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Case pattern splits, verb types, and construction competition

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1. Tsunoda’s verb type hierarchy and a typology of transitivity splits

Tsunoda (Tsunoda 1981; Tsunoda 1985) proposed the following verb type hierarchy predicting distribution of intransitive and transitive patterns in individual languages:

Effective action >> Perception >> Pursuit >> Knowledge >> Feeling >> Relation

Transitivity splits cross-linguistically (abridged from Tsunoda 1985)

	effective action		perception		pursuit	knowledge	feeling	relation
	+result (kill, break)	-result (hit, shoot)	+attained (see, hear)	-attained (look, listen)	search, wait	know, understand	like, fear, fond of,	possess, similar, consist
English	Nom/Acc	Nom/Acc Nom/PP	Nom/Acc	Nom/PP	(Nom/Acc) Nom/PP	Nom/Acc (Nom/PP)	Nom/Acc Nom/PP	Nom/Acc Nom/PP
Japanese	Nom/Acc	Nom/Acc Nom/Dat	Nom/Acc Dat-Nom	Nom/Acc	Nom/Acc	Nom/Acc Dat-Nom	Nom/Acc Nom/Dat Dat/Nom Nom/Nom	Nom/Acc Nom/Dat Nom/Obl Dat/Nom
Basque	Erg/Abs	Erg/Abs Erg/Dat	Erg/Abs	Erg/Abs Erg/Dat	Erg/Abs Erg/Dat Abs/Dat	Erg/Abs Erg/Dat Dat/Abs	Erg/Abs Dat/Abs	Erg/Abs
Tibetan	Erg/Abs	Erg/Obl	Erg/Abs, Erg/Obl		Erg/Abs Erg/Obl	Erg/Abs	Erg/Abs Abs/Obl Obl/Abs	Obl/Abs
Avar	Erg/Abs		Loc/Abs		Erg/Abs Abs/Dir	Loc/Abs	Dat/Abs	Gen/Abs
Tongan	Erg/Abs		Erg/Abs Abs/Dat Abs/Loc		Erg/Abs Abs/Dat	Erg/Abs Abs/Dat Dat/Abs	Erg/Abs Abs/Dat Abs/Loc	Abs/Abs
Djaru	Erg/Abs		Erg/Abs		Erg/Abs Abs/Dat	Erg/Abs Abs/Dat	Erg/Abs Abs/Dat Abs/Loc	Erg/Abs Abs/Dat Abs/Abs
Eskimo	Erg/Abs		Erg/Abs		Erg/Abs	Erg/Abs	Erg/Abs	Erg/Abs

As predicted by the verb type hierarchy, there is a gradual reduction in transitivity as one moves down the hierarchy. Further languages differ in how far the transitive pattern is extended down the hierarchy.

Some problems:

- a) some of the intermediate types are not strictly ordered (in particular, the relative ranking of pursuit verbs vis-à-vis ‘mental verbs’)
- b) the hierarchy in the present form only predicts that verb types down on the hierarchy may deviate from the transitive pattern in some way, but it does not predict what case frames would be selected.

Yet the choice of case frames is not random: e.g. both in the accusative German and ergative Ingush pursuit verbs and mental predicates can be intransitive, but only the latter (mental verbs) can take the inverse DAT–NOM pattern.

<<Ingush>>(Nichols 1994:118-119)

- (1) *Īz suoga hež*
he.NOM me.ALL wait
‘He is waiting for me’ (cf. German *Er wartet auf mich*)
- (2) *Suona iz viez*
I.DAT him.NOM like
‘I like him’ (cf. German *Er gefällt mir*)

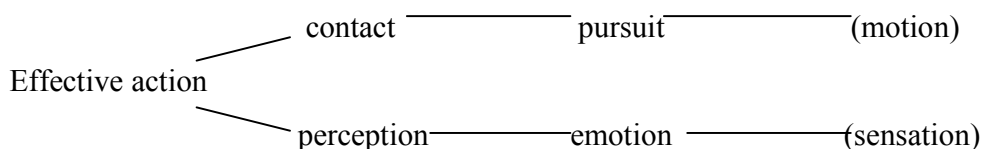
Goals of this paper:

- to show – elaborating on Tsunoda’s hierarchy - that constructing a universally valid hierarchy is feasible
- to show how specific predictions concerning the preferred patterns of case-frames for particular verbs types can be made.

