HAA workshop

Barcelona, Feb 1-2, 2017

Assignment of arguments in Movima: the role of semantics and discourse

Katharina Haude
CNRS, SEDYL UMR 8202
katharina.haude@cnrs.fr

Language and data

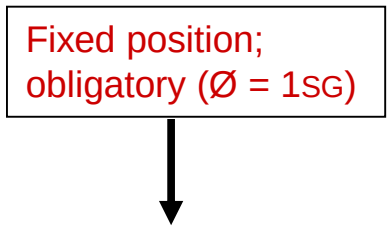
- South-Western Amazon (Bolivia)
- Isolate
- Heavily endangered: ~500 adult speakers, no L1 learners
- Fieldwork and description since 2001
- Annotated spontaneous discourse corpus of >130,000 words produced by ~50 speakers

[MAP here]

The structure of the transitive clause

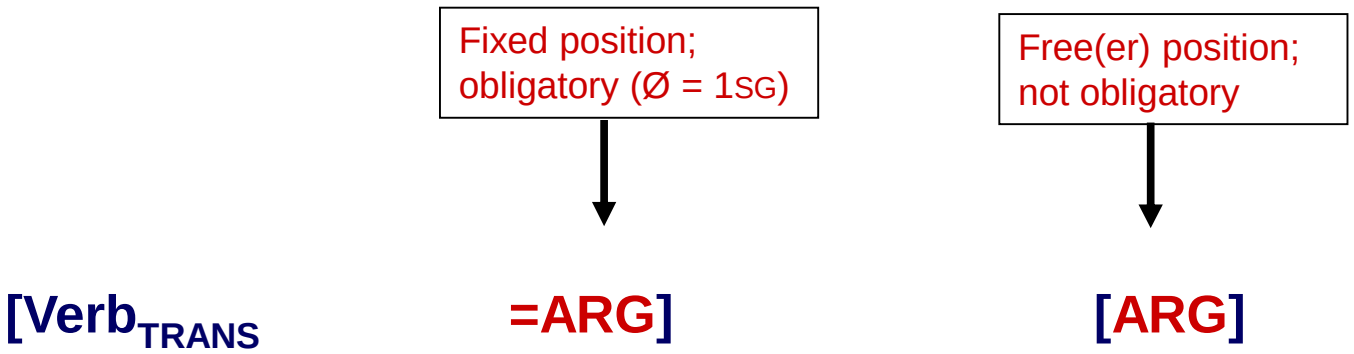
[Verb$_{TRANS}$ =ARG] [ARG]

The structure of the transitive clause

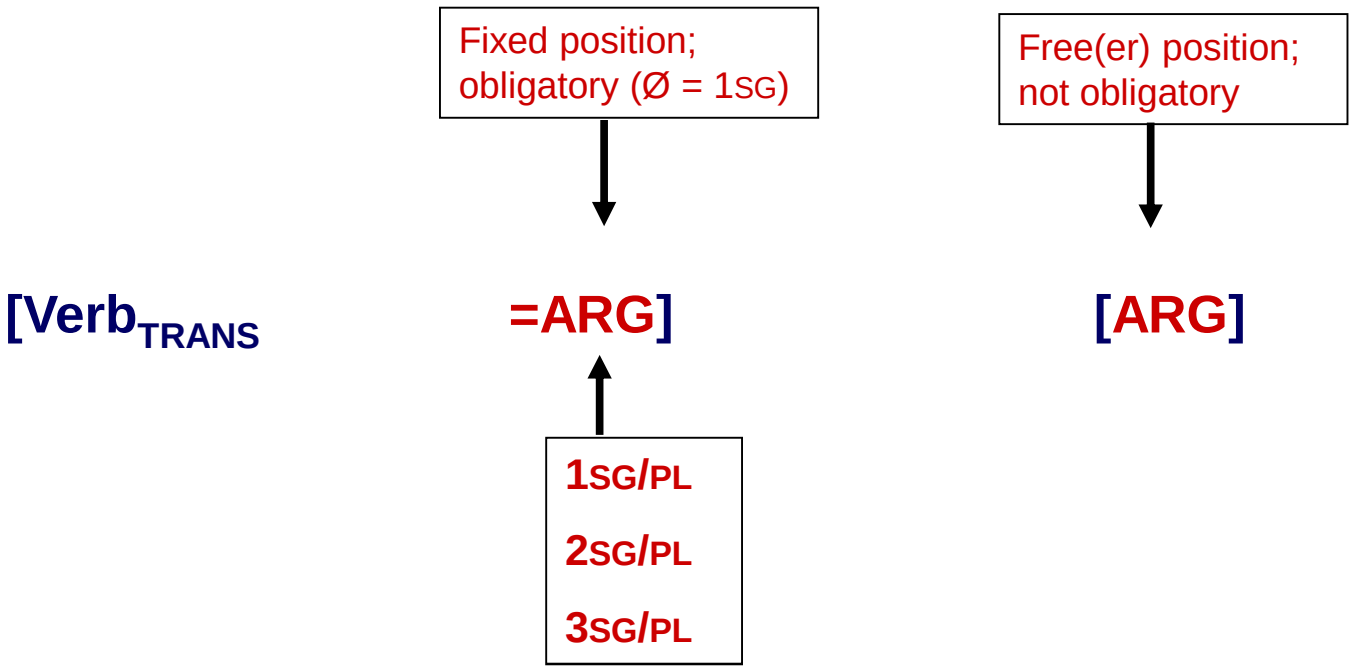


[Verb$_{TRANS}$ =ARG] [ARG]

