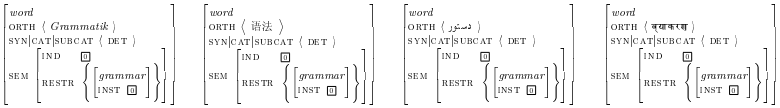

Virtual lexical items:
On the (impersonal) passive in Danish and other Germanic languages

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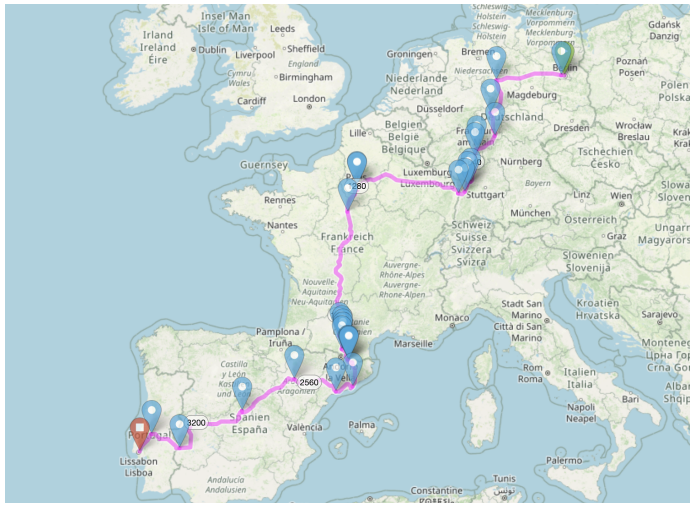
Outline

- The phenomenon
- The analysis of passive
  - Structural and lexical case
  - The passive lexical rule
  - Mapping from argument structure
- Expletives
  - The problem of impersonal passives
  - Lexical rules for adding expletives
  - Virtual lexical items
- Conclusion

Something more important



Climate catastrophe

This is us. Our behavior causes this and increases the effects. People are dying.

Our world is on fire

- It is the life of the people in the global south, southern Europe, southern US.
- People are dying in heat waves, fires, floods and due to hunger.
- It is your life, the life of your children.

What you can do

- Reduce your impact.
- but more importantly:
  organize and support progressive forces
- Vote climate!

Variation in Germanic: Passive

- personal and impersonal passives
- promotion of primary or/and secondary object
- subject requirement / no subject requirement
- insertion of expletive subjects
- quirky subjects / no quirky subjects

Variation in Germanic: SOV vs. SVO

- Germanic languages are
  - SOV (Afrikaans, Dutch, German, ...) or
  - SVO (English, Icelandic, Danish, ...)
- SOV languages allow for subjectless constructions.
- SVO usually require a subject. Exception Icelandic (Thráinsson 2007: 264):

(1) a. Oft var talað um þennan mann. (Icelandic)
often was talked about this man.ACC.SG.M
'This man was often talked about.'

b. Aldrei hefur verið sofið í þessu rúmi.
never has been slept in this bed.DAT
'This bed has never been slept in.'

Personal and impersonal passive

- Passive = suppression of the subject
  If there is an accusative object, it is promoted to subject.
- If there is no accusative object, we get impersonal passives:

  (2) Des Opfers wurde gedacht. (German)
  the.GEN victim AUX remembered
  'The victim was remembered.'

  (3) dass gelacht wurde
  that laughed was
  'that there was laughing there'

- If the language requires a subject →

  (4) a. * Was laughed.
  b. Der blev grinet. (Danish)
  EXPL was laughed

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Structural and lexical case

- If the case of arguments depends on the syntactic environment, one speaks of structural case.
  Otherwise the arguments have lexical case.
- Examples of structural cases are:

  (5) a. Der Installateur kommt. (German)
  the.NOM plumber comes
  'The plumber comes.'

  b. Der Mann läßt den Installateur kommen.
  the man lets the.ACC plumber come
  'The man lets the plumber come.'

  c. das Kommen des Installateurs
  the coming of.the.GEN plumber
  'the coming of the plumber'

Structural and lexical case

- In (5) the case of the subject of *kommen* 'to come' is expressed differently, in (6) the case of the object of *schlagen* 'to defeat':

  (6) a. Judit schlägt den Weltmeister. (German)
  Judit defeats the.ACC world.champion
  'Judit defeats the world champion.'

  b. Der Weltmeister wird geschlagen.
  the.NOM world.champion AUX defeated
  'The world champion is defeated.'

