

Academia Grammaticorum Salensis Octava, Salos (Lithuania), 31.07–07.08 2011

**TYOLOGY OF ALIGNMENT**

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**1. Basic notions**

1.1. Alignment typology is concerned with expression of basic grammatical relations (“subject”, “object” etc.) across languages.

However, notions such as “subject”, “direct object” etc. are **language-specific descriptive categories** (Haspelmath 2010). In each language, grammatical relations are identified on the basis of such morphosyntactic properties as case-marking, word order, agreement, passivization, reflexivization, ellipsis, control, raising etc. (see e.g. Keenan 1976). Such grammatical features are not identical in different languages, and not all of them are present in all languages, hence grammatical relations defined in terms of non-universal features are themselves non-universal and cannot serve as a basis of typological comparison (see e.g. Foley & Van Valin 1977; Dryer 1997; Kibrik 1997).

1.2. Since Comrie (1978) and Dixon (1979), the notions **S**, **A**, and **P** have been used as **comparative concepts** for typology of grammatical relations (cf. critical discussion in Chafe & Mithun 1996, Haspelmath 2011).

S, A and P are **prototypical syntactic** notions defined in **semantic** terms:

A and P are the arguments of a two-argument predicate that receive the morpho-syntactic treatment similar to that of the more agentive (volitional, controlling) resp. the more patientive (non-volitional, undergoing a change of state; see Dowty 1991) participant of a **prototypical two-argument action clause** (see e.g. Lazard 2002, Næss 2007), such as *John (A) broke a vase (P)* or *A lion (A) killed a goat (P)*.

A **canonical morphosyntactically transitive** clause is defined as the one containing the A and the P arguments as defined above. A clause encoded differently from the canonical transitive clause is **morphosyntactically intransitive**.

S is an NP in an intransitive clause morphosyntactically treated similarly to the only participant of a **prototypical one-argument clause**, such as *John (S) is sleeping* or *The king (S) died*.

Languages differ in how broadly they extend the canonical morphosyntactically transitive pattern resp. A and P (Hopper & Thompson 1980, Tsunoda 1981, Malchukov 2005, 2006).

- |        |                                     |   |
|--------|-------------------------------------|---|
|        | ENGLISH                             | LITHUANIAN                                    |
| (1) a. | <i>John (A) wrote a letter (P).</i> | a'. <i>Jonas (A) parašė laišką (P).</i>       |
| b.     | <i>Mary (S) is sleeping.</i>        | b'. <i>Marija (S) miega.</i>                  |
| c.     | <i>John (A) helped Peter (P).</i>   | c'. <i>Jonas (S) padėjo Petriui (not-P).</i>  |
| d.     | <i>Mary (A) likes John (P).</i>     | d'. <i>Marijai (not-A) patinka Jonas (S).</i> |

1.3. Alignment can be defined as a pattern of identical or differential treatment of S, A and P in terms of various grammatical properties (cf. Bickel 2010). For instance, in Lithuanian, A and S are treated alike (i.e. aligned) in terms of case marking and verbal

agreement, whereas in English A and S are aligned in terms of word order; in both languages P is treated differently from A and S w.r.t. to the relevant properties.

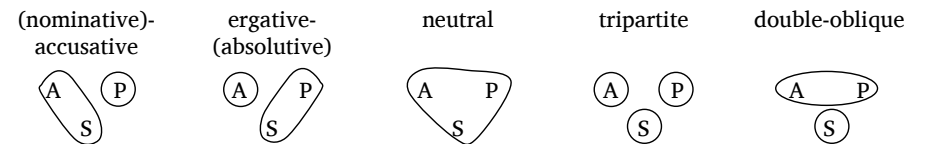
We will be interested in the alignment patterns in one- and two-argument clauses manifested in the **basic morphosyntactic coding devices**, i.e. **flagging** (case and adpositional marking) and **indexing** (verbal agreement or cross-referencing), cf. dependent-marking and head-marking (Nichols 1986, 1992), and also word order.

More broadly, the notion of alignment can be extended to other kinds of clauses, e.g. three-argument (ditransitive) clauses (see Dryer 1986, Haspelmath 2006a, Malchukov et al. 2010), and to other syntactic devices, such as ellipsis, relativization, anaphora etc. (see Dixon 1979, Van Valin 1981; Foley, Van Valin 1984; Kazenin 1994; Bickel 2010).

It is also important to distinguish between **patterns of alignment** (i.e. how S, A and P are grouped together) and **patterns of markedness** (i.e. which groupings of relations receive morphologically overt vs. null marking).