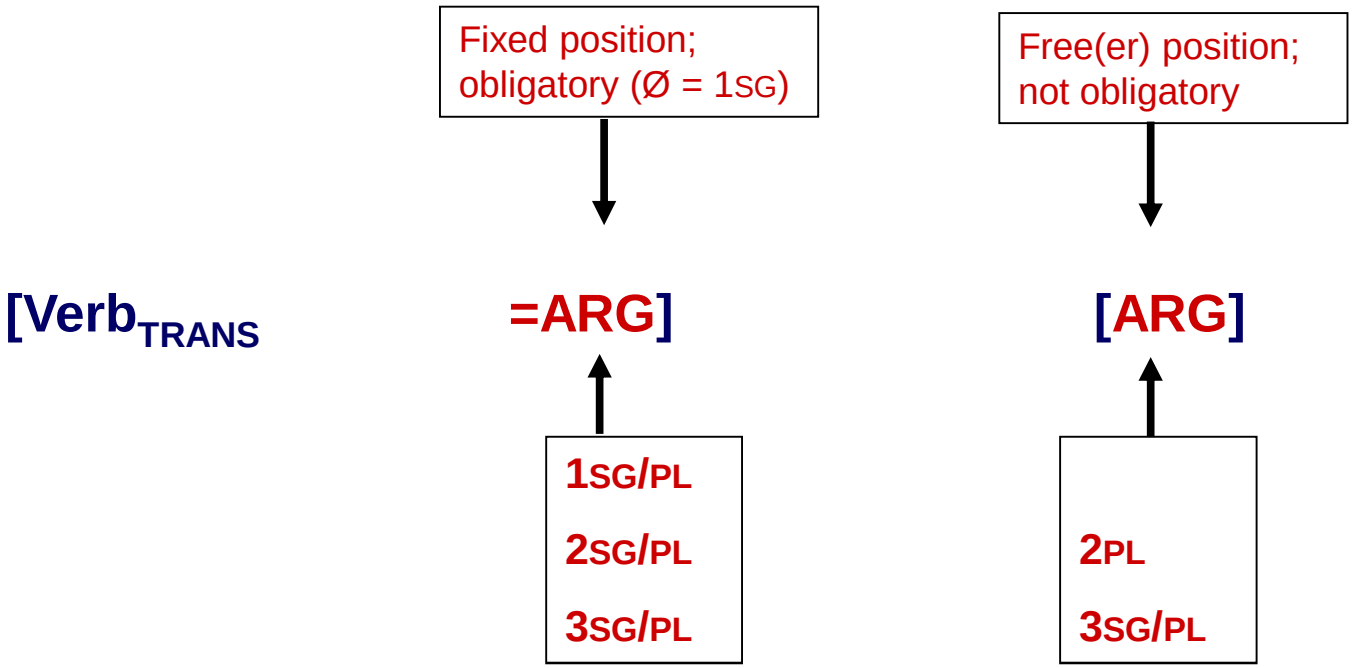
The structure of the transitive clause



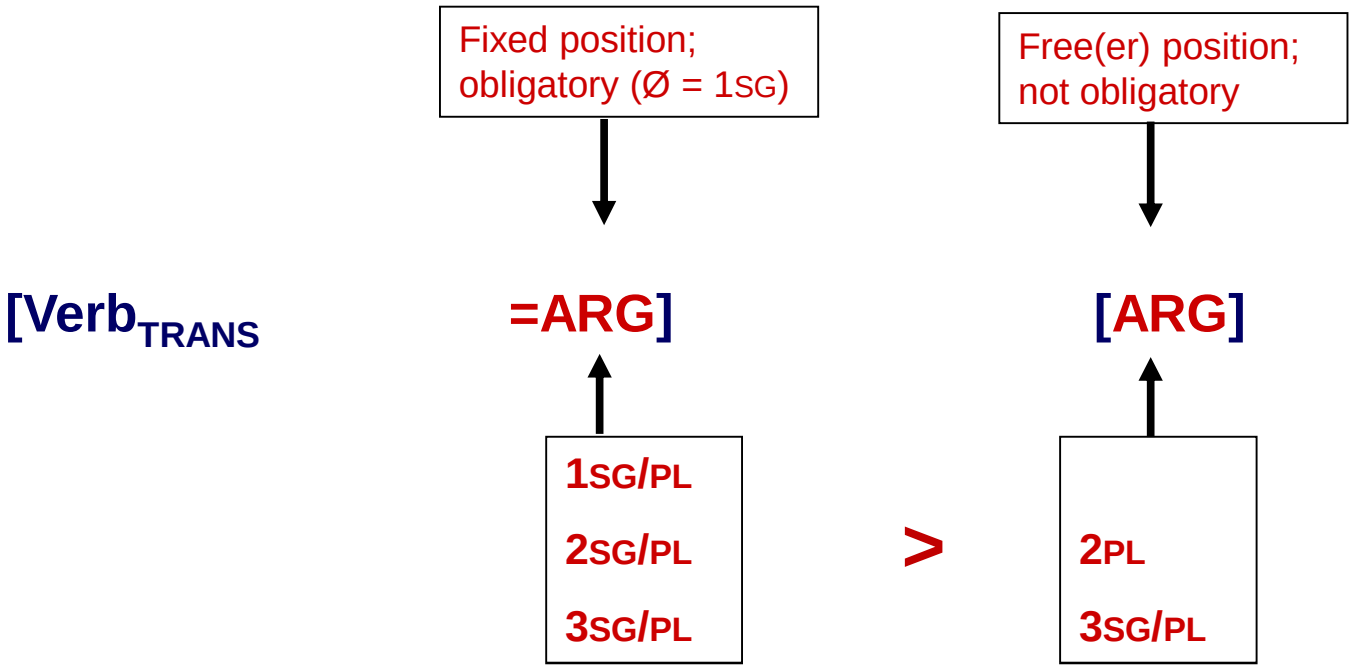
The structure of the transitive clause



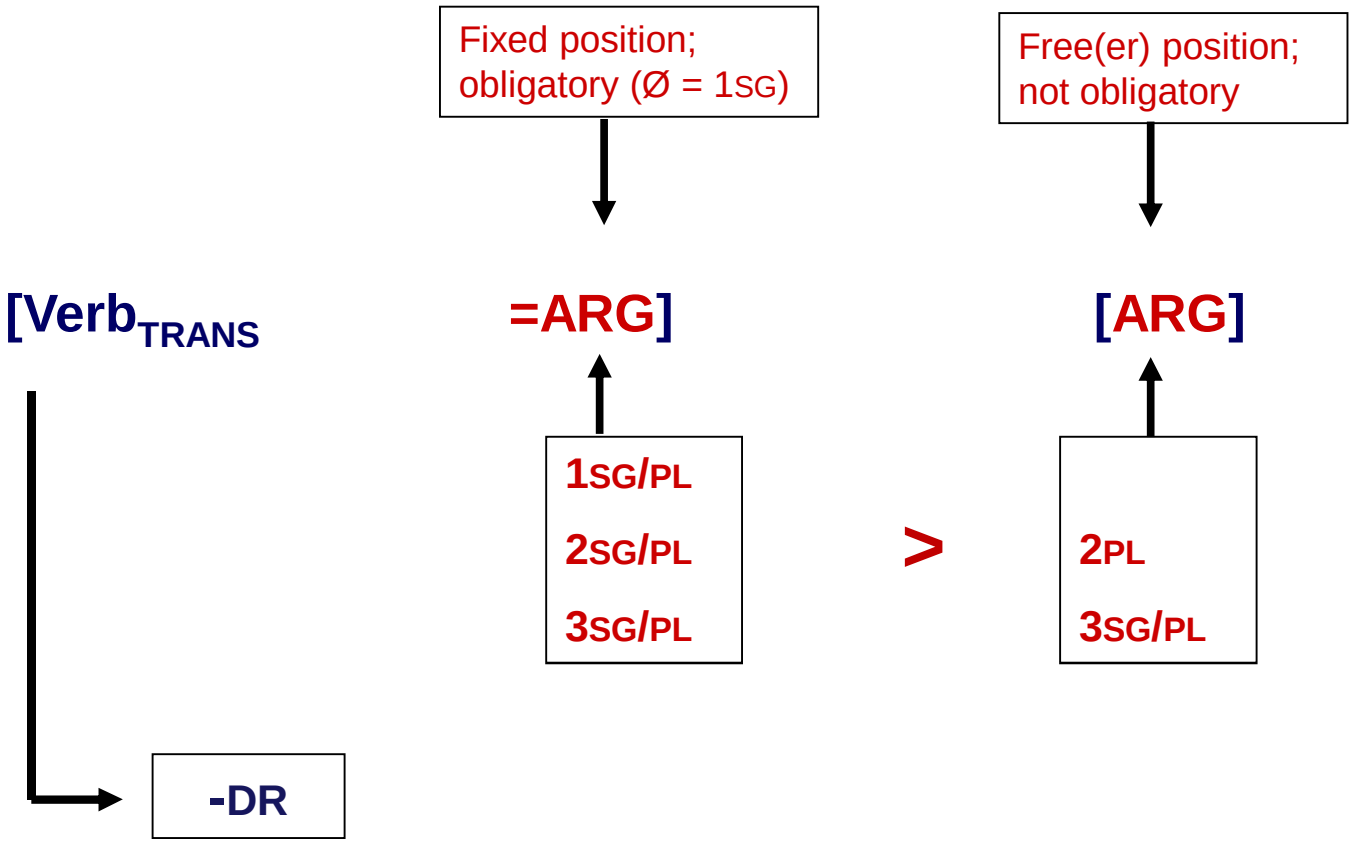
The structure of the transitive clause