Lexical case

- Genitive dependent on the verb is a lexical case:
  The case of a genitive object does not change with passivization.

  (7) a. Wir gedenken der Opfer. (German)
  we.NOM remember the victims.GEN
  'We remember the victims.'

  b. Der Opfer wird gedacht.
  the.GEN victims AUX remembered
  'The victims are remembered.'

  c. * Die Opfer wird / werden gedacht.
  the.NOM victims AUX.3SG AUX.3PL remembered

  (7b) = impersonal passive, there is no subject.
- I assume that all four cases can be lexical (Müller 1999, Thiersch 1978).
- All datives are lexical (Haider 1986, Müller 2002, 2023).
- Subjects in Icelandic can have all cases (Zaenen et al. 1985).
  The case of genitive, dative, and accusative subjects is lexical too.

The Case Principle (I)

- All arguments are represented in a list in all languages (that have valence).
  ARGUMENT-STRUCTURE list or ARG-ST.
- ditransitive verb like *geben* 'give' has the ARG-ST value:

  (8) ⟨ NP[*str*], NP[*ldat*], NP[*str*] ⟩

  str stands for structural case and *ldat* for lexical dative.
- For SVO languages, the first argument is the subject (SPR), the others COMPS.
  In the SOV languages, all ARG-ST elements in finite verbs are in COMPS.

The Case Principle (II)

Case Principle (Przepiórkowski 1999, Meurers 1999)

- In a list that contains both the subject and the complements of a verbal head, the leftmost element with structural case is assigned nominative, unless it is raised by a superordinate head.
- All other elements in the list that are not raised and have a structural case are given accusative case.
- In nominal environments, elements with a structural case are assigned the genitive case.

Principle goes back to Yip, Maling & Jackendoff (1987).

Active

prototypical ARG-ST lists:

(9) a. *schläft* 'sleeps': ARG-ST ⟨ NP[*str*]$_i$ ⟩
b. *unterstützt* 'supports': ARG-ST ⟨ NP[*str*]$_i$, NP[*str*]$_j$ ⟩
c. *hilft* 'helps': ARG-ST ⟨ NP[*str*]$_i$, NP[*ldat*]$_j$ ⟩
d. *gibt* 'gives': ARG-ST ⟨ NP[*str*]$_i$, NP[*ldat*]$_j$, NP[*str*]$_k$ ⟩

The first element in the ARG-ST list gets nominative.
All others with structural case get accusative.

For the comparison with the passive, it makes sense to provide the NPs with small indices (i, j, k).

Passive

(10) a. *schläft* 'sleeps': ARG-ST ⟨ NP[*str*]$_i$ ⟩
b. *unterstützt* 'supports': ARG-ST ⟨ NP[*str*]$_i$, NP[*str*]$_j$ ⟩
c. *hilft* 'helps': ARG-ST ⟨ NP[*str*]$_i$, NP[*ldat*]$_j$ ⟩
d. *gibt* 'gives': ARG-ST ⟨ NP[*str*]$_i$, NP[*ldat*]$_j$, NP[*str*]$_k$ ⟩

Passivizing the verbs results in the following ARG-ST-lists for *wird* 'is':

(11) a. *geschlafen wird* 'slept is': ARG-ST ⟨ V ⟩
b. *unterstützt wird* 'supported is': ARG-ST ⟨ NP[*str*]$_j$, V ⟩
c. *geholfen wird* 'helped is': ARG-ST ⟨ NP[*ldat*]$_j$, V ⟩
d. *gegeben wird* 'given is': ARG-ST ⟨ NP[*ldat*]$_j$, NP[*str*]$_k$, V ⟩

In (11) another NP is now in first place.
First NP with structural case gets it nominative.
Lexical case as in (11c–d) remains as it is, namely lexically specified.

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Designated Argument Reduction

- Haider (1986), Heinz & Matiasek (1994), Müller (2003):
  DESIGNATED ARGUMENT (DA) the subject of transitive and unergative verbs.
  (a "real" subject)
- DA-Wert of unaccusative verbs is the empty list.
- Passive = LR that subtracts the DA list from the argument structure of the input verb or stem.