**2. Major alignment types**

Logically possible alignment types



Major alignment types in flagging, indexing and word order

	flagging	indexing	word order
accusative	Martuthunira, Lithuanian	Alamblak, Lithuanian	Swedish, Dan
ergative	Gunzib	Tzeltal	Anywa
neutral	English, Mandarin	Yimas 3 <sup>rd</sup> pers., Mandarin	Lithuanian
tripartite	Wangkumara	Yimas 1/2 pers	—
double-oblique	Vafsi	—	—

MARTUTHUNIRA (Pama-Nyungan > South-Western branch, Western Australia)

- (2) a. *Ngunhqa kurrarti-lha kayulu-la.*  
 that(NOM) swim-PST water-LOC  
 ‘That fellow (S) swam in the water.’ (Dench 1994: 219)
- b. *Ngayu panyi-lalha kanparr-yu.*  
 I(NOM) step-PST spider-ACC  
 ‘I (A) stepped on a spider (P).’ (ibid.: 67)

GUNZIB (East-Caucasian > Tsezic, Dagestan; Кибрик 2003: 614)

- (3) a. *ože āq'er.*  
 boy(ABS) came  
 ‘The boy (S) came.’
- b. *ož-di-l kid heher.*  
 boy-OBL-ERG girl(ABS) beat  
 ‘The boy (A) has beaten the girl (P).’

MANDARIN (Sino-Tibetan > Sinitic; Li & Thompson 1981: 20–21)

- (4) a. *rén lái le.*  
 person come PRF  
 ‘The person (S) has come.’  
 b. *wǒ shū mǎi le.*  
 I book buy PRF  
 ‘I (A) bought the book (P).’

WANGKUMARA (Pama-Nyungan > Karnic, Queensland; Green 1976: 337)

- (5) a. *kulathanyi nganyi mirrulu-ngala.*  
 sit:REMPST I(NOM) Naryilco-LOC  
 ‘I (S) used to live at Naryilco.’  
 b. *karna-anrru buka nga-nha kalkanga.*  
 man-ERG many I-ACC hit:PST  
 ‘A mob of men (A) belted me (P).’

VAFSI (Indo-European > Indo-Iranian, Tajikistan; Stilo 2004: 241, 244): double-oblique is just one of alignments attested in this language

- (6) a. *zeni-e ha-nešesd-end.*  
 woman-DIR.PL PVB-sit:PST-3PL  
 ‘The women (S) sat down.’  
 b. *luas-i kærge-e s bæ-værdæ.*  
 fox-OBL.SG chicken-OBL.SG=3SG PFV-take:PST  
 ‘The fox (A) took the chicken (P).’

ALAMBLAK (Sepik, Papua New Guinea; Bruce 1984: 184, 186)

- (7) a. *yima-r noh-më-r.*  
 person-3SG.M die-REMPST-3SG.M.SBJ  
 ‘A man (S) died.’  
 b. *yima-r yën-t gëbrërna-më-r-t.*  
 person-3SG.M child-3SG.F fub-REMPST-3SG.M.SBJ-3SG.F.OBJ  
 ‘A man (A) rubbed a girl (P) (with medicine).’

TZELTAL (Mayan > Cholan-Tzeltalan, Mexico; Shklovsky 2005: 33)

- (8) a. *bejen-at*  
 walk-2SG.ABS  
 ‘You (S) walked.’  
 b. *laj s-maj-at*  
 PFV 3SG.A-hit-2SG.ABS  
 ‘He (A) hit you (P).’

YIMAS (Ramu-Lower Sepik; Papua New Guinea; Foley 1991: 195–196): tripartite indexing of 1<sup>st</sup> and 2<sup>nd</sup> person (locutors) vs. neutral flagging of 3<sup>rd</sup> person.

- (9) a. *ama-wa-t.* b. *pu-wa-t.*  
 1SG.S-go-PRF 3PL-go-PRF  
 ‘I (S) went.’ ‘They (S) went.’  
 c. *pu-ka-tay.* d. *pu-ŋa-tay.*  
 3PL-1SG.A-see 3PL-1SG.P-see  
 ‘I (A) saw them (P).’ ‘They (A) saw me (P).’

SWEDISH (Indo-European > Germanic; Holmes & Hinchliffe 2008: 188)

- (10) a. *Nils sitt-er i soffan.* SV  
 Nils sit-PRS in sofa-DEF  
 ‘Nils (S) is sitting on the sofa.’  
 b. *Nils ät-er kakan.* AVP  
 Nils eat-PRS cake-DEF  
 ‘Nils (A) is eating a cake (P).’

