

The semantic bases of split-S systems⁰

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1 Introduction

(1) **Split-S** (*active, agentive-patientive, semantically-aligned ...*) systems: split between different intransitive predicates is manifest in **case** and/or **agreement**.

(2) e.g. **Basque**:

(a) *Gizon-a etorri da.*

man-DEF came is

‘The man has come.’

(b) *Gizon-a-k ikasi du.*

man-DEF-ERG studied has

‘The man has studied.’

(3) Question: what are the semantic (and other) factors determining the case/agreement split in intransitives in these languages?

(4) Talk outline:

- (Briefly) some general cross-linguistic observations (section 2).
- Then more in-depth consideration of two languages:
 - Basque (section 3);
 - Chol (section 4).
- To conclude: similarities and differences between the languages (section 5).

⁰With thanks in particular to Michelle Sheehan and Ian Roberts for helpful comments relating to this work.

2 The semantic bases of split-S systems: general remarks

(5) Split-S languages vary somewhat in what factors condition the split ...

- but typically split can be reduced to a more-or-less coherent semantic characterisation;
- the same conditioning factors often reoccur across languages.
- Nb. many split-S systems may have been described only very superficially ...
 - and often conditioning factors haven't been described at all!

(6) Some examples:

- *Control* or *volition* is a common factor: found in Chickasaw (Andréasson 2001, Koasati (Kimball 1991), Eastern Pomo (McLendon 1978), Tabassaran (Arkadiev 2008), Tsova-Tush (Arkadiev 2008) ...

- Typically results in a *fluid-S* pattern: many intransitive verbs can be associated with both agentive and patientive marking.

- e.g. Eastern Pomo (McLendon 1978, p. 3):

(a) *há· ba·técki*

1SG.AGT got_bumped

'I got bumped (on purpose)'

(b) *wí ba·técki*

1SG.PAT got_bumped

'I got bumped (accidentally).'

- But still probably a subtype of split-S (see Baker 2015).

- Cf. *performance/effectedness/instigation* (P/E/I, Mithun 1991)
 - distinct from control: verbs denoting involuntary activities like 'cough', 'sneeze' may be performed/effected/instigated without being controlled
 - Lakhota (Mithun 1991)?—but cf. Legendre and Rood (1992).
- *Eventivity* (stativity, dynamicity) is also common: Baniwa do Içana (Danielson and Granadillo 2008), Galela (Creissels 2008) ...
- *Unaccusativity* is often (unhelpfully) reported as the deciding factor:

- as classes picked out by unaccusativity diagnostics vary across and within languages (see i.a. Rosen 1984, Sorace 2000, Baker to appear), this doesn't tell us much.

(7) In many languages multiple interacting factors at play, e.g.:

- Northern Pomo: control, *perspective* (Deal and O'Connor 2010)
- Central Pomo, Caddo: control, eventivity, *affectedness* (Mithun 1991);
- Mohawk: control, P/E/I, affectedness ... (Mithun 1991);
- Haida: P/E/I, eventivity (Mithun 1999);
- Amis: eventivity, affectedness (Tsudika 2008);
- Nepali: 'agentivity', *telicity* (Creissels 2008);
- Pilagá: perspective, affectedness (Vidal 2008).

(8) Generally conditioning factors seem to be drawn from this same set of half a dozen or so features.

- Though a small number of systems reported to be sensitive to other things:
 - Tundra Nenets: 'homogeneity of (phases of) events' (Khanina 2008); Nasioi has separate endings for 'verbs of personal being' (Hurd and Hurd 1970); Baure distinguishes 'verbal vs. non-verbal predicates' (Danielson and Granadillo 2008) ...
 - Under further investigation, some of these may reduce to features discussed above.