(12)

	ARG-ST	DA
a. tanzen (dance):	⟨1 NP[*str*]⟩	⟨1⟩
b. lesen (read):	⟨1 NP[*str*], NP[*str*]⟩	⟨1⟩
c. geben (give):	⟨1 NP[*str*], NP[*ldat*], NP[*str*]⟩	⟨1⟩
d. helfen (help):	⟨1 NP[*str*], NP[*ldat*]⟩	⟨1⟩

Designated Argument Reduction

- Participle formation rule:

(13) Lexical rule for the formation of the participle (provisional):

$$\begin{bmatrix} \textit{stem} \\ \text{HEAD} \quad \begin{bmatrix} \textit{verb} \\ \text{DA} \ \boxed{1} \end{bmatrix} \\ \text{ARG-ST} \ \boxed{1} \oplus \boxed{2} \end{bmatrix} \mapsto \begin{bmatrix} \textit{word} \\ \text{ARG-ST} \ \boxed{2} \end{bmatrix}$$

- The designated argument is blocked.

Designated Argument Reduction

- ARG-ST list of the participle is either empty or begins with the object of the active form:

(14)

	ARG-ST
a. getanzt (danced, unerg):	⟨⟩
b. gelesen (read, trans):	⟨NP[*str*]⟩
c. gegeben (given, ditrans):	⟨NP[*ldat*], NP[*str*]⟩
d. geholfen (helped, unerg):	⟨NP[*ldat*]⟩

- The first element of the ARG-ST list with structural case gets nominative case:

(15) Der Aufsatz wurde gelesen.
the.NOM paper AUX read

English: Promotion of the first object

- English: no dative, structural case for first object, lexical accusative for second object of *give*

(16)

	ARG-ST
b. dance (unerg):	⟨NP[*str*]⟩
c. read (trans):	⟨NP[*str*], NP[*str*]⟩
d. give (ditrans):	⟨NP[*str*], NP[*str*], **NP[*lacc*]**⟩
e. help (trans):	⟨NP[*str*], **NP[*str*]**⟩

- German can make the second object (accusative) the subject, English the first (the object that is closer to the verb, OV vs. VO):

(17) a. dass dem Jungen der Ball gegeben wurde (German)
b. because the boy was given the ball

English: Personal passive with *help*

- English: no dative, structural case for first object, lexical accusative for second object of *give*

(18)

	ARG-ST
b. dance (unerg):	⟨NP[*str*]⟩
c. read (trans):	⟨NP[*str*], NP[*str*]⟩
d. give (ditrans):	⟨NP[*str*], NP[*str*], **NP[*lacc*]**⟩
e. help (trans):	⟨NP[*str*], **NP[*str*]**⟩

- German has an impersonal passive for *helfen*, but English has a personal one:

(19) a. weil ihm geholfen wurde (German)
because him.DAT helped was
b. because he was helped

Primary and secondary object in Danish

- In Danish, both objects can become the subject:

(20) a. fordi manden giver drengen bolden (Danish)
because man.DEF gives boy.DEF ball.DEF
'because the man gives the boy the ball'

b. fordi drengen bliver givet bolden
because boy.DEF AUX given ball.DEF
'because the boy is given the ball'

c. fordi bolden bliver givet drengen
because ball.DEF AUX given boy.DEF
'because the ball was given to the boy'

- Danish is different from Moro, for example (Ackerman et al. 2017): Objects are clearly differentiated. For example, their order is fixed:

(21) * fordi manden giver bolden drengen

Danish: Promotion primary and secondary object

- Danish is like English: no dative,
  but allows the promotion of both objects of ditransitive verbs:

(22)

	ARG-ST
a. danse (dance, unerg):	⟨NP[*str*]⟩
b. læse (read, trans):	⟨NP[*str*], NP[*str*]⟩
c. give (give, ditrans):	⟨NP[*str*], NP[*str*], **NP[*str*]**⟩
d. hjælpe (help, trans):	⟨NP[*str*], **NP[*str*]**⟩

  Danish has two objects with a structural case,
  German and English only one.
- Personal passive: Promotion of an object with a structural case.