DAN-GWETAA (Mande > Southern branch, Côte d’Ivoire; Выдрин Ms.: 10)

- (11) a. *py-bë-dü wà dó dëŋ-dɔ̃.* SAuxV  
 village-person-PL 3PL.PRF go field-LOC  
 ‘The people (S) of the village went to the field.’  
 b. *dëbã bā yà kɔ̃ wú.* AAuxPV  
 woman ART 3SG.PRF calabash break  
 ‘The woman (A) broke a calabash (P).’

ANYWA (Nilotic > Western branch, Sudan; König 2008: 108)

- (12) a. ... *óo miél jówwí.* VS  
 and dance people  
 ‘... and the people (S) dance’  
 b. *ñilàál nā-kéel líɛɛ kī tɔ̃ŋ...* AVP  
 child PST-hit elephant OBL spear  
 ‘After the child (A) had speared the elephant (P) ...’

LITHUANIAN

- (13) a. *Aldona atėjo.* (SV) a’. *Atėjo Aldona.* (VS)  
 ‘Aldona (S) came.’  
 b. *Aldona parašė šį laišką.* (AVP) b’. *Šį laišką parašė Aldona.* (PVA)  
 ‘Aldona (A) wrote this letter (P).’

Typological frequency of basic alignment types in flagging (Comrie 2011) and indexing (Siewierska 2011).

	flagging (190 lgs sample)	indexing (380 lgs sample)
accusative	52 (27%)	212 (56%)
ergative	32 (17%)	19 (5%)
neutral	98 (52%)	84 (22%)
tripartite	4 (2%)	0 (0%)
other	4 (2%)	65 (17%)

Areal distribution of major alignment types in flagging (Comrie 2011)

	accusative	ergative	neutral
Africa	11	0 <sup>1</sup>	22
Australia & New Guinea	3	10	18
Eurasia	18	6	8
South-East Asia & Oceania	7	3	17
North America	7	6	19
South America	6	7	14

<sup>1</sup> Actually not the case: Ergative alignment is attested in Africa, see König (2008).

## Distribution of markedness across major alignment types

	markedness distribution	flagging	indexing
accusative	P marked, S/A unmarked	very common	very rare (Teiwa)
	S/A и P both marked	common (Lithuanian)	very common (Alamblak)
	S/A marked, P unmarked	not uncommon (Tennet, Wappo)	very common (Lithuanian)
ergative	A marked, S/P unmarked	very common	very rare (Semelai)
	S/P и A both marked	uncommon (Adyghe, Niuean)	common (Tzeltal)
	S/P marked, A unmarked	very rare (Nias)	not uncommon (Lak)

TENNET (Surmic, Sudan; König 2008: 139)

- (14) a. *ók mányúdí-ɪ mgínaatɪ*.  
go:PFV squirrel-NOM there  
'Squirrel (S) went there.'
- b. *ákát Lowór-ɪ Yomá*.  
spear:PFV Lowor-NOM Yoma(ACC)  
'Lowor (A) speared Yoma (P).'

WAPPO (Yukian, California; Thompson et al. 2006: 11)

- (15) a. *mey-i tekiw'-khi?*  
water-NOM flow-ST  
'The water (S) is flowing.'
- b. *ce k'ew-i ce holo:wik'a t'a-ta?*  
DEM man-NOM DEM snake(ACC) kill-PST  
'The man (A) killed the snake (P).'

KABARDIAN, Besleney dialect (West Caucasian; own fieldwork)

- (16) a. *sabjə-xe-r me-ž'egʷə-xe*.  
child-PL-ABS DYN-play-PL-ABS  
'The children (S) are playing.'
- b. *bəsəmgʷaš'e-m hač'e-xe-r jə-vešx-a-xe*.  
host-OBL guest-PL-ABS 3SG.A-feed-PST-PL-ABS  
'The host (A) has fed the guests (P).'

NIUEAN (Austronesian > Polynesian, Niue Island; Полинская 1995: 52, 72)

- (17) a. *Kua mate tuai e tama*.  
PRS die RES ABS boy  
'The boy (S) has died.'
- b. *Ne hala he tama e akau*.  
PST chop ERG boy ABS tree  
'The boy (A) chopped the tree (P).'

