | | | | | | | | | | | | | | |
| DEICTIC | - | | | | | | | | | | | | | | | | | | |
| STATIVE | - | | | | | | | | | | | | | | | | | | |
| VAL | COMPS $\boxed{6}NP$ | | | | | | | | | | | | | | | | | | |
| SEM | CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$ | | | | | | | | | | | | | | | | | | |
| C-CONT | <table> <tr> <td>RELS</td><td>$\langle \begin{array}{c} \text{PRED} \quad \textit{purpose_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$</td></tr> <tr> <td>HOOK</td><td><table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table></td></tr> </table> | RELS | $\langle \begin{array}{c} \text{PRED} \quad \textit{purpose_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$ | HOOK | <table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table> | INDEX | $\boxed{3}$ | LTOP | $\boxed{5}$ | XARG | $\boxed{1}$ | | | | | | | | |
| RELS | $\langle \begin{array}{c} \text{PRED} \quad \textit{purpose_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$ | | | | | | | | | | | | | | | | | | |
| HOOK | <table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table> | INDEX | $\boxed{3}$ | LTOP | $\boxed{5}$ | XARG | $\boxed{1}$ | | | | | | | | | | | | |
| INDEX | $\boxed{3}$ | | | | | | | | | | | | | | | | | | |
| LTOP | $\boxed{5}$ | | | | | | | | | | | | | | | | | | |
| XARG | $\boxed{1}$ | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|-------------------|---|-------------|--|-------------|---|--------------|-------------|--------------|---|---------|---|------------|---|---------|---|-----|---------------------|-----|---|
| <i>sequential</i> | | | | | | | | | | | | | | | | | | | |
| HEAD | SV-TYPE <table> <tr><td>DIRECTION</td><td>-</td></tr> <tr><td>RESULTATIVE</td><td>-</td></tr> <tr><td>DEIC-PURPOSE</td><td>-</td></tr> <tr><td>OPEN-PURPOSE</td><td>-</td></tr> <tr><td>POSTURE</td><td>-</td></tr> <tr><td>SEQUENTIAL</td><td>+</td></tr> </table> | DIRECTION | - | RESULTATIVE | - | DEIC-PURPOSE | - | OPEN-PURPOSE | - | POSTURE | - | SEQUENTIAL | + | | | | | | |
| DIRECTION | - | | | | | | | | | | | | | | | | | | |
| RESULTATIVE | - | | | | | | | | | | | | | | | | | | |
| DEIC-PURPOSE | - | | | | | | | | | | | | | | | | | | |
| OPEN-PURPOSE | - | | | | | | | | | | | | | | | | | | |
| POSTURE | - | | | | | | | | | | | | | | | | | | |
| SEQUENTIAL | + | | | | | | | | | | | | | | | | | | |
| VAL | COMPS $\langle \boxed{6}, \boxed{4}V \left[\text{HEAD} \left[\text{SVC} \begin{array}{c} - \\ \text{DEICTIC} \quad - \\ \text{STATIVE} \quad - \end{array} \right] \right] \rangle$ | | | | | | | | | | | | | | | | | | |
| DTR | <table> <tr> <td>HEAD</td><td> <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> </td></tr> <tr> <td>VAL</td><td>COMPS $\boxed{6}NP$</td></tr> <tr> <td>SEM</td><td>CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$</td></tr> </table> | HEAD | <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> | <i>verb</i> | | AUX | - | SVC | - | TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | VAL | COMPS $\boxed{6}NP$ | SEM | CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$ |
| HEAD | <table> <tr><td><i>verb</i></td><td></td></tr> <tr><td>AUX</td><td>-</td></tr> <tr><td>SVC</td><td>-</td></tr> <tr><td>TYPE</td><td><table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table></td></tr> </table> | <i>verb</i> | | AUX | - | SVC | - | TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | | | | | | |
| <i>verb</i> | | | | | | | | | | | | | | | | | | | |
| AUX | - | | | | | | | | | | | | | | | | | | |
| SVC | - | | | | | | | | | | | | | | | | | | |
| TYPE | <table><tr><td>DEICTIC</td><td>-</td></tr><tr><td>STATIVE</td><td>-</td></tr></table> | DEICTIC | - | STATIVE | - | | | | | | | | | | | | | | |
| DEICTIC | - | | | | | | | | | | | | | | | | | | |
| STATIVE | - | | | | | | | | | | | | | | | | | | |
| VAL | COMPS $\boxed{6}NP$ | | | | | | | | | | | | | | | | | | |
| SEM | CONT $\left[\text{HOOK} \left[\text{XARG} \begin{array}{c} \boxed{1} \\ \text{INDEX} \quad \boxed{2} \end{array} \right] \right]$ | | | | | | | | | | | | | | | | | | |
| C-CONT | <table> <tr> <td>RELS</td><td>$\langle \begin{array}{c} \text{PRED} \quad \textit{then_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$</td></tr> <tr> <td>HOOK</td><td><table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table></td></tr> </table> | RELS | $\langle \begin{array}{c} \text{PRED} \quad \textit{then_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$ | HOOK | <table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table> | INDEX | $\boxed{3}$ | LTOP | $\boxed{5}$ | XARG | $\boxed{1}$ | | | | | | | | |
| RELS | $\langle \begin{array}{c} \text{PRED} \quad \textit{then_rel} \\ \text{ARG0} \quad \boxed{3} \\ \text{ARG1} \quad \boxed{2} \\ \text{ARG2} \quad \boxed{4} \\ \text{LBL} \quad \boxed{5} \end{array} \rangle$ | | | | | | | | | | | | | | | | | | |
| HOOK | <table><tr><td>INDEX</td><td>$\boxed{3}$</td></tr><tr><td>LTOP</td><td>$\boxed{5}$</td></tr><tr><td>XARG</td><td>$\boxed{1}$</td></tr></table> | INDEX | $\boxed{3}$ | LTOP | $\boxed{5}$ | XARG | $\boxed{1}$ | | | | | | | | | | | | |
| INDEX | $\boxed{3}$ | | | | | | | | | | | | | | | | | | |
| LTOP | $\boxed{5}$ | | | | | | | | | | | | | | | | | | |
| XARG | $\boxed{1}$ | | | | | | | | | | | | | | | | | | |