(9) Languages quite often have *exceptions* to the general rule:

- e.g. lexical exceptions in Caddo, Chickasaw, Mohawk (see references for these languages above);
- in a few instances Koasati makes an agreement distinction between temporary and permanent states (Kimball 1991);
- most intransitive verbs in Yawa associated with one set of case marking, but a small class of around 12 verbs take another (Jones 1986)—some semantic coherence but not clear if there is a single semantic factor which identifies all and only the second class.

- (10) Summary: similarities and differences across languages; systems are not necessarily completely regular.
- (11) Next two sections look at two languages (not discussed in this section) in a greater level of depth.

3 Basque

3.1 Overview

- (12) Basque (*Euskara*): a language isolate spoken in the Basque Country (northern Spain/southern France):
- fairly substantial contact influence from Romance;
 - 700,000 speakers (of whom 50,000 in the French Basque Country);
 - considerable dialectal variation; a standard variety exists but is not fully accepted.

- (13) Split-S system is manifest both in **case** and **agreement**, and parallels a split in **auxiliary selection**¹:

(a) *Gizon-a-k ni-Ø ikusi n-au-Ø*
 man-DEF-ERG 1PS-ABS saw 1PS-have-3PS

‘The man saw me.’

(b) *Ni-Ø etorri n-aiz*
 1PS-ABS came 1PS-be

‘I came.’

(c) *Ni-k jan d-u-t*
 1PS-ERG ate DEFAULT-have-1PS

‘I ate.’

- For all intransitives², without exception as far as I am aware:

¹The Basque auxiliary split differs slightly from that found in other European languages, in that it is present in a wider range of tenses.

²In the literature on Basque, the label ‘intransitive’ is frequently reserved for those (one-argument) verbs which assign only absolutive, whereas ‘transitive’ is employed for verbs which assign ergative even *if they have only a single argument*. In this talk I use intransitive in its more usual sense, to refer to all (semantically) one-argument verbs regardless of their case-assignment properties.

- ergative case \Leftrightarrow ergative agreement \Leftrightarrow auxiliary HAVE
- absolutive case \Leftrightarrow absolutive agreement \Leftrightarrow auxiliary BE

(14) Many concepts expressed by (intransitive) verbs in other languages are often expressed with Basque as N + *egin* ‘to do, to make’:

- *Gizon-a-k hitz egin du*
man-DEF-ERG word made has
‘The man has spoken.’
- Note ergative case and auxiliary HAVE; such forms are formally transitive.
- The *egin* construction is most usually found with ‘unergative’ ([–state, –change], Sorace’s 2000 ‘process’ class) verbs, e.g. *lan egin* ‘to work’, *dantza egin* ‘to dance’, *eztul egin* ‘to cough’. There are some exceptions, however, e.g. *leher egin* ‘to explode’, *ospa egin* ‘to leave’ (Aldai 2009, p. 799).
- N + *egin* forms often have simple verbal equivalents (though very frequently not in all dialects), e.g. *dantza egin* ~ *dantzatu* ‘to dance’, *jolas egin* ~ *jolastu* ‘to play’.
 - Western dialects strongly prefer *egin* forms to simple unergative verbs (Aldai 2009, §10).

3.2 The semantic basis of the Basque split

(15) Starting point: Sorace’s (2000) Auxiliary Selection Hierarchy (ASH):

BE	Controlled non-motional processes	<i>work, play, talk ...</i>
↑	Controlled motional processes	<i>swim, run, walk ...</i>
	Uncontrolled processes	<i>tremble, catch on, skid, cough, rumble, rain ...</i>
	Existence of state	<i>be, belong, sit, seem, be useful, please, depend on ...</i>
	Continuation of state	<i>stay, remain, last, survive, persist ...</i>
↓	Change of state	<i>rise, become, decay, die, be born, happen, grow ...</i>
HAVE	Change of location	<i>come, arrive, leave, fall ...</i>

(16) Sources of data:

- The existing literature, particularly:

- classification of verbs in standard Basque by de Rijk (2008);
- discussion of Romance loans by Alberdi (2003);
- discussion of dialectal variation by Aldai (2009);
- also Etxepare (2003), Levin (1983).
- Online surveys conducted by the present author:
 - First survey: speakers asked to translate a variety of simple intransitive sentences from Spanish;
 - Second survey: speakers provided with a variety of intransitive verbs in Basque in different case frames and asked to rate each one on a 0-10 acceptability scale.
 - Surveys generally confirm the reports in the literature.