NIAS (Austronesian > Western Malay-Polynesian, Western Indonesia)

- (18) a. *aukhu n-idanō*.  
hot + ST OBL-water  
'The water (S) is hot.' (Brown 2001: § 7.1.1.1)
- b. *i-fatene ga ndrao khō-mi ama-gu*.  
3SG.REAL-send here OBL:I to-2PL.POSS (DIR)father-1SG.POSS  
'My father (A) sent me (P) here to you.' (ibid.: § 7.2.1.1)

TEIWA (Alor-Pantar, Eastern Indonesia; Klammer 2010: 166)

- (19) a. *Na hamar*.  
I pray  
'I (S) pray.'
- b. *Na g-oqai ga-regan*.  
I 3SG.POSS-child 3SG.OBJ-ask  
'I (A) asked his child (P).'

SEMELAI (Mon-Khmer > Aislian, Malaysia; Kruspe 2004: 264, 260)

- (20) a. *kʰbəs pədəŋ ke*.  
die tiger that  
'The tiger (S) died.'
- b. *de = tampəŋ co la = raja?*.  
3PL.A = beat dog ERG = prince  
'The princes (A) beat the dogs (P).'

LAK (East Caucasian > Lak, Dagestan; Кибрик 2003: 466)

- (21) a. *ninu d-i:zundi*.  
mother:II(ABS) II-stand  
'Mother (S) stood up.'
- b. *but:a-l ninu d-awt:undi*.  
father:I-ERG mother:II(ABS) II-beat  
'Father (A) beat mother (P).'

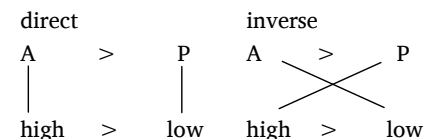
Possible functional motivations for attested frequency distributions of markedness patterns:

– in flagging, morphological marking corresponds to more restricted functional distribution (Haspelmath 2006b), and it is normally the Nominative (resp. Absolutive), not the Accusative (resp. Ergative) case which has a wider distribution (see e.g. Comrie 1978). In “marked-S” systems this is often reversed, so some of them actually conform to the more general iconic regularities of form-function mapping (König 2006); this is, however, by no means the case for all “marked-S” languages (Handschuh 2010).

– in indexing, more discourse prominent (e.g. topical) participants are normally cross-referenced (e.g. Givón 1976); thus, since S or A is the most common candidate for topic (“starting point” in terms of Chafe & Mithun 1996), any deviation from cross-referencing both S and A should be uncommon; this is overridden by gender/class agreement favouring the S and P on the basis of their “immediacy of involvement” in the situation (Chafe & Mithun 1996; Kibrik 1997: 292).

### 3. Hierarchical alignment in indexing

There are systems where form and position of cross-referencing indexes on verbs reflects not grammatical function or semantic role of arguments (viz. S, A or P), but merely their relative position on the **person hierarchy** 1, 2 > 3. Special **inverse** markers may be used to indicate that the person hierarchy is not aligned with the grammatical relations hierarchy A > P (e.g. Zúñiga 2006: 24).



PLAINES CREE (Algonquian; Canada; Zúñiga 2006: 24)

- (22) a. *ni-wāpam-ā-w*  
1-see-DIR-3  
'I (A) see him/her (P).'
- b. *ni-wāpam-ikw-w*  
1-see-INV-3  
'(S)he (A) sees me (P).'

ICARI DARGWA (East Caucasian > Dargic; Sumbatova & Mutalov 2003: § 2.3.2.1.2)

- (23) a. *u-l du uc-ib-đi.*  
you-ERG I(ABS) (i)catch:PFV-PST-2SG  
'You (A) caught me (P).'
- b. *du-l u uc-ib-đi.*  
I-ERG you(ABS) (i)catch:PFV-PST-2SG  
'I (A) caught you (P).'
- c. *du-l Murad uc-ib-đa.*  
I-ERG Murad(ABS) (i)catch:PFV-PST-1SG  
'I (A) caught Murad (P).'
- d. *Murad-il du uc-ib-đa.*  
Murad-ERG I(ABS) (i)catch:PFV-PST-1SG  
'Murad (A) caught me (P).'

#### 4. Alignment splits

Languages rarely show consistent alignment across their morphosyntax. Situations when under different conditions S, A and P are aligned differently are called **alignment splits**.

Several cross-linguistically recurrent kinds of alignment split are recognized:

- flagging vs. indexing split (§ 4.1);
- split according to the class of nominal (§ 4.2);
- split in the encoding of S (§ 4.3);
- split according to the verbal category (§ 4.4).