ARGUMENT-SHARING FEATURE STRUCTURES

$$\left[\begin{array}{l} \text{serial-verb} \\ \text{HEAD} \left[\begin{array}{l} \text{verb} \\ \text{AUX -} \\ \text{SVC +} \end{array} \right] \end{array} \right]$$

$$\left[\begin{array}{l} \text{shared-subject} \\ \text{VAL} \left[\begin{array}{l} \text{SUBJ} \quad \langle \text{NP} [\text{INDEX } \boxed{1}] \rangle \\ \text{COMPS} \quad \boxed{A} \oplus \left\langle \text{VP} \left[\begin{array}{l} \text{HEAD} [\text{AUX -}] \\ \text{SEM} \left[\text{CONT} [\text{HOOK} [\text{XARG } \boxed{1}]] \right] \right] \right\rangle \end{array} \right] \end{array} \right] \end{array} \right]$$

ARGUMENT-SHARING FEATURE STRUCTURES

$$\left[\begin{array}{c} \text{switch-function} \\ \text{VAL} \end{array} \left[\begin{array}{c} \text{SUBJ} \quad \langle \text{NP} \text{ [INDEX 1]} \rangle \\ \text{COMPS} \quad \langle \text{NP} \text{ [INDEX 2]}, \text{VP} \left[\begin{array}{c} \text{HEAD} \text{ [AUX -]} \\ \text{SEM} \quad \left[\text{CONT} \text{ [HOOK [XARG 2]]} \right] \end{array} \right] \rangle \end{array} \right] \right]$$