(17) Basque [+change] verbs (denoting change of location, change of state) are almost always associated with the absolutive:

- change of location: *etorri* ‘to come’, *iritsi* ‘to arrive’, *erori* ‘to fall’ ...³
- change of state: *jai* ‘to be born’, *hazi* ‘to grow’, *hil* ‘to die’ ...
- exceptions: *irakin* ‘to boil’, *irakitu* ‘to boil’, *aldatu* ‘to change’, *eboluzionatu* ‘to evolve’.

(18) The [+state] verbs (continuation of state, existence of state) show mixed behaviour (de Rijk 2008, Aldai 2009, Alberdi 2003, Etxepare 2003):

- absolutive: *geratu* ‘to remain’, *aritu* ‘to be occupied’, *antsiatu* ‘to worry’, *kabitu* ‘to fit’
...
- ergative: *iraun* ‘to last, to stand’, *jardun* ‘to be busy’, *existitu* ‘to exist’, *kotizatu* ‘to cost’
...
- *deskantsatu* ‘to rest’ is variable (Alberdi 2003, p 34).

(19) Finally, the [–state, –change] verbs (Sorace’s ‘processes’: uncontrolled, controlled motional and controlled non-motional) are generally though not exclusively associated with the ergative (various exceptions to be discussed below):

³Note that, on Sorace’s schema, while verbs like ‘go’, ‘arrive’ belong to the *change of location* class, verbs like ‘walk’, ‘run’ are *controlled motional processes*, denoted here as [–change]. This distinction seems clearly justified in languages like French and English where the two classes of verbs behave very differently with regards standard unaccusativity diagnostics (e.g. auxiliary selection in French; prenominal past participles, prefix *out-*, suffix *-er* and others in English (see REF COPIL). The behaviour of verbs in the controlled motional process class in Basque is discussed below.

- Ergative-marking forms: *bazkaldu* ‘to have lunch’, *ikasi* ‘to study’, *ehizatu* ‘to hunt’ ...
- Recall that simple verbs of this type are somewhat rare; speakers often prefer equivalent *egin* constructions.

(20) Overall generalisation: [+change] ⇒ ABS, [+state] ⇒ ABS or ERG, [-state, -change] ⇒ ERG, *but with various exceptions*.

- Note that this gives us a rather nice correlation with Sorace’s hierarchy: verbs at one end assign ABS (the change verbs), verbs at the other assign ERG (the process verbs), verbs in the middle show mixed behaviour (the state verbs).
 - This has similarities to the auxiliary selection behaviour in certain other Western European languages as described by Sorace (2000); note again that Basque also has an auxiliary split, paralleling the case/agreement split.

(21) Is it possible to explain the exceptional forms? (⇒ next subsection ...)

3.3 Exceptional verbs

(22) Only a very few [+change] verbs which allow ERG:

- *irakin* and *irakitu* (both ‘to boil’).
 - Fairly robustly ergative-marking according to literature.
 - *But* in my second survey *irakin* was moderately well accepted with ABS as well (average score 4.50/10, against 9.30/10 for ERG). (*irakitu* was not tested.) This may suggest its semantic [+change] meaning is still accessible, albeit to a reduced degree.
 - The *ira-* form suggests these may historically have been causatives which have been semantically reanalysed but retained their earlier case marking pattern (Aldai 2009, p. 804; Trask 2008, p. 228).
 - Aldai also writes (p. 792):

from a cognitive perspective (unlike a physical perspective), there is not a clear-cut end-point delimiting that change. Rather, what is cognitively noticeable is an activity occurring in the liquid (after the boiling point

has been reached). Thus, *boil* may be conceptualized as a non-patientive activity instead of a patientive change.