**4.1. Head- vs. dependent split:** alignment of indexing does not match alignment of flagging.

	indexing	accusative	ergative	neutral (= no indexing)
flagging				
accusative		very common (Lithuanian)	extremely rare (Southern Paiute)	common (Japanese)
ergative		very common (Burushaski)	uncommon (Kabardian)	common (Gunzib)
neutral (= no flagging)		very common (Alamblak)	uncommon (Abaza)	very common (Mandarin)

BURUSHASKI, Srinagar dialect (isolate, Jammu & Kashmir; Munshi 2006: 130, 135)

- (24) a. *salim ni:mi.*  
Salim(DIR) went-3SG.SBJ  
'Salim (S) went.'
- b. *salim-e huma mu-ye:c-imi.*  
Salim-OBL Huma(DIR) 3SG.F.OBJ-saw-3SG.SBJ  
'Salim (A) saw Huma (P).'

SOUTHERN PAIUTE (Uto-Aztecan > Northern branch; USA; Bunte 1979: 13, 17)

- (25) a. *aipac-uj yaxa-yi = aj.*  
boy-DEF cry-PRS = 3SG.ABS  
'The boy (S) is crying.'
- b. *ni' aipac-i-uj tona-va = ŋa.*  
1SG:NOM boy-OBL-DEF hit-FUT = 3SG.ABS  
'I (A) am going to hit the boy (P).'

ABAZA (West Caucasian, Russia; O'Herin 2002: 17, 20)

- (26) a. *a-čə awa?a j-ka-ha-d.*  
DEF-horse there 3SG.ABS-LOC-fall-DYN  
'The horse (S) fell there.'
- b. *sara a-mš<sup>w</sup> š'ašta jə-s-ba-j-ť.*  
I DEF-bear early 3SG.ABS-1SG.A-see-PRS-DYN  
'I (A) see the bear early (P).'

JAPANESE (Altaic > Japonic)

- (27) a. *Onna = ga hashit-te i-ru.*  
woman-NOM run-CNV AUX-PRS  
'The woman (S) in running.'
- b. *Onna = ga hon = o yon-da.*  
woman-NOM book-ACC read-PST  
'The woman (A) read the book (P).'

**4.2. Nominal splits:** different kinds of nominals show different alignments.

locutors	other pronouns	animates	inanimates	
Acc	Acc	Acc	Acc	Lithuanian
Acc	Acc	Acc	Erg	Mangarayi
Acc	Acc	Erg	Erg	Bidjara
Acc	Erg	Erg	Erg	Dyirbal
Erg	Erg	Erg	Erg	Basque
Neut	Erg	Erg	Erg	Lak
Acc	Acc	Neut	Neut	English
Acc	Acc	Acc	Neut	Russian
Acc	3-way	Erg	Erg	Cashinawa
Acc	Acc	3-way	Erg	Ritharngu
3-way	3-way	3-way	Erg	Duungidjauwu

MANGARAYI (Gunwingguan, Northern Australia; Merlan 1989: 59–64)

- (28) a. *na-malam ya-j.*  
M.NOM-man go-PST  
'The man (S) went.'
- b. *landi mod may na-malam.*  
(N.ABS)tree cut AUX.PRF M.NOM-man  
'The man (A) cut the tree (P) down.'
- c. *malam ŋa-ɖarawu-b.*  
(M.ACC)man 1SG > 3SG-find-PRF  
'I (A) found the man (P).'
- (29) a. *wumbawa landi jir jaygi-ni wuburgba na-bundal-an.*  
(N.ABS)one (N.ABS)tree stand AUX-PC halfway N.LOC-billabong-LOC  
'One tree (S) was standing in the middle of the billabong.'

- b. *na-landi ja-nidba maŋ.*  
N.ERG-tree 3SG>3SG-have (N.ABS)gum  
'The tree (A) has gum (P).'

BIDJARA (Pama-Nyungan > Maric, Queensland; Blake 1977: 9)

- (30) a. *mardi barri-la.* b. *ŋaya barri-la.*  
man(ABS) cry-PST I(NOM) cry-PST  
'A man (S) cried.' 'I (S) cried.'
- (31) a. *mardi-ndu ŋadyuna naga-la.*  
man-ERG I.ACC see-PST  
'A man (A) saw me (P).'
- b. *ŋaya mardī naga-la.*  
I(NOM) man(ABS) see-PST  
'I (A) saw a man (P).'

LAK (East Caucasian > Lak, Dagestan; Кибрик 2003: 464–467)

- (32) a. *but:a awxundi.* a'. *na awx-ra.*  
father(ABS) fall:AOR.3SG I fall:AOR-1/2SG  
'Father (S) fell.' 'I (S) fell.'
- b. *g ana-l but:a awt:undi.* b'. *na but:a at:a-w.*  
he-GEN father(ABS) beat:AOR.3SG I father(ABS) beat:AOR-1SG  
'He (A) beat father (P).'
- c. *but:a-l ninu d-awt:undi.* c'. *nit:i-l na at:a-ra.*  
father-GEN mother(ABS) II-beat:AOR.3SG mother:OBL-GEN I beat:PRS-1/2SG  
'Father (A) beat mother (P).'