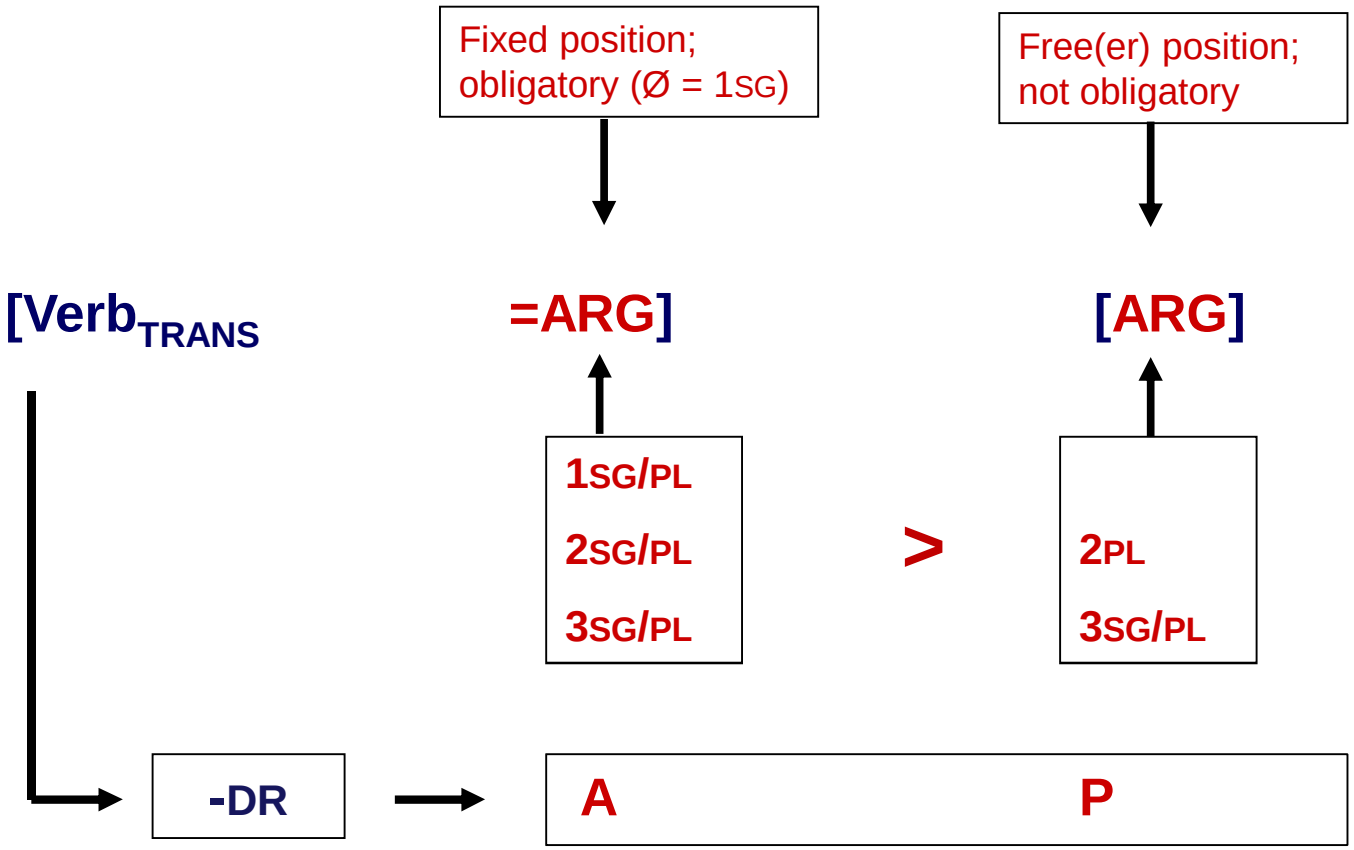
The structure of the transitive clause



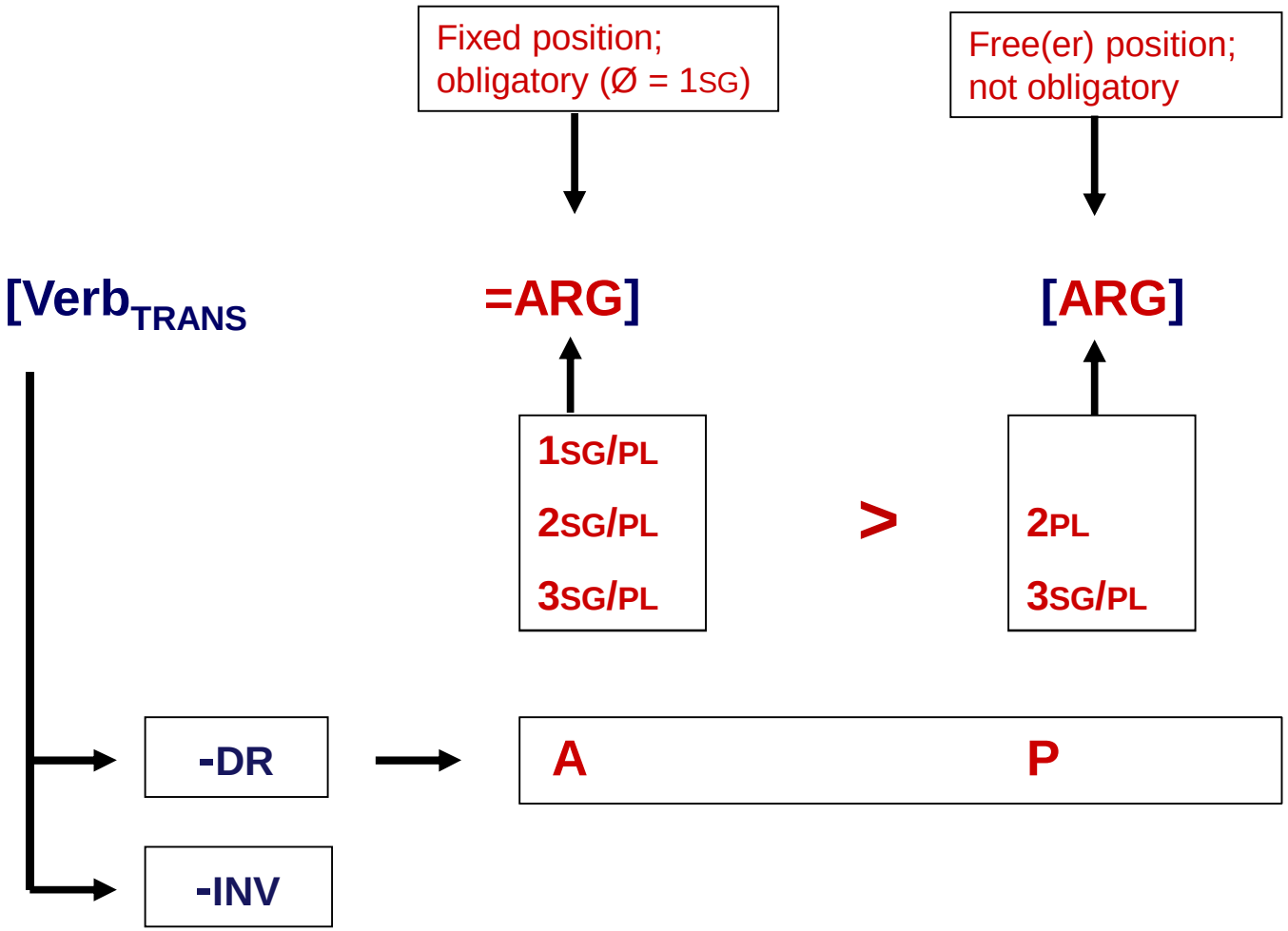
The structure of the transitive clause



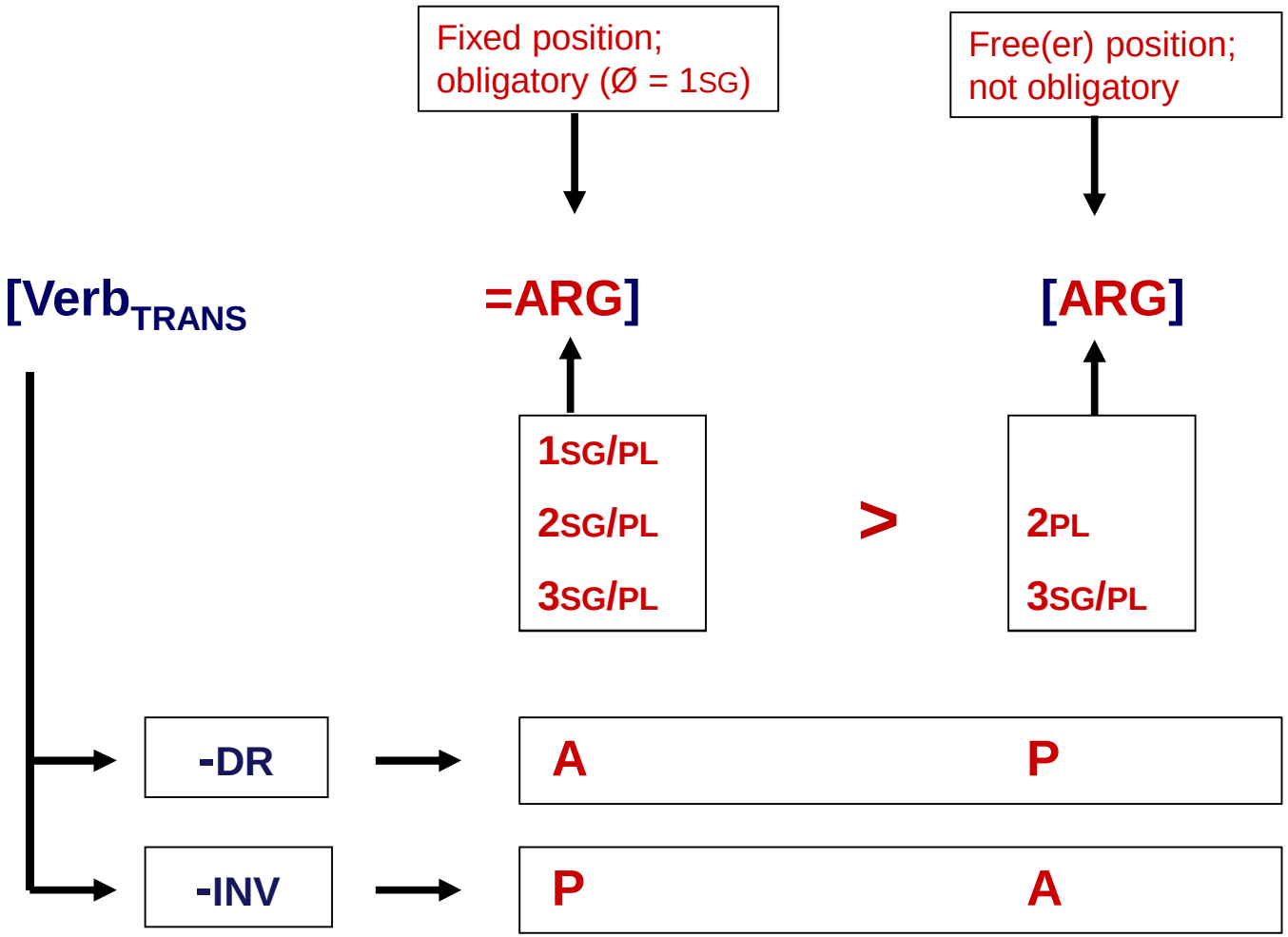
The structure of the transitive clause



The structure of the transitive clause



The structure of the transitive clause



Examples

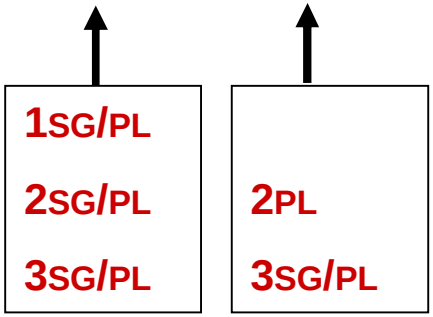
1 > 2SG

Direct

*[ew-**na** **=Ø**]*
hold-**DR** =1sg
'I held (you).'