$$\left[\begin{array}{c} \text{shared-subj-obj} \\ \text{VAL} \end{array} \left[\begin{array}{c} \text{SUBJ} \quad \langle \text{NP} \text{ [INDEX 1]} \rangle \\ \text{COMPS} \quad \langle \text{NP} \text{ [INDEX 2]}, \text{V} \left[\begin{array}{c} \text{HEAD} \text{ [AUX -]} \\ \text{VAL} \quad \left[\text{COMPS} \langle \text{[2]} \rangle \right] \\ \text{SEM} \quad \left[\text{CONT} \text{ [HOOK [XARG 1]]} \right] \end{array} \right] \rangle \end{array} \right] \right]$$

DIRECTIONAL SVCs

Directional-Deictic (Manner of Motion OR Direction Verb + Deictic Verb)

สุรี วิ่ง มา

Suri wîŋ ma:

Suri run come

‘Suri ran towards the speaker’

สุรี ข้าม

Suri khâam

Suri cross

สะพาน ไป

saphaan paj

bridge go

‘Suri crossed the bridge away from the speaker’

Long form SVCs (longer than 2 verbs, or don't end in a deictic verb)

Piti wîŋ tron jǎwn klàb khâw bâan paj

Piti run go.straight reverse return enter house go

‘Piti ran straight back into the house, away from the speaker’

(Muansuwan 2002)

Dara dən ʔǎwk bâan

Dara walk exit house

‘Dara walked out of the house’ (Muansuwan 2002)

- VP → VP VP structure
- A phrase structure rule will be required, and so these are not in the type hierarchy on the previous slide

LONG-FORM DIRECTIONAL SVCS

- If manner of motion verb present e.g. 'run', it must be first
- If deictic verb present, it must be last
- Directional verbs go in the middle
- Can be more than two verbs long

Adverb Placement Test (Muansuwan 2002)

- Adverb can only come at the end of a VP, not between a V and its complement

LONG-FORM DIRECTIONAL SVCS

Adverb Placement Test (Muansuwan 2002)

Piti dən ʔòɔk jàaŋʔòɔnrɛɛŋ

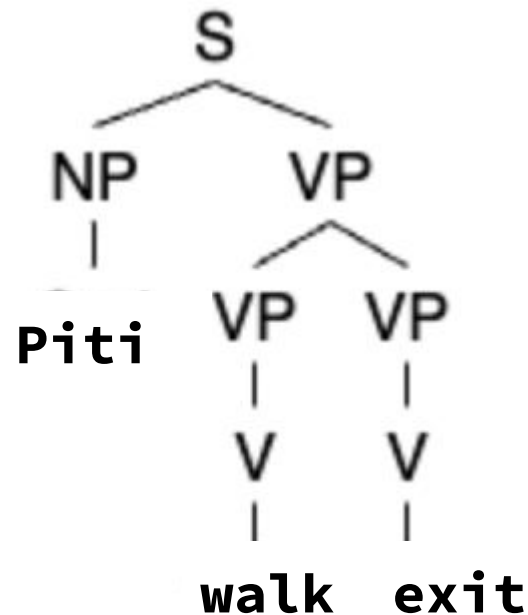
Piti walk exit feebly

‘Piti walked out feebly’

Piti dən jàaŋʔòɔnrɛɛŋ ʔòɔk

Piti walk feebly exit

‘Piti walked out feebly’



LONG-FORM DIRECTIONAL SVCS

Adverb Placement Test (Muansuwan 2002)