RUSSIAN (Indo-European > Slavic); plural only

- (33) a. *Книги<sub>DIR</sub> лежат на столе.*  
'The books (S) are lying on the table.'
- b. *Дети<sub>NOM</sub> сидят за столом.*  
'The children (S) are sitting at the table.'
- (34) a. *Дети<sub>NOM</sub> читают книги<sub>DIR</sub>.*  
'The children (A) are reading the books (P).'
- b. *Книги<sub>DIR</sub> пугают детей<sub>ACC</sub>.*  
'The books (A) scare the children (P).'

An exceptionally complex system: KALAW LAGAW YA (Pama-Nyungan; Torres Strait Islands; Comrie 1981: 8–9).

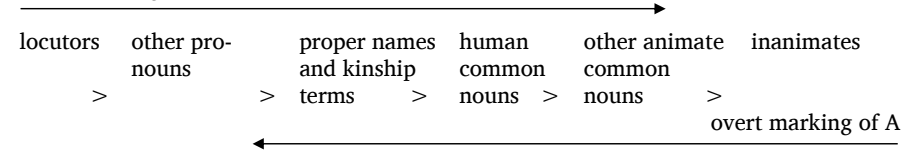
nominal subsystem	alignment
singular pronouns	tripartite
non-plural common nouns	ergative
non-plural proper nouns	accusative
non-singular pronouns & plural nouns	neutral

- (35) a. *Ngay uzariz.*  
I:NOM went.away:SG  
'I (S) went away.'
- b. *Ngath ngin mathaman.* c. *Ngidh ngoena mathaman.*  
I:ERG you:ACC hit:SG you:ERG I:ACC hit:SG  
'I (A) hit you (P).'

- (36) a. *Garkaz uzariz.* a'. *Kala uzariz.*  
man(ABS) went.away:SG Kala(NOM) went.away:SG  
'The man (S) went away.'
- b. *Garkoez-in burum mathaman.* b'. *Kala Gibuma-n mathaman.*  
man-ERG pig(ABS) hit:SG Kala(NOM) Gibuma-ACC hit:SG  
'The man (A) hit the pig (P).'
- (37) a. *Ngalbe/ngipel uzarman.* a'. *Garkoez-il ladhun.*  
we.EXCL.DU/you:DU went.away:DU man-PL went.away:PL  
'We two/you two (S) went away.'
- b. *Ngalbe ngipel mathamoeman.* b'. *Garkoez-il burum-al mathamoeyn.*  
we.EXCL.DU you:DU hit:DU man-PL pig-PL hit:PL  
'We two (A) hit you two (P).'

Accounting for the nominal split: the “nominal hierarchy” (Silverstein 1976, Moravcsik 1978):

overt marking of P



The standard functional “explanation” (Comrie 1978, 1989; Aissen 1999, 2003 etc): overt marking of an NP fulfilling the role of A resp. P correlates with the degree of “naturalness” for the referent of this NP to appear in this role. Pronouns and animates are “natural” as As and “unnatural” as Ps, whereas inanimates are “natural” as Ps and “unnatural” as As.

Principle of economy: it is not necessary to overtly mark “natural” combinations of role and nominal features.

Principle of distinguishability: it is necessary to overtly mark those NPs whose roles cannot be inferred on the basis of semantics of the verb and/or the NPs themselves.

Banned systems:

- marked S;
- marking of A only at the left resp. of P only at the right end of the hierarchy .

Failure of the standard “explanation”:

– conceptual:

“[T]he only reflections of propensity for being agent or for being patient that could be discerned by language users are the differences between humans and non-humans” (Mallinson & Blake 1981: 86). It is not the case that locutors are “more natural” As than human common nouns.

– empirical:

- (i) marked S systems exist as a cross-linguistically well-attested type;
- (ii) accusative and ergative alignments are equally “natural”, hence should occur with equal frequency in languages, which is not the case;
- (iii) hierarchy effects should pattern identically for A and P, which is not the case;
- (iv) animacy-based splits should be as frequent as locutor vs. non-locutor splits, which is not the case;

(v) too many counterexamples to the hierarchy effects (Filimonova 2005, Bickel & Witzlack-Makarevich 2008).