Inverse

*[ew-**kay** **=Ø**]*
hold-**INV** =1sg
'(You) held me.'



Examples

1 > 2PL

Direct

*[ew-**na** **=Ø**]* *[(y'bi)]*

hold-**DR** =1sg 2pl

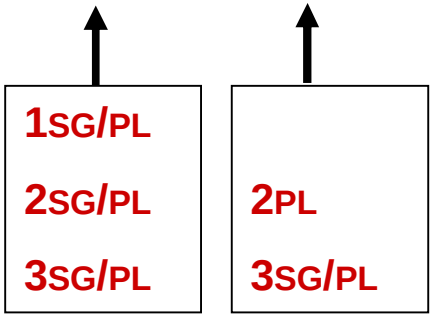
'I held you (pl).'

Inverse

*[ew-**kay** **=Ø**]* *[(y'bi)]*

hold-**INV** =1sg 2pl

'You (pl) held me.'



Examples

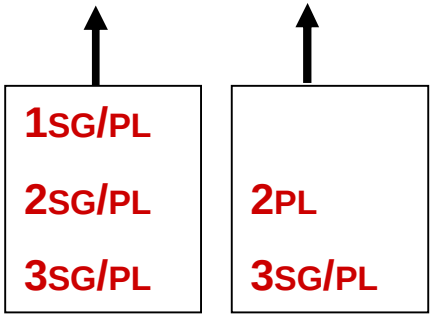
1 > 3

Direct

*[ew-**na** **=Ø**]* *[(as)]*
hold-**DR** =1sg 3n
'I held it.'

Inverse

*[ew-**kay** **=Ø**]* *[(as)]*
hold-**INV** =1sg 3n
'It held me.'



Examples

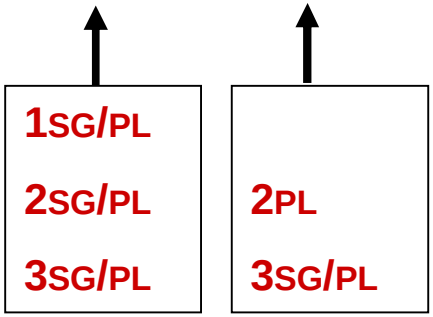
2SG > 3

Direct

*[ew-**na** **=n**]* *[**(as)**]*
hold-**DR** =2 3n
'You held it.'

Inverse

*[ew-**kaya** **=n**]* *[**(as)**]*
hold-**INV** =2 3n
'It held you.'



Examples

2PL > 3

Direct

*[ew-**na** **=nkweł**] [(as)]*

hold-**DR** =2pl 3n

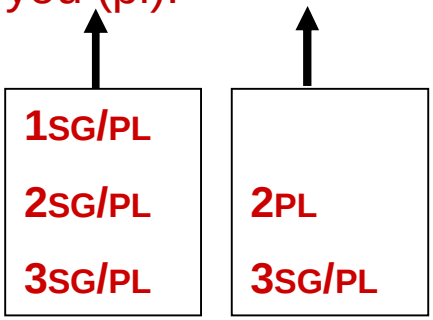
'You (pl) held it.'

Inverse

*[ew-**kaya** **=nkweł**] [(as)]*

hold-**INV** =2pl 3n

'It held you (pl).'



Examples

3 > 3

Direct

*[ew-**na** **='ne**]* *[(kas)]*

hold-**DR** =3f OBV.n

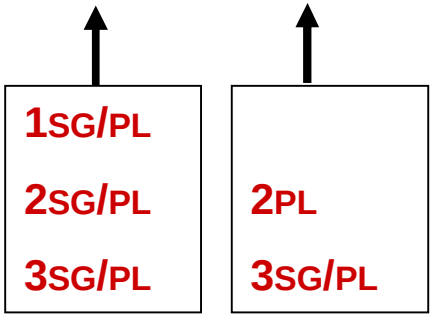
'She held it.'

Inverse

*[ew-**kaya='ne**]* *[(kas)]*

hold-**INV** =3f OBV.n

'It held her.'



Syntactic status of the arguments

- The formal properties of the external argument are identical to those of the single argument of an intransitive clause

- The external argument is syntactically privileged: it is the only one that can be relativized (i.e. by headed, headless, and light-headed relative clauses)

- The internal argument has no syntactic privileges; it is coded like a nominal possessor

Syntactic status of the arguments

E.g. headless RCs (after pronominal predicates):

Direct

[asko] *[ew-**na**='ne]*
PROPRED.3n hold-**DR**=3f
'That was (what) she held.'

Inverse

[asko] *[ew-**kaya**='ne]*
PROPRED.3n hold-**INV**=3f
'That was (what) held her.'

Antipassive

[i'ne] *[**kwey** ew-**na**] (**n**-os dokwe='ne)*
PROPRED.3f VALDECR hold-DR **OBL**-ART.n clothes=3f
'She was (the one who) held her dress.'

Passive (not attested in corpus)

Assignment of argument position

1st and 2nd person must be encoded in the internal slot, but there is no formal restriction for 3rd persons.

→ What governs argument encoding in a 3>3 scenario?

Assignment of argument position

1st and 2nd person must be encoded in the internal slot, but there is no formal restriction for 3rd persons.

→ What governs argument encoding in a 3>3 scenario?

1. Agenthood ("attention flow"; DeLancey 1981)

Assignment of argument position

1st and 2nd person must be encoded in the internal slot, but there is no formal restriction for 3rd persons.

→ What governs argument encoding in a 3>3 scenario?

1. Agenthood ("attention flow"; DeLancey 1981)

2. Animacy (human > non-human animate > inanimate)

Assignment of argument position

1st and 2nd person must be encoded in the internal slot, but there is no formal restriction for 3rd persons.

→ What governs argument encoding in a 3>3 scenario?

1. Agenthood ("attention flow"; DeLancey 1981)

2. Animacy (human > non-human animate > inanimate)

3. Discourse topicality ("viewpoint"; DeLancey 1981)

Assignment of argument position

1st and 2nd person must be encoded in the internal slot, but there is no formal restriction for 3rd persons.