⇒ perhaps *irakin/irakitu* simply aren't grammaticalised as [+change] in Basque.

- *aldatu* 'to change' (!) 'occasionally heard with ERG subjects in Western Basque' according to Aldai (2009, p. 792).
 - Very strongly accepted with ABS in my survey (average score 9.56/10), but mixed judgements with ERG (average 4.29/10).
- Aldai makes the same remark about *eboluzionatu* 'to evolve':
 - Note semantic similarity to *aldatu*: clustering of semantically-related forms in their exceptional behaviour?
 - In my survey, actually preferred with ERG (average score 8.52/10, vs. 5.81/10 for ABS).
 - A 'recent loan' according to Aldai. Found with ERG because Romance source found with NOM? (If ERG is a structural case assigned by T in (at least some varieties of) (modern) Basque as argued for convincingly by Rezac et al. 2014, then it is the 'same sort of case' as Romance NOM, which might lead speakers to equate them even when the overarching semantically-based pattern of the language suggests they should do otherwise.)

(23) ABS-marking [-state, -change] verbs are more numerous:

- major groups include: (a) motion verbs, (b) verbs with apparent reflexive/reciprocal meaning.

(24) ABS-marking motional processes:

- speakers strongly prefer ABS with *ibili* (sometimes glossed 'to walk') and *irristatu* 'to skid'.
 - But *ibili* can also be translated more generally as 'to move about'—perhaps it really belongs in the 'change of location' class, as the 'manner of motion' element seems to be secondary. In my first survey many speakers translated 'The man walks' as *Gizona oinez dabil*, more literally 'The man goes on foot'.

- Skidding is an *uncontrolled* process—i.e. less prototypically agentive (and further from the unergative end of Sorace’s hierarchy), which may be a relevant factor, though control does not generally seem to have much of an effect on case-marking in Basque as far as I am aware.
- Several other motional process verbs are reported in the literature as ABS-marking or variable: *saltatu* ‘to jump’, *nabigatu* ‘to sail, navigate’, *paseatu* ‘to go for a walk or ride’ (Alberdi 2003, all loanwords; also arguably *dantzatu* ‘to dance’); *jauzi*, ‘to jump’ (de Rijk 2008).
 - These verbs are not particularly accepted with ABS in my survey (scoring between 1.46 and 4.81/10), though some speakers do allow/prefer ABS with these forms.
 - Nb. several are not particularly accepted as simple verbs with ERG either! (Speakers prefer *egin* forms.)
 - Motional processes associated with BE rather than HAVE to some degree in several languages—i.e. they pattern with ‘unaccusatives’ (and are grammaticalised as [+change], in those languages?). If they were borrowed early enough, auxiliary BE (and hence absolutive case) with these verbs may have been adopted from Romance.

(25) ABS-marking reflexive/reciprocal processes:

- Romance reflexive verbs tend to be borrowed as absolutive-marking (Alberdi 2003, pp. 33–4), e.g. *dutxatu* ‘to have a shower’, *federatu* ‘to federate’ and others.
 - Reflexives often associated with auxiliary BE in Romance (though not present-day Spanish);
 - Native verbs with reflexive or reciprocal meanings may also assign ABS, e.g. *ezkondu* ‘to marry’.
 - My survey: speakers very strongly prefer ABS with these verbs.
 - Several other otherwise problematic verbs may fall into this category, including *jolastu* ‘to play’, *borrokatu* ‘to fight’, reported as variable by Etxepare (2003, p. 390). In my survey speakers preferred ERG with these verbs (averages 8.88/10, 9.03/10), but did give relatively high scores with ABS (5.00/10, 6.80/10).