TIRAHİ (Indo-European > Indo-Iranian, Afghanistan; Edelman 1983: 194–200): ergative alignment with locutors only

- (38) a. *mala gaṇa putr = asi ḡawāb dita.*  
 father(DIR) elder son(OBL) = to answer(DIR) gave  
 ‘Father (A) gave his elder son an answer (P).’
- b. *ao marā ga-m.* c. *mē dita wa.*  
 I(DIR) dead AUX-1SG I:OBL gave AUX  
 ‘I (S) died.’ ‘I (A) hit (him).’

NGANASAN (Uralic > Samoyedic, Taimyr; Filimonova 2005: 94): accusative alignment with nouns only

- (39) a. *tə čühö-n mənə ḡonənə isio-m.*  
 this.GEN span-LOC I self + 1SG was-1SG  
 ‘At that time I (S) was alone.’
- b. *mənə nanuntə mintəl’i-ḡə-ḡ.*  
 I you.LOC-INS take-INDEF-2SG  
 ‘You have taken me (P) with you.’
- c. *mənə melisiti-m kəndə-m.*  
 I make-1SG sledge-ACC  
 ‘I (A) am making the sledge (P).’
- d. *kəntə maḡə kadə nənsu-mini-či.*  
 sledge(NOM) yourt near stop-EVID-3SG  
 ‘The sledge (S) is heard to be stopping near the yourt.’

Both the “hierarchical” and the “counter-hierarchical” effects in the behaviour of pronouns can be explained diachronically as resulting from the more conservative nature of pronouns tending to retain older grammatical patterns and to resist spread of new case marking strategies (Filimonova 2005).

“[T]he number of languages where scales leave a trace is very small and much smaller than the number of languages where the distribution of case marking is completely unaffected by scales. And since the effects of many scales interact statistically with what families they operate in, it is likely that the distribution of case marking depends on the specific histories of each family, and not on universal principles.” (Bickel & Witzlack-Makarevich 2008: 31–32).

4.3. “Active/semantic” alignment (Donohue & Wichman (eds.) 2008): the S argument is not treated uniformly, but is “split” so that some kinds of S are treated like A, while other kinds of S are treated like P.

LAKOTA (Siouan, USA; Williamson 1979: 352)

- (40) a. *wa-čheye.* b. *ma-ḡaske.* c. *ma-ya-kte.*  
 1SG.A-cry 1SG.P-tall 1SG.P-2SG.A-kill  
 ‘I (S<sub>A</sub>) am crying.’ ‘I (S<sub>P</sub>) am tall.’ ‘You (A) killed me (P).’

BATSBI (Tsova-Tush) (East Caucasian > Nakh, Georgia; Holisky 1987)

- (41) a. *as wože.* b. *so wože.*  
 I:ERG fell I:NOM fell  
 ‘I (S<sub>A</sub>) fell (accidentally).’ ‘I (S<sub>P</sub>) fell (on purpose).’

Languages with “active” alignment differ dramatically as to the factors conditioning the split (nature of the verb: state vs. action; telic vs. atelic; various flavours of agen-

tivity/patientivity), scope of the split (two open classes of verbs vs. an open class and a closed class) and other parameters (see e.g. Merlan 1985, Mithun 1991, Donohue 2008).

Three-way split-S system:

CHOCTAW (Muskogean, USA; Davies 1986: 14–15, 40, 86)

- (42) a. *či-bashli-li-tok* b. *is-sa-sso-tok* c. *ā-pila-tok*  
 2SG.P-cut-1SG.A-PST 2SG.A-1SG.P-hit-PST 1SG.IO-throw-PST  
 ‘I (A) cut you (P).’ ‘You (A) hit me (P).’ ‘He threw it to me (IO).’
- (43) a. *hilha-li-tok* b. *sa-hohchafo-h* c. *am-ihaksi-tok*  
 dance-1SG.A-PST 1SG.P-hungry-PRED 1SG.IO-forget-PST  
 ‘I (S<sub>A</sub>) danced.’ ‘I (S<sub>P</sub>) am hungry.’ ‘I (S<sub>IO</sub>) forgot it.’

4.4. Tense-aspect-mood (TAM)-splits: alignment changes depending on the category of the verb.

KURMANCI (Indo-European > Indo-Iranian, Turkey; Tsunoda 1981: 411, 414)

- (44) a. *min hon dit-in.* a’. *we ez dit-im.*  
 I:OBL you:DIR see:PST-2PL you:OBL I:DIR see:PST-1SG  
 ‘I (A) saw you (P).’ ‘You (A) saw me (P).’
- b. *ez we di-bün-im.* b’. *hon min di-bin-in.*  
 I:DIR you:OBL PRS-see-1SG you:DIR I:OBL PRS-see-2PL  
 ‘I (A) see you (P).’ ‘You (A) see me (P).’
- c. *ez ket-im.* c’. *ez di-kev-im.*  
 I:DIR fall:PST-1SG I:DIR PRS-fall-1SG  
 ‘I (S) fell.’ ‘I (S) am falling.’