2. Decomposing Tsunoda’s hierarchy

Note that the verb type hierarchy proposed by Tsunoda conflates two different dimensions: a (sub-)hierarchy of decreased patienthood on the part of O argument (cf. ‘break’ vs. ‘search’), and another (sub-) hierarchy that additionally involves decreased agentivity on the part of the A participant (cf. ‘break’ vs. ‘like’).

A two dimensional verb-type hierarchy:



The hierarchy above can be seen as a two dimensional ‘semantic map’ (cf. Haspelmath 2003) and therefore should follow the usual predictions imposed by the semantic map (the contiguity requirement).

Evidence for the ranking of the verbs types on the sub-hierarchies from languages of different alignment.

Hierarchy I: From ‘break’ to ‘go’

1) break > hit

a) Accusative languages

Many of ‘irresultative’ verbs in English and other European languages show an alternation between a transitive and prepositional O construction, while ‘resultative’ transitives do not (cf. *hit at* and **break at*); Tsunoda 1981; Levin 1993.

b) Ergative languages

In Caucasian languages “verbs of surface contact” take an oblique O (Klimov & Alekseev 1980:180).

<<Abkhaz>>(Lucassen 1984:260)

(3) *D-sə-sə-yL*
3sg/AGRabs-1sg/AGRd-beat-DYN
‘He beats me’

2) hit > look for

a) Accusative languages: Cf. different extensions of transitivity pattern in Japanese vs. English:

<<Japanese>>(Jacobsen 1992: 46)

(4) *tomodati o matu*
friend ACC wait
‘wait for a friend’

b) Ergative languages

In Australian languages pursuit verbs constitute a cut-off point on the transitivity hierarchy (Tsunoda 1981; cf. Blake 1977).

<< Djaru >>(Tsunoda 1981: 407)

(5) *Mawu-nu ngal-ø-la jaji-wu jarra+nyang-an*
man-ERG C-3sgS-3sgD kangaroo-DAT wait-PRES
‘A man waits for (looks for) a kangaroo’

In Oceanic languages pursuit verbs and ‘aiming verbs’ in general (Lazard 1998) constitute a group of “middle” verbs.

3) search > go

Cross-linguistic variation: again Japanese is more liberal in extending the transitive pattern to motion verbs than English:

<< Japanese (Jacobsen 1992: 46)>>

- (6) *rooka o hasiru*
hall ACC run
‘run down the hall’

But generally few languages (either accusative or ergative) consistently treat motion verbs as transitives.

Hierarchy II: From ‘break’ to ‘freeze’

1) break > see

a) Accusative languages.

In Japanese (inactive) perception verbs intransitive:

- (7) *(Watashi ni) kokuban ga mieta*
(I DAT) blackboard NOM see/visible-PAST
‘I saw the blackboard’

As predicted, emotion predicates that are lower on the hierarchy are also intransitive:

- (8) <<Japanese>>(Shibatani 2001: 312))
Mami ni (wa) Hata-sensei ga osorosii (sooda)
Mami DAT (TOP) Hata-professor NOM fear(ful)
‘Mami is afraid of Professor Hata’

b) Ergative languages

In many Caucasian languages both perception and emotion verbs show an inverse pattern:

<<Avar>> (Blake 2001: 121):

- (9) *Insucc-a j-as je-cc-ula*
(M)father-ERG F-child F-praise-PRES
‘The father praises the girl’
- (10) *Inssu-du j-as j-ix-ula*
(M)father-LOC F-child F-see-PRES
‘The father sees the girl’
- (11) *Inssu-je j-as j-ól’- ula*
(M)father-DAT F-child F-love-PRES
‘The father loves the girl’

2) see/know > like/fear

a) Accusative languages.