→ What governs argument encoding in a 3>3 scenario?

1. Agenthood ("attention flow"; DeLancey 1981)

2. Animacy (human > non-human animate > inanimate)

3. Discourse topicality ("viewpoint"; DeLancey 1981)

→ Quantitative evaluation of a database of ~1250 transitive sentences describing 3>3 scenarios (Haude 2014).

1. Agenthood

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

- 93% of all transitive 3>3 constructions in the corpus are direct.

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

- 93% of all transitive 3>3 constructions in the corpus are direct.
- The direct form is the first one offered in elicitation:

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

- 93% of all transitive 3>3 constructions in the corpus are direct.
- The direct form is the first one offered in elicitation:

Direct

*[lap-**na**=os*	*mimi:di]*	*[us*	*itila:kwa]*
bite-**DR**=ART	snake	ART	man

'The snake bit the man.' (spontaneous in elicitation)

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

- 93% of all transitive 3>3 constructions in the corpus are direct.
- The direct form is the first one offered in elicitation:

Direct

*[lap-**na**=os*	*mimi:di]*	*[us*	*itila:kwa]*
bite-**DR**=ART	snake	ART	man

'The snake bit the man.' (spontaneous in elicitation)

Inverse

*[lap-**kaya**=os*	*mimi:di]*	*[us*	*itila:kwa]*
bite-**INV**=ART	snake	ART	man

'The man was bitten by the snake.' (prompted in elicitation)

1. Agenthood

The default construction for encoding 3>3 scenarios is DR, i.e. the internal argument is A.

- 93% of all transitive 3>3 constructions in the corpus are direct.
- The direct form is the first one offered in elicitation:

Direct

*[lap-**na**=os*	*mimi:di]*	*[us*	*itila:kwa]*
bite-**DR**=ART	snake	ART	man

'The snake bit the man.' (spontaneous in elicitation)

Inverse

*[lap-**kaya**=os*	*mimi:di]*	*[us*	*itila:kwa]*
bite-**INV**=ART	snake	ART	man

'The man was bitten by the snake.' (prompted in elicitation)

- When other factors are overridden, this is usually done with the direct construction.

2. Topicality

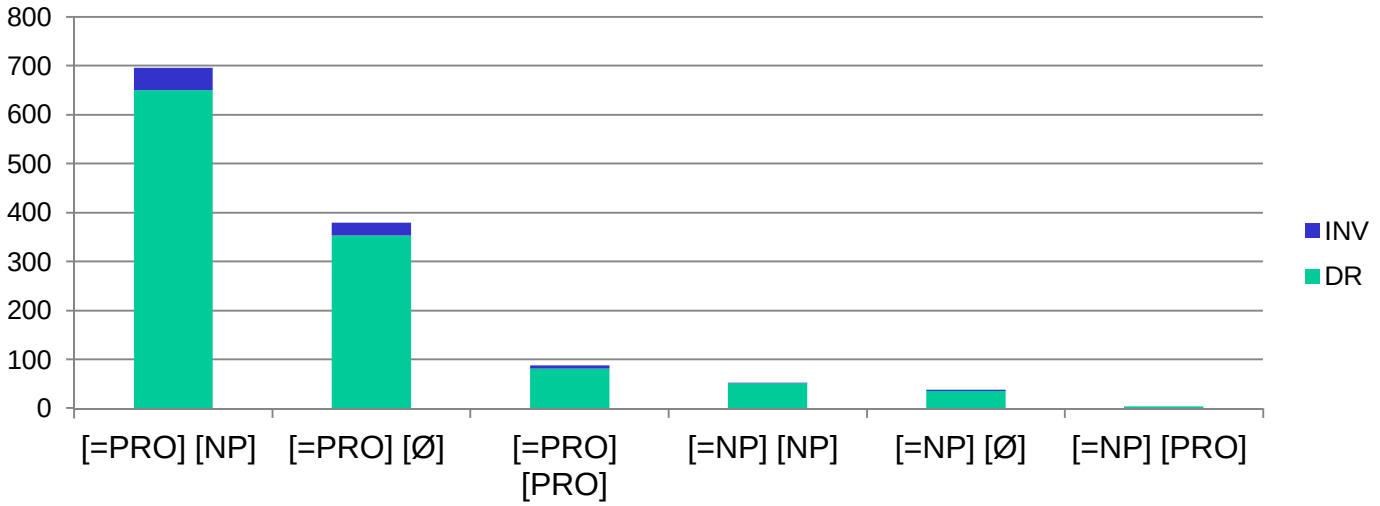
Argument expressions are indicators of "topicality" (i.e. here: discourse prominence, givenness, identifiability etc.):

- Pronouns tend to represent topical entities, taking up a "given" referent
- Less topical entities are likely to be encoded as NPs (introducing/specifying a referent)
- In Movima, less topical entities often remain unexpressed (→ further research!)

2. Topicality

Argument expressions in 1254 transitive clauses with 3>3 scenarios

[Verb=ARG] [ARG]	# Total	% Total	% DR	% INV
[V=PRO] [NP]	**696**	**55%**	93%	7%
[V=PRO] [Ø]	**380**	**30%**	93%	7%
[V=PRO] [PRO]	88	7%	93%	7%
[V=NP] [NP]	52	4%	98%	2%
[V=NP] [Ø]	38	3%	95%	5%
[V=NP] [PRO]	4	0%	100%	0%



2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

[V=PRO] [NP] (55%):

Direct

[Jo'yaj]	*[**os***	***rulrul**],*	*[tet**<a>**poja=**as**]*	*[os*	*pa:kona:nak]*
arrive	ART	jaguar	frighten**<DR>**=3n	ART	fox

'The jaguar arrived, it frightened the fox.'

Inverse

Jayna	*[wele:łe]*	*[**us***	***oveniwankwa**] (…),*
DSC	climb	ART	boy

jayna	*[julra**-kaya=us**]*	*[is*	*so:te]*
DSC	win_over-INV=3m	ART	other_person

‘Then the boy climbed up (because) he had been outwon by others.’

2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

[V=PRO] [-*l*-] (30%)

Direct

Jayna	*n-os*		*[su<we>we=as],*
DSC	OBL-ART		near-NMZ=3n
*[way-**na**=us]*	*łat,*		*[man-**na**=us]*
lift-DR=3m	EV		shoot-DR=3m

'Then, when it (the jaguar) was near, he lifted (his gun) and shot (the jaguar).'

Inverse

[tino:ka]	*[us]*	*łat*	*bo*	*[yok-**kaya**=us]*
fear	3m	EV	because	catch-**INV**=3m

'He is scared because he might get caught (by the jaguar).'