- *mintzatu* ‘to speak, to talk, to converse’ is interesting: my respondents strongly accept it with ABS (average score 8.83/10), in line with the characterisation given by de Rijk 2008. However, it appears to be a prototypical process/unergative verb (though it is not completely rejected with ERG, scoring 3.83/10 on average). The possibility of a reciprocal meaning may again explain the patterning, but note in addition that verbs meaning ‘to speak’ or similar are *deponent* in several languages (i.e. semantically active in voice but taking non-active morphology): Latin *loquor* and various other verbs of communication, Old Irish *adgládathar* ‘to address, to speak to, to converse with’, several Georgian deponents relating to communication listed in Tuite (2003). Thus, for whatever reason, there seems to be a certain *cross-linguistic* tendency for this sort of verb to exhibit peculiarities in argument-marking morphology.
- Alberdi (2003, p. 35) suggests that ABS marking with *olgatu* ‘to have fun’ and *komulgatu* and *komuniatu* (both) ‘to take communion’ may be traced back to historically reflexive uses of their Spanish sources. Plausibly the phonological similarity between *olgatu* and *komulgatu* may have reinforced the shared patterning.

(26) An outstanding problematic form is the strongly ABS-marking *ikaratu* ‘to tremble with fear’: plausibly, however, this is grammaticalised as a state rather than an uncontrolled process.

3.4 Summary

- (27)
- The case-marking properties of Basque verbs relate largely to their semantic classification, principally concerning the features [\pm change] and [\pm state].
 - However, there is a degree of ‘fuzziness’ resulting in various ‘irregular’ forms.
 - Nevertheless, clear patterns observable in regard to those verbs which do not mark case as might be expected.

4 Chol

4.1 Overview

(28) Chol (*lak ty’añ*): a Mayan language (Greater Tzeltalan family, Cholan subgroup) spoken in

Chiapas, Mexico, with 150,000 speakers.

4.2 Agreement alignment

(29) Chol has two sets of agreement markers: set A (ergative) and set B (absolutive) (Coon 2010, pp. 18–19, 78):

(a) *Tyi i-jats'-ä-yoñ.*

PRFV A3-hit-TV-B1

'She hit me.'

(b) *Tyi k-cha`l-e k'ay.*

PRFV A1-do-DTV song

'I sang.'

(c) *Tyi mal-i-yoñ.*

PRFV GO-ITV-B1

'I'm going.'

(30) Most Chol intransitives divide up on the following pattern (Coon 2010):

- 'Statives', 'mutatives' (i.e. [+state] and [+change] verbs): absolutive agreement
 - Statives: *chañ-* 'to be tall', *wiñik-* 'to be a man' ...
 - Mutatives: *k'oty-* 'to arrive there', *yety-* 'to arrive here', *mal-* 'to go', *chäm* 'to die', *nox-añ-* 'to get old' ...
- Others ([–state, –change]): ergative agreement
 - e.g. *k'ay-* 'to sing', *soñ-* 'to dance', *ty'añ-* 'to speak' ...
 - In this latter group, the predicate is *always* made up of a light verb *cha`l-* plus a 'nominalised' lexical root (cf. the Basque *egin* construction) (Coon (2010)): recall *Tyi kcha`le k'ay* 'I did song' = 'I sang'.

(31) Investigation of a longer list of Chol verbs in Gutiérrez Sánchez (2004) suggests Coon's division is basically the right one.

- Though interestingly *lojk-* ‘to boil’ takes ergative agreement: cf. the Basque *irakin*, *irakitu*.
- As in Basque (and other languages), the [\pm state] and [\pm change] features play an important role.

4.2.1 Ambivalent verbs

(32) However there is a small class of ‘ambivalent’ roots whose agreement marking is determined according to a different criterion: broadly [\pm control] (Gutiérrez Sánchez 2004, Coon 2010):

(a) *Tyi wäy-i-yoñ.*

PRFV sleep-ITV-B1

‘I slept (accidentally).’