In SAE ('Standard Average European') languages 'see'-verbs shows a strong predilection for a transitive construction, while 'like'-verbs shows a predilection for the 'inverse' construction (Bossong 1998; Haspelmath 2001).

b) Ergative languages

Tsunoda 1981: in Australian languages 'see' is used as an exemplary transitive predicate, while emotion predicates often select an intransitive case-frame:

<< Djaru >> (Tsunoda 1981: 407)

- (12) *Ngali nga-li-nyanta minyirri ngumpirr-a*
we.ABS C-1duS-3sgLOC shy.ABS woman-LOC
'We are shy of the woman'

3) like/fear > freeze/be cold

Sensation predicates usually one-argument, but even when two-argument may show lower transitivity as compared to emotion verbs; cf. ACC-subjects of sensation verbs in Quechua:

<<Quechua>> (Hermon 2001: 151)

- (13) *ñuka-ta-ka uma-ta nana-wan-mi*
me-ACC-TOP head-ACC hurt-OM- PRES3-IF
'My head hurts me'

Onishi's (2001) conclusion: sensation predicates are most prone among the verb types for non-canonical subject marking.

But why then emotion verbs, which are higher on the hierarchy, are more prone for non-canonical marking in SAE languages on Bossong's (1998) sample?

Recasting a one-dimensional hierarchy as two-dimensional allows

- to account for exceptions, the variable ranking of the pursuit predicates vis-à-vis mental verbs
- capture differences between languages in extensions of transitivity patterns down particular sub-hierarchies; e.g. as compared to English, Japanese is more permissive in extension of the transitive pattern along the first sub-hierarchy (to pursuit and motion verbs), but is less permissive in extending of the transitive pattern along the second sub-hierarchy (to mental predicates).

3. Constraining case-frames for verb types

Functional motivations for case-marking

The functions of case-marking (Comrie 1981; Mallinson & Blake 1981, Kibrik 1985:

- **indexing** function, that is cases are used to encode semantic roles,
- **discriminating** function, that is the need to distinguish between the core arguments (subjects and objects).

Role of **economy**: both intransitive and transitive clauses contain one unmarked argument.

Tsunoda's (1981) Unmarked Case Constraint

<< Unmarked Case Constraint (UCC): *In a non-elliptical sentence at least one NP must be in the unmarked case (nominative or absolutive).*

An optimality-theoretic/competing motivations account

Within an optimality theoretic approach (Prince & Smolensky 1993), these functional factors underlying case marking can be viewed as universal and violable constraints on case-marking.

Cf. the competing motivation model of Du Bois (1987) in functional typology.

Constraints on case-marking (cf. Primus 1999, Nakamura 1999; Wunderlich & Lakämper 2001; De Hoop & Narasimhan 2004):

- Cases encode semantic roles (FaithRole);
- Core arguments are assigned default structural cases (Trans(itive)Def(ault));
- Each clause contains an unmarked Case (UCC);
- Doubling of (structural) cases is prohibited (Uniq(ueness)).

In accordance with previous OT approaches, variation in case marking patterns is viewed as resulting from a different ranking of potentially conflicting and violable constraints. Only in case of canonically transitive constructions we find consistency since all these constraints are satisfied.

<<Tableau 1: Case marking in the canonical transitive construction in an accusative language>>

	FaithRole	UCC	TransDef	Uniq
NOM-ACC				
NOM-OBL	*		*	

DAT-ACC	*	*	*	
NOM-NOM	*		*	*
ACC-ACC	*	*	*	*

Case patterns of pursuit verbs

a) Accusative languages

Given that the argument structure of the pursuit verbs is Agent-Goal, the two optimal case-frames for pursuit verbs will be:

- NOM – OBL, if FaithRole >> TransDef (cf. English)
- NOM - ACC, if TransDef >> FaithRole (cf. Japanese in (4))

b) Ergative languages:

In ergative languages this argument structure is problematic since satisfaction of FaithRole violates UCC.

<<Tableau 2>> Case frames for pursuit verbs in ergative languages

	FaithRole	UCC	TransDef
ERG-OBL		*	*
ERG-ABS	*		
ABS-OBL	*		*

The following case frames would be optimal under different constraint rankings:

- ERG-OBL, if FaithRole >> UCC & TransDef (cf. Djaru in (5)).
- ERG-ABS, if TransDef >> UCC & FaithRole; (e.g. Eskimo and Basque).
- ABS-OBL, if UCC >> FaithRole >> TransDef (in Caucasian languages, e.g. in Ingush in (1)¹).

Case patterns of emotion verbs

Mental verbs show most cross-linguistic variation (as well as intralinguistic variation: cf. *like* vs. *please*) in mapping from semantic roles to grammatical relations (Grimshaw 1990; Croft 1991).