2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

[V=PRO] [PRO] (7%)

Direct

"Jiwałe-ti	*[**kos***	***salon**]!"*	
bring-IMP.DR	ART	gun	
*[Jiwałe-**na**=us]*	*[**kas**],*	*[man-**na**=Ø]*	*[as]*
bring-**DR**=3m	OBV.3n	shoot-**DR**=1sg	3n

'"Bring the gun!" - He brought it; I shot it (the tapir).'

Inverse

[dayłabał]	*[**os***	***karawa:chi**]*	*n-os*	*radanłe=sne*
lie:on_ground	ART	gecko	OBL-ART	doorway=3f
che	*[lap-**kaya**=sne]*	*[**kas**]*	*n-os*	*dimpoja=sne*
and	bite-INV=3f	OBV.3n	obl-ART	toe=3f

'There was a gecko in her doorway and she was bitten by it in her toe.'

2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

Counterexamples: [V=NP] [-/-] (3%)

Direct

*[pachoł**-na=os*** ***pa:kona:nak]***
spy_on**-DR**=ART fox
'The fox spied on (him).'

(36 tokens)

Inverse

*[ba:kalomaj**-kaya=is*** ***o:kaka-poy*** ***di'*** ***popoykwa]***
finish_off**-INV**=ART all_kind-CLF.animal REL animal
' All kinds of animals will be finished off (by the storm).' (2 tokens)

2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

Counterexamples: [V=NP] [NP] (4%)

Direct

*[man**<a>**ye**=is***	***pa:ko]***	*[os*	*o:ma]*
find**<DR>**=ART	dog	ART	tapir

'The dogs found a tapir.'

(51 tokens)

Inverse

(only a few lexicalized examples)

2. Topicality

The internal argument is most commonly a pronoun, taking up a previously introduced referent. The external argument is NP or unexpressed.

Counterexamples: [V=NP] [PRO]: <1%

Direct

*[yok-**na=is*** ***pa:ko**]* *[kas]*
catch-**DR**=ART dog OBV.3n
'The dogs caught it.'

(4 tokens; idioms?)

Inverse

(unattested)

- → [V=NP] only occurs in the direct construction.
- → Constituent order (V-A-P) is a possible alternative to direct/inverse opposition
- → Again, influence of agentivity (see DeLancey's 1981 "attention flow": cross-linguistic tendency to code agents before patients).

3. Animacy

- In descriptions of inverse systems, an animacy hierarchy (hum > non-human animate > inanimate) is usually evoked as a decisive factor (e.g. Klaiman's 1991 "ontological hierarchy")

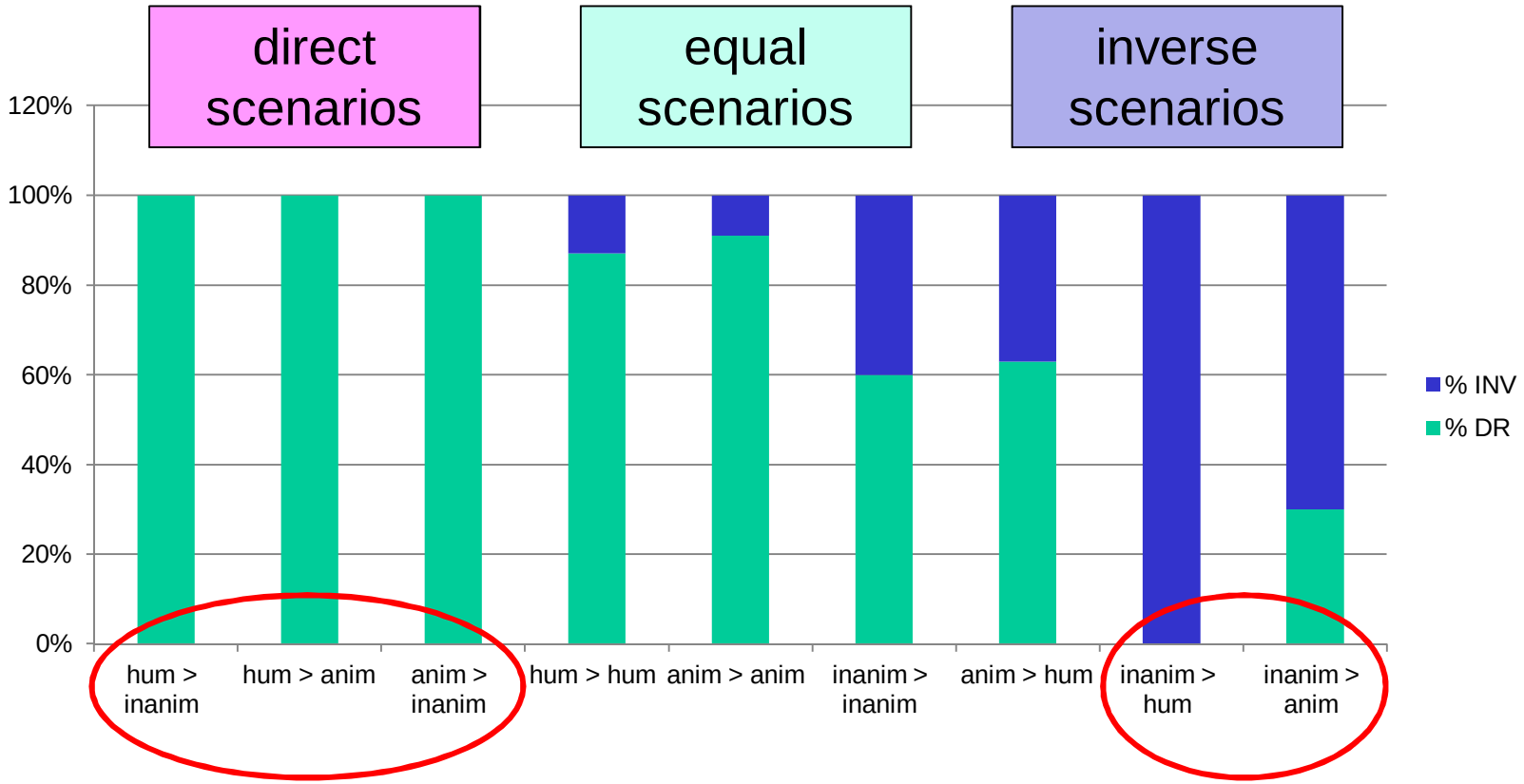
- Animacy typically correlates with topicality and agentivity
  ("Human A's are seldom lexical"; Haig and Schnell in press)
  → difficulty of teasing the factors apart

3. Animacy: corpus counts

Table 2. Animacy scenarios in 3>3 transitive clauses (> means "acts on")