Generalized lexical rule

- old:

(23) Lexical rule for the formation of the participle (provisional):

$$\begin{bmatrix} \textit{stem} \\ \text{HEAD} & \begin{bmatrix} \textit{verb} \\ \text{DA } \boxed{1} \end{bmatrix} \\ \text{ARG-ST } \boxed{1} \oplus \boxed{2} \end{bmatrix} \mapsto \begin{bmatrix} \textit{word} \\ \text{ARG-ST } \boxed{2} \end{bmatrix}$$

  First argument suppressed, second is now the first.
- *promote* provides the list $\boxed{3}$, which either corresponds to the list $\boxed{2}$ or if $\boxed{2}$ contains two NPs with structural case, additionally also a list in which the order of the two NPs is swapped, that is, the second NP with structural case is placed first.

(24) Passive lexical rule for Danish, German, English, Islandic:

$$\begin{bmatrix} \textit{stem} \\ \text{HEAD} & \begin{bmatrix} \textit{verb} \\ \text{DA } \boxed{1} \end{bmatrix} \\ \text{ARG-ST } \boxed{1} \oplus \boxed{2} \end{bmatrix} \mapsto \begin{bmatrix} \textit{word} \\ \text{ARG-ST } \boxed{3} \end{bmatrix} \wedge \text{promote}(\boxed{2}, \boxed{3})$$

Result of the lexical rule application for Danish

	ARG-ST
a. danset (dance, unerg):	⟨⟩
b. læst (read, trans):	⟨NP[*str*]$_j$⟩
c. givet (give, ditrans):	⟨NP[*str*]$_j$, NP[*str*]$_k$⟩
	⟨NP[*str*]$_k$, NP[*str*]$_j$⟩
d. hjulpet (help, trans):	⟨NP[*str*]$_j$⟩

Icelandic

- Case distribution as in German:

(25)

	ARG-ST
b. dansa (dance, unerg):	⟨NP[*str*]⟩
c. lesa (read, trans):	⟨NP[*str*], NP[*str*]⟩
d. gefa (give, ditrans):	⟨NP[*str*], **NP[*ldat*]**, **NP[*str*]**⟩
e. hjálpa (help, trans):	⟨NP[*str*], **NP[*ldat*]**⟩

- Impersonal passive is the same as *tanzen*,
  but *helfen* does not form an impersonal passive but a personal passive.
- *gefa* 'give' allows two variants:
  Dative becomes oblique subject, accusative becomes subject.

Icelandic: Oblique subjects and double object constructions

- first NP becomes the subject, also NPs with lexical case (Wechsler 1995: 147–148)

(26)

	ARG-ST	SPR	COMPS
a. dansað (dance, unerg):	⟨⟩	⟨⟩	⟨⟩
b. lesið (read, trans):	⟨NP[*str*]$_j$⟩	⟨NP[*str*]$_j$⟩	⟨⟩
c. gefið (give, ditrans):	⟨NP[*ldat*]$_j$, NP[*str*]$_k$⟩	⟨NP[*ldat*]$_j$⟩	⟨NP[*str*]$_k$⟩
	⟨NP[*str*]$_k$, NP[*ldat*]$_j$⟩	⟨NP[*str*]$_k$⟩	⟨NP[*ldat*]$_j$⟩
d. hjálpað (help, trans):	⟨NP[*ldat*]$_j$⟩	⟨NP[*ldat*]$_j$⟩	⟨⟩

- Alternative: Subject = first element on ARG-ST or first NP with structural case.