Note that the iconic DAT-OBL frame for the argument structure of mental verbs (Experiencer-Stimulus) is problematic for both accusative and ergative languages, since it lacks an unmarked argument incurring a violation of UCC.

a) Accusative languages

¹ More specifically, the ABS – OBL pattern is optimal if that both UCC and FaithRole/O dominate FaithRole/A.

Tableau 3: Experiencer-verbs in accusative languages

	FaithRole	TransDef	UCC
Dat–OBL		*	*
NOM–OBL	*	*	
NOM–ACC	**		
Dat–NOM	*	*	

Tableau 3 predicts which patterns would be optimal under different constraint rankings:

- Dat–OBL survives, if FaithRole >> UCC & TransDef; (cf. Icelandic *Mér líkar vel við henni* ‘I like her’)
- NOM–ACC is a winning candidate, if TransDef >> FaithRole & UCC; the transitive pattern is typical (cf. *like*) for SAE languages (Haspelmath 2001)
- Both NOM–OBL and Dat–NOM may be optimal candidates if UCC >> FaithRole >> TransDef; cf. NOM–OBL (PART) in Finnish (e.g. *rakastaa* ‘love’), and Dat–NOM in Russian (*Mne nravitsja eta kniga* (me.DAT like.REFL this book) ‘I like this book’).

b) Ergative languages:

Tableau 4: Experiencer-verbs in ergative languages

	FaithRole	TransDef	UCC
Dat–OBL		*	*
ABS–OBL	*	*	
ERG–ABS	**		
Dat–ABS	*	*	

Tableau 4 shows case frames that would be optimal under different constraint rankings:

- the iconic Dat–OBL survives, if FaithRole >> UCC & TransDef; see e.g.,
Tabasaran below:

<<Tabasaran>> (Ganenkov 2004)

- (14) *Uzu-z Xu-jir-i-q-an gufura*
 I-DAT dog-PL-OBL-POST-EL be.afraid
 ‘I am afraid of dogs’

- transitive ERG–ABS is the optimal candidate, if TransDef >> FaithRole & UCC; cf. Basque and Eskimo.
- both ABS–OBL and Dat–ABS may be optimal candidates, if UCC >> FaithRole >> TransDef; e.g. ABS–OBL attested in Polynesian and Australian languages (cf. e.g. (12) from Djaru), and Dat–ABS in many Caucasian languages (see (11) from Avar).

Case patterns of perception verbs

Two different classes of perception predicates: inactive perception verbs like *see* and *hear* and active (alias attentive) perception verbs like *look* and *listen*. Predictions for these two classes would be different as they deviate from a transitivity prototype albeit in a different way (cf. Tsunoda 1981).

Cf. Lezgian: where ‘see’ takes the DAT-ABS pattern, while ‘look’ takes the ABS-DAT pattern:

<<Lezgian>> (Haspelmath 1993: 281, 89)

(15) *Zun mad wa-z akwa-n qhiji-da-č*
 I.ABS still you-DAT see-PER REPET-FUT-NEG
 ‘You will not see me again’

(16) *Xtul č'exi buba di-z kilig-na*
 grandchild.ABS great father-DAT look-AOR
 ‘The grandson looked at his grandfather’

1) Active perception verbs

Note that ‘look’ predicates are similar in argument structure to pursuit verbs: both have a controlling A (agent) and non-affected O (goal). Hence similar to pursuit predicates in case-frames.

a) The preferred case frames for **accusative** languages would be NOM-OBL (as in English *look at*) or the transitive pattern (as in Japanese *miru*).

b) The preferred case frames for **ergative** languages, would be ERG-OBL (as in Svan), ABS-OBL (as in Lezgian above), ERG-ABS (as in Bagvalal).

2) Inactive perception verbs

a) Accusative languages: Case frames for ‘see’ verbs in (on the assumption that iconic pattern is Dat-ACC).