ARCHI (East Caucasian > Lezgif, Dagestan; Кибрик 2003: 562–563)

- (45) a. *bošor-mu kənnol d-irk:u.*  
 husband-ERG wife(II:ABS) II-look.for  
 ‘The husband looked for the wife.’
- b. *buwa χ<sup>o</sup>alli b-ar-mat d-i.*  
 mother(II:NOM) bread(III:NOM) III-make-CNV II-AUX  
 ‘Mother keeps baking bread.’

Or: temporal/aspectual/modal interpretation of the clause depends on alignment.

PITJANTJATJARA (Pama-Nyungan > South-Western branch, Central Australia)

- (46) a. *minyma-ngku pitjantjatjara wangkanyi.*  
 woman-ERG P. speak + PRS  
 ‘The woman is speaking Pitjantjatjara.’ (Blake 1977: 19)
- b. *minyma pitjantjatjara wangkanyi.*  
 woman(NOM) P. speak + PRS  
 ‘The woman speaks Pitjantjatjara.’ (ibid.)

There are cross-linguistically recurrent correlations between ergative resp. neutral/accusative alignment and past/perfective/realis resp. non-past/imperfective/irrealis (e.g. Lazard 1994: 225–226). Various functional “explanations” have been proposed for these correlations since Dixon (1979) and DeLancey (1981) in terms of “natural flow of events” or “speaker’s attention”, but most probably these regularities should be best explained as by-products of historical development of TAM in individual language families (cf. e.g. Пирейко 1968 or Butt 2001 on Indo-Iranian, Gildea 1998 on Carib).

## 4.5. Several alignment splits can operate in the same language.

HINDI (Indo-European &gt; Indo-Iranian, India; Mohanan 1994: 72, 59, 80)

- (47) a. *Rām gā rahā hai.*  
 Ram(NOM) sing DUR AUX.PRS.3SG  
 ‘Ram is singing.’
- b. *rām cillāyā.*  
 Ram(NOM) scream.PRF  
 ‘Ram screamed (e.g. because of fright).’
- b'. *rām = ne cillāyā.*  
 Ram = ERG scream.PRF  
 ‘Ram deliberately screamed.’
- (48) a. *Ravī kelā khā rahā thā.*  
 Ravi(NOM) banana(NOM) eat DUR AUX.PST  
 ‘Ravi was eating a banana’.
- b. *Ninā bacce = ko uṭhāyegī.*  
 Nina(NOM) child.OBL = OBJ pick.up.FUT  
 ‘Nina will pick the child up’.
- c. *bacce = ne kitāb paḍhī.*  
 child.OBL = ERG book read.PRF  
 ‘The child read a book’.
- d. *Īlā = ne bacce = ko uṭhāyā.*  
 Īla = ERG child.OBL = OBJ lift.PRF  
 ‘Īla lifted the child’.

S	A	P	alignment	conditioning factor
Nom	Nom	Nom	neutral	imperfective; non-individuated P
	Nom	Obj	accusative	imperfective; individuated P
Nom~Erg	Erg	Nom	ergative	perfective; non-individuated P
	Erg	Obj	tripartite	perfective; individuated P

Alignment splits in Hindi are conditioned by very “local” factors pertaining to the encoding of particular arguments (aspect for A, individuation for P, volitionality for S) and operating largely independently of each other.

## Abbreviations

ABS – absolutive, ACC – accusative, AOR – aorist, ART – article, AUX – auxiliary, CNV – converb, DEF – definite, DEM – demonstrative, DIR – direct case; direct alignment, DU – dual, DUR – durative, DYN – dynamic, ERG – ergative, EVID – evidential, EXCL – exclusive, F – feminine, FUT – future, GEN – genitive, INDEF – indefinite, INS – instrumental, INV – inverse, IO – indirect object, LOC – locative case; locative preverb, M – masculine, N – neuter, NOM – nominative, OBJ – object, OBL – oblique case; oblique stem, PC – past continuous, PFV – perfective, PL – plural, POSS – possessive, PRED – predicative, PRF – perfect, PRS – present, PST – past, PVB – preverb, REAL – realis, REM PST – remote past, RES – resultative, SBJ – subject, SG – singular, ST – stative, I, II, III – noun classes

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