Malii dən₍₁₎ ʔòɔk_(4b) won₍₂₎ klàb_(4a) jóɔn₍₃₎ paj₍₅₎ *d̥uajfiitháawbaw*

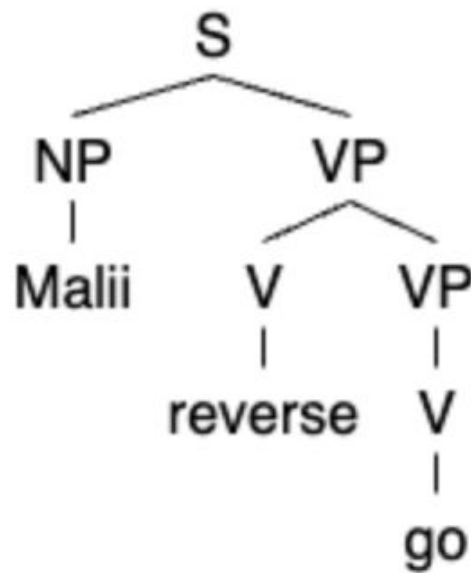
Malii walk exit circle return reverse go with light footsteps

Malii walked out, circling, back, away from the speaker, with light footsteps.

*Malii dən₍₁₎ ʔòɔk_(4b) won₍₂₎ klàb_(4a) jóɔn₍₃₎ *d̥uajfiitháawbaw* paj₍₅₎

Malii walk exit circle return reverse with light footsteps go

(Intended meaning: Malii walked out, circling, back, with light footsteps, away from the speaker)

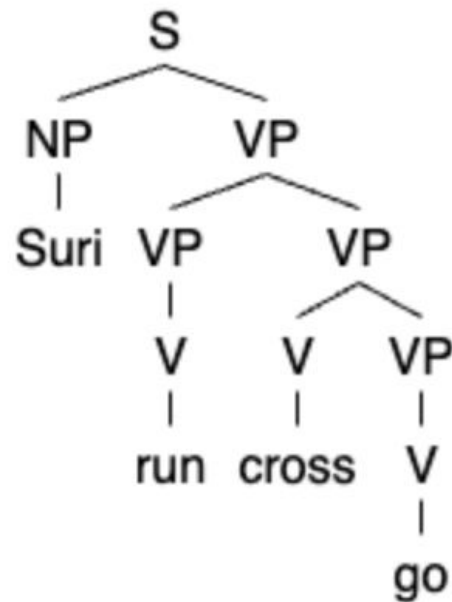


LONG-FORM DIRECTIONAL SVCS

Adverb Placement Test (Muansuwan 2002)

สุรี รุ่ง ข้าม ไป
Suri wîŋ khâam pai
Suri run cross go

‘Suri ran, crossing away from the speaker’



REFERENCES

- Aikhenvald, A. I., & Dixon, R. M. W., (2006). Serial verb constructions a cross-linguistic typology. Oxford University Press.
- Bender, E.M. Drellishak, S., Fokkens, A., Poulson, L., & Saleem, S. (2010). Grammar Customization. *Research on Language and Computation*, 8, 23-72.
- Bender, E.M., Flickinger, D., and Oepen, S. (2002). The Grammar Matrix: An Open-Source Starter-Kit for the Rapid Development of Cross-Linguistically Consistent Broad-Coverage Precision Grammars. In Carroll, J., Oostdijk, N., and Sutcliffe, R., editors, *Proceedings of the Workshop on Grammar Engineering and Evaluation at the 19th International Conference on Computational Linguistics*, pages 8–14, Taipei, Taiwan.
- Muansuwan, Nuttanart. (2002). Verb Complex in Thai. [Doctoral thesis, University at Buffalo, The State University of New York]
- Slayden, G. (2009). Thai Resource Grammar.
- Sudmuk, Cholthicha. (2005). The Syntax and Semantics of Serial Verb Constructions in Thai. [Doctoral thesis, The University of Texas at Austin]
- Zamaraeva, O., Curtis, C., Emerson, G., Fokkens, A., Goodman, M. ., Howell, K., Trimble, T., & Bender, E. M. (2022). 20 years of the Grammar Matrix: cross-linguistic hypothesis testing of increasingly complex interactions. *Journal of Language Modelling*, 10(1), 49–137.
<https://doi.org/10.15398/jlm.v10i1.292>