Type	Subtype	# total	% of total	% DR	% INV
	human > inanimate	451	36%	**100%**	0%
"direct scenarios"	human > animate	145	12%	**100%**	0%
	animate > inanimate	146	12%	**100%**	0%
	human > human	300	24%	**87%**	13%
"equal scenarios"	animate > animate	127	10%	**91%**	9%
	inanim > inanim	5	0%	**60%**	40%
	animate > human	62	5%	**63%**	37%
"inverse scenarios"	inanim > human	8	1%	0%	**100%**
	inanimate > animate	10	1%	30%	**70%**

3. Animacy: corpus counts



3. Animacy: "Direct scenarios"

Subtype	# total	% of total	# DR	# INV	% DR	% INV
human > inanimate	451	36%	451	0	**100%**	0%
human > animate	145	12%	145	0	**100%**	0%
animate > inanimate	146	12%	146	0	**100%**	0%

- Direct scenarios ([+hum/anim] A > [-hum/anim] P) are the most frequent (60%)
- Direct scenarios are **always** encoded by the direct construction
- This is independent of argument encoding:

Table 3. Argument encoding for direct scenarios

	%
[V=PRO] [NP]	58%
[V=PRO] [Ø]	33%
[V=PRO] [PRO]	3%
[V=NP] [NP]	4%
[V=NP] [Ø]	2%
[V=NP] [PRO]	0%

3. Animacy: "Direct scenarios"

Subtype	# total	% of total	# DR	# INV	% DR	% INV
human > inanimate	451	36%	451	0	**100%**	0%
human > animate	145	12%	145	0	**100%**	0%
animate > inanimate	146	12%	146	0	**100%**	0%

No inverse, even if expected from discourse topicality:

Asko	*jayna bijaw-ni-na**=i**,*	*[**kis***	***ney***	***wa:ka]***	*jayna,*
PRO.N.AB	DSC old-PRC-LOC=3PL	ART	here	cow	DSC

wa:	*rey*	*di'*	*jayna*	*[botra-**na**=i]*	***[ki']***
despite	MOD	HYP	DSC	replace-**DR**=3PL	OBV.3PL

'This is where they were raised, these cows, even if now, they (i.e., its actual keepers) replaced them.' (from a text about the cow herd)

3. Animacy: "Equal scenarios"

Subtype	# total	% of total	# DR	# INV	% DR	% INV
human > human	300	24%	260	40	**87%**	13%
animate > animate	127	10%	115	12	**91%**	9%
inanimate > inanimate	5	0%	3	2	**60%**	40%

Equal scenarios are predominantly coded as DR, but the percentage of INV is relatively high.

n-os *joyaj-wa***=us** ***pa:'i,*** *jayna* *[itloba-**kaya**=is]* ***[kus]*** *ney*
OBL-ART arrive-NMZ=ART priest DSC gather-**INV**=3PL OBV.3M here
'Then, when the priest arrived, they were assembled by him here.' (from text on Movima people)

Again, no influence from argument expression:

Argument expressions in equal scenarios

[Verb=ARG] [ARG]	INV
[V=PRO] [NP]	11%
[V=PRO] [Ø]	10%
[V=PRO] [PRO]	17%

3. Animacy: "Inverse scenarios"

Subtype	# total	% of total	# DR	# INV	% DR	% INV
animate > human	62	5%	39	23	**63%**	37%
inanimate > human	8	1%	0	8	0%	**100%**
inanimate > animate	10	1%	3	7	30%	**70%**

The three examples where an inanimate>animate scenario is described with the direct construction involve natural forces:

[is	*loy*	*rey*	*supɬe:-wa],*	*jaa*	*rey*	*[kavujkaɬe-**na**=a]*
ART	NEG.SUB	MOD	tie:APPL-NMZ	IJ	MOD	blow_away-**DR**=3N

'Those who are not tied (onto something), ah!, it (i.e. the hurricane) blows (them) away.'

→ Inverse scenarios with inanimate actors always take the inverse form. NB: in all examples, the human/animate Ps are pronouns and the inanimate As are NPs.

3. Animacy: "Inverse scenarios"

Subtype	# total	% of total	# DR	# INV	% DR	% INV
animate > human	62	5%	39	23	**63%**	37%
inanimate > human	8	1%	0	8	0%	**100%**
inanimate > animate	10	1%	3	7	30%	**70%**

Animals acting on humans: 63% direct; not always explained by topicality:

*[**isnos***	***tolkosya]***	*jayna*	*ka:,*	*jayna*	*[jom**<a>**ni**=is***	***bi:law]***
ART	girl	DSC	not_be	DSC	devour<DR>=ART	fish

‘The girl didn't exist anymore, the fishes had devoured (her) already.’ (from a text about the girl)

3. Animacy: Summary

- Direct scenarios **(human > animate > inanimate)** are always expressed with the direct construction.

- Inverse scenarios with **inanimate As** are always expressed with the inverse construction (but: few examples, and the inanimate As are low in topicality).

- Intermediate inverse **(anim>human)** and equal scenarios are preferredly expressed with the direct construction, i.e. constituent order can be used to indicate semantic roles.

Conclusions

- The assignment of the syntactic argument slots in Movima is not syntactically determined. If it were, then Movima would be a straightforward syntactically ergative language, with DR as the default construction and an antipassive to match syntactic requirements.
- INV is grammatically obligatory when 1st and 2nd person are involved.
- In 3>3 interactions, the factors that determine the choice of the construction are:
  - Animacy: human > (non-human animate >) inanimate
    → Humans and inanimates form the poles of the animacy hierarchy and are a strong predictor of construction choice.
  - Topicality: prominent > less prominent
    → When animacy factors permit, the speaker is free to choose for discourse-pragmatic purposes.
  - Agenthood: agent > patient
    → The direct construction (agent first) is the default.

Abbreviations

A=agent

P=patient

ART=article

DR=direct

INV=inverse

OBL=oblique

OBV=obviative

PROPRED=pronominal predicate

VALDECR=valency decrease

(APPL=applicative, DSC=discontinuous, EV=evidential, f=feminine, HYP=hypothetical, IJ=interjection, m=masculine, MOD=modal, n=neuter, NEG.SUB=negator of subordinate, NMZ=nominalizer, pl=plural, sg=singular)

References

DeLancey, Scott. 1981. “An interpretation of split ergativity and related patterns.” *Language* 57(3): 626-657.

Haig, Geoffrey and Stefan Schnell. In press. "The discourse basis of ergativity revisited." *Language.*

Haude, Katharina. 2014. Animacy and inverse in Movima: a corpus study. *Anthropological Linguistics* 56(3-4): 294-314.

Klaiman, M.H. 1991. *Grammatical Voice.* Cambridge: Cambridge University Press.