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Argument Realization Principle (Ginzburg & Sag 2000)

- Very general principle:

(27) $\begin{bmatrix} \text{SPR} & \boxed{1} \\ \text{COMPS} & \boxed{2} \\ \text{ARG-ST} & \boxed{1} \oplus \boxed{2} \end{bmatrix}$

Impersonal passive

- German, Icelandic: subject not obligatory
- English and Danish map the first NP/VP/CP to SPR and the remaining arguments to COMPS and
  Danish inserts an expletive if there are no other elements,
  that could function as a subject.
  Danish is a problem for a general mapping:

(28)

	ARG-ST	SPR	COMPS
a. danset (unerg):	⟨⟩	⟨⟩	⟨⟩
b. læst (trans):	⟨NP[*str*]$_j$⟩	⟨NP[*str*]$_j$⟩	⟨⟩
c. givet (ditrans):	⟨NP[*str*]$_j$, NP[*str*]$_k$⟩	⟨NP[*str*]$_j$⟩	⟨NP[*str*]$_k$⟩
	⟨NP[*str*]$_k$, NP[*str*]$_j$⟩	⟨NP[*str*]$_k$⟩	⟨NP[*str*]$_j$⟩
d. hjulpet (trans):	⟨NP[*str*]$_j$⟩	⟨NP[*str*]$_j$⟩	⟨⟩

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Insertion of expletive in the mapping

Bjerre & Bjerre (2007) and Müller & Ørsnes (2013a), Müller (2023):

(29)

	ARG-ST	SPR	COMPS
a. danset (unerg):	⟨⟩	⟨ NP_{expl} ⟩	⟨⟩

The expletive is inserted in the mapping.

Bjerre & Bjerre (2007)

(30) $\left[\begin{array}{l}\textit{word}\\ \text{SS|LOC|CAT|HEAD|VFORM}\ \ \textit{active}\end{array}\right] \Rightarrow$

$$\left[\text{SS|LOC|CAT}\left[\begin{array}{ll}\text{SUBJ} & \langle\ \boxed{1}\ \rangle\\ \text{COMPS} & \boxed{2}\\ \text{SYN-ARGS} & \langle\ \boxed{1}\ |\ \boxed{2}\ \rangle\end{array}\right]\right] \vee$$

$$\left[\text{SS|LOC|CAT}\left[\begin{array}{ll}\text{SUBJ} & \langle\ \textit{det}\ \rangle\\ \text{COMPS} & \langle\rangle\\ \text{SYN-ARGS} & \langle\rangle\end{array}\right]\right]$$

This works for weather verbs, but highly specialized constraints on the mappings would be needed for indefinites with intransitive verbs and passives.

Weather verbs in German

- Expletives are selected by the verb:

  (31) a. weil es regnet (German)
  because it rains

  b. * weil regnet
  because rains

- A general insertion of expletives would not be justified for German:

  (32) a. weil gelacht wurde (German)
  because laughed was

  b. * weil es gelacht wurde
  because EXPL laughed was

Expletives and intransitive verbs

- Verbs without an object can be used with an expletive subject:

(33) a. at der ikke går en mand på gaden (Danish)
that EXPL not walks a man in street.DEF
b. at der ikke kommer to nye medarbejdere
that EXPL not come two new employees
c. at der ikke venter nogle hårde forhandlinger
that EXPL not wait some tough negotiations

- Carefully constructed examples with negation that show that these sentences are SVO sentences and not V2 sentences. So, the *der* really is an expletive subject. (examples without negation also in Vikner 1995)

Expletives and passives

- If there is no direct object, there can be an expletive:

(34) a. fordi der ikke blev grinet (Danish)
because EXPL not was laughed
b. fordi der ikke blev arbejdet på en bog / bogen
because EXPL not was worked at a book book.DEF

- (34a) is covered by Bjerre & Bjerre (2007), but (34b) is not.
- If an object was promoted to subject, it can be demoted to object again:

(35) fordi der ikke blev læst en bog / * bogen (Danish)
because EXPL not was read a book book.DEF

- The object has to be indefinite.
If there is no argument, an expletive must be added (34a).

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Saving impersonal passives: expletive insertion

(36) $\left[\text{ARG-ST } \boxed{1}\right] \mapsto \left[\text{ARG-ST } \langle\ \text{NP}[\textit{lnom}]_{\text{expl}}\ \rangle \oplus \boxed{1}\right] \wedge \texttt{no-np-str}(\boxed{1})$

If there is no NP with structural case among the arguments (no subject, no object), an expletive can be added.