Tableau 5: ‘see’-verbs in accusative languages

	FaithRole	TransDef	UCC
Dat-Acc		*	*
NOM-ACC	*		
Dat-NOM	*	*	

Thus the optimal candidates are:

- Dat-ACC, if FaithRole >> UCC & TransDef; cf. in Sinhala:

<<Sinhala>> (Gair & Paolillo 1997: 33)

(17) *MeɟE dæŋ aliyawE peenEwa*
 I.DAT now elephant.ACC see.PRES
 ‘I now see the elephant’

- NOM-ACC, if TransDef >> FaithRole & UCC (many languages)
- Dat-NOM is optimal under constraint ranking UCC & FaithRole/A>> FaithRole/O & TransDef; cf. Japanese *mieru*.

b) Ergative languages

Tableau 6: ‘see’-verbs in ergative languages

	FaithRole	TransDef	UCC
Dat-ABS		*	
ERG-ABS	*		

Optimal patterns (note that UCC is satisfied by both cases):

- ERG-ABS pattern, if TransDef >> FaithRole (as, e.g., in many Australian languages)
- DAT-ABS pattern, if FaithRole >> TransDef (as in Caucasian languages; see, e.g. (15) from Lezgian).

Case patterns of sensation predicates

Tableau 7: Case marking of sensation-predicates

	FaithRole	UCC
Dat		*
NOM/ABS	*	

If FaithRole >> UCC, an impersonal construction with Oblique experiencers, if UCC >> FaithRole, an intransitive pattern; cf. Icelandic and English

(18) *Mer kolnar*
 I.DAT freezes
 ‘I freeze’

Cf. Koasati a mixed strategy: different ranking for case vs. AGR

<<Koasati>>(Kimball 1991: 253-4)

- (19) *(Anó-k) ca-hó:p*
 (I-NOM) I.DAT-sick
 ‘I feel sick/I am hurt’

Our account explains why sensation predicates are less prone for inversion as compared to emotion predicates (Haspelmath 2001), even though they generally show a stronger predilection for the object-experiencer construction (Onishi 2001). For one-place sensation predicates encoding experiencer as the subject is the only way to satisfy UCC.

4. Other factors

Non-canonical marking of arguments and non-verbal predication

Frequently, the origin of transitivity splits is often rooted in non-verbal character of certain predicate types (cf. Drossard 1991):

- a) In German only nonverbal intransitive predicates can take a DAT subject (cf. Primus 1999); *Mir ist (es) kalt*, etc.
- b) In Japanese, mental predicates take a transitive pattern if they are verbs but an inverted or a ‘double-nominative’ pattern if they are adjectives (cf. (8)).
- c) In many Australian languages, the ABS–DAT pattern is regularly found with nominal predicates denoting emotion or will. Interestingly they retain the pattern even when verbalized:

<<Nyawaygi>> (Dixon 1983: 455)

- (20) *Dayba walɲgambiNa yagugu*
 1sg.S thirsty.INCH.UNMKD water.DAT
 ‘I am thirsty for water’.

Conclusion: case-marking patterns for non-verbal predicates can be straightforwardly accounted for in terms of (additional) syntactic constraints pertaining to individual word classes (e.g. TransDef does not pertain to adjectives).

Polysemy and pattern assimilation

Polysemous items can share the same case pattern even if their different meanings represent different verb types.

For example, in Lezgian *akwa-* ‘see’ taking the DAT-ABS pattern (see (15)) retains this pattern when used as ‘look’:

<<Lezgian (Haspelmath 1993: 283)>>

(21) *Gila kwe-z [za wuč-da-t'a] aku!*
 now you-DAT [I.ERG do.what-FUT-COND] see.IMPFV
 ‘Now look (lit. see) what I am going to do!’

Pattern inheritance: Haspelmath (2001) explains the preference of subject-experiencer constructions in ‘Standard Average European’ languages historically: many emotion predicates arise through metaphorical extension from the verbs denoting a physical action (*worry* < ‘strangle’, etc).

5. Conclusion: towards a comprehensive map for transitivity splits

Further **routes** in the semantic domains of transitivity and intransitivity.

Cf. Kemmer (1993) on referential distinctness and asymmetrical relation between A and O arguments: semantic middles (e.g. ‘wash’) between reflexives (‘kill oneself’) and anticausatives/spontaneous verbs (‘burst’, etc)

Further **categories** and links:

- cognition predicates (‘know’, etc) intermediate between the perception and emotion verbs (see Tsunoda 1981)
- affected subject verbs (‘eat’, etc) are intermediate between canonical transitives and experiencer verbs’ (Saksena 1982; Amberber 2002; Næss 2004);
- interaction verbs (‘help’, ‘speak’, Blume 1997) intermediate between pursuit verbs (‘look for’) and symmetric predicates (‘marry’ etc).