(b) *Tyi k-cha`l-e wäy-el.*

PRFV A1-do-DTV sleep-NML

‘I slept (on purpose).’

(33) Within this ‘irregular’ class, there is a degree of *semantic clustering*:⁴

- The sizeable class of **positional roots** (e.g. *buch-* ‘to be seated’, *ts’ej-* ‘to be lying down’) always permit the [\pm control] ergative/absolutive alternation (Coon 2010, p. 65 (these are a subset of [+state] verbs).
- Some are **verbs of motion**: *lujty-* ‘to jump’, *tyijp-* ‘to jump’, *jäjm-* ‘to rock, sway’, *wijl-* ‘to spin’, *lets-* ‘to spin’, *lujty-* ‘to propel oneself’, *puts-* ‘to flee’, *sujty-* ‘to return’ and *wejl-* ‘to fly’.
- Others are **processes**, but perhaps those which can be construed as particularly **affecting** for the agent: *we-* ‘to eat’, *’uch-* ‘to eat’, *’uk-* ‘to cry’, *’toñ-* ‘to work’, *ts’äm-* ‘to bathe’, *wäy-* ‘to sleep’ and *nujpuñ-* ‘to marry’.
- A couple of others appear to be *changes of state*: *jojm* ‘to get holes in’, *lejlm* ‘to burn’.
- Note, however, that there does not seem to be any single (syntactico-)semantic feature which these roots all have in common to the exclusion of all regular (non-alternating) forms.

⁴Several glosses in this section are translations of Gutiérrez Sánchez’s (2004) Spanish glosses; more than the usual caution should be taken as to their accuracy.

- Many regular verbs appear semantically similar to the irregular ones: e.g. *joy* ‘to spin’, *suty-ujty* ‘to spin’ (cf. alternating *wijl-*, *lets-* ‘to spin’); *chijp-el* ‘to escape’ (cf. *puts-* ‘to flee’); *ty’ijch-el* ‘to jump on one foot’ (cf. *lujty’-*, *tyijp-* ‘to jump’) *’och-el* ‘to enter’, *jul-el* ‘to get here’, *k’oty-el* ‘to get there’ (cf. *sujty* ‘to return’) ...

(34) In addition to semantic clustering, we also observe *phonological clustering* between members of the ambivalent class.

- Excluding positional roots, four pairs of CVC roots where each member differs from the other by only one sound: *’uch’-’uk’-*, *jäjm-/jojm-*, *lujty’-/(lujty’-)/sujty’-*, *wejl-/wijl-*.
- In one case both members of a pair are phonologically identical: *lujty’-/(lujty’-)*.
- Probability of so many similarities occurring by chance is rather low: estimated at about 1 in 200.⁵
- And many further similarities between the roots which have not been taken into account: e.g. some of the pairs above may differ not merely in terms of a single phoneme but rather a single feature, and other patterns are visible in the data e.g. the apparent greater than chance frequency of approximant onsets or coda /m/.
- **Within the class of roots demonstrating irregular behaviour, the phonological patterning of the roots is not randomly distributed, but rather shows a degree of clustering.**
- Phonological similarities cross-cut the semantic groupings: e.g. the pair *jojm-* ‘to get holes in’ and *jäjm-* ‘to sway’.

4.3 Summary

- (35)
- The split-S pattern in Chol for most intransitives is sensitive to the division [–state, –change] vs. [+state] and [+change].
 - But a class of irregularly-behaving roots is sensitive to [\pm control]; the membership of this class is not semantically or phonologically random.

⁵Calculations available on request. With thanks to David Baker for his help in this estimation.

5 Conclusion

- (36) A similar set of features reoccur in determining split-S patterns across languages.
- (37) Both Basque and Chol have systems based around the [\pm state] and [\pm change] features, albeit with various ‘irregularities’ *which however can be shown to be structured in some way* (note sensitivity to both