Expletive subjects and intransitives/passives

(37) $\left[\text{ARG-ST}\ \langle\ \boxed{1}\ \text{NP}\ \rangle \oplus \boxed{2}\right] \mapsto \left[\text{ARG-ST}\ \langle\ \text{NP}[\textit{lnom}]_{\text{expl}},\ \boxed{1}\ \text{NP}[\text{DEF}-]\ \rangle \oplus \boxed{2}\right] \wedge$ no-np-str($\boxed{2}$)

If there is an NP argument (a subject), but no further NP with structural case among the arguments (no object), an expletive can be added.
The former subject has to be indefinite.

The case is lexical nominative. All other NPs get case as usual.

Alternative: List with direct object, if there is any. LR can apply if list is empty. See (Kathol 1991, Pollard 1994, Ryu 1997, Hellan & Nordgård 2001).

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Argument Realization Principle (Ginzburg & Sag 2000)

- Very general principle for all Germanic languages:

(38) $\begin{bmatrix} \text{SPR} & \boxed{1} \\ \text{COMPS} & \boxed{2} \\ \text{ARG-ST} & \boxed{1} \oplus \boxed{2} \end{bmatrix}$

- Language dependent specification of SPR value: ⟨⟩ or ⟨ [] ⟩
  (Or rather non-empty for Danish, since there may be several elements in SPR for Danish Müller & Ørsnes 2013b)
- SOV languages have empty SPR list (for finite verbs).
- Many SVO languages require non-empty SPR list.

Problem: Danish

- If this is the lexical item for *danset* 'danced', it causes a contradiction:

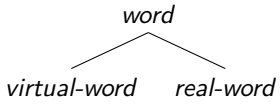
(39)

	ARG-ST	SPR	COMPS
a. danset (unerg):	⟨⟩	⟨⟩	⟨⟩

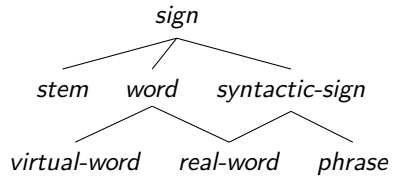
The empty list cannot be split into a list containing a specifier and a rest.

- But the lexical item with empty ARG-ST is needed as input of the lexical rule that licenses the item with the expletive subject.

Virtual lexical items



We distinguish between virtual words and real words.



Real words are the ones that are inserted into the syntax.

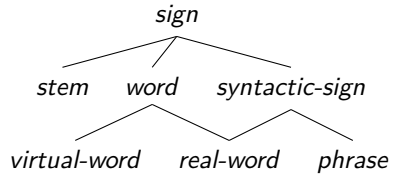
Constraints on lexical insertion

(40) $\begin{bmatrix} \textit{real-word} \\ \text{SYNSEM|LOC|CAT|HEAD} \ \textit{verb} \end{bmatrix} \Rightarrow \left[\text{SYNSEM|LOC|CAT|SPR} \ \langle\ [] \ \rangle\right]$

Real words are required to have a specifier if they are verbal.

It follows that only impersonal passives with an expletive can be used.

Types, types, types



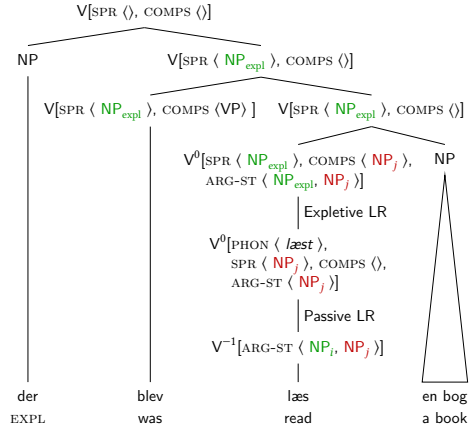
Problem: Lexical rules are typed (Meurers 2000). Some are subtypes of *word*.

Therefore one would need subtypes of lexical rules for virtual words and real words.

Simpler solution: boolean feature REAL.

Only elements with REAL+ can function as head daughters.

Stem – passive promotion – expletive demotion of object



Linking phrasal patterns to grammatical functions (Culicover & Jackendoff 2005) does not work (Müller 2013).

Conclusion

- Analysis for passive in Germanic
  - personal and impersonal constructions
  - quirky subjects in Icelandic
  - promotion of different objects
  - subjectless constructions / impersonal passives
- general argument realization principle
- virtual lexical items
- partially implemented in TRALE (Müller 2015, 2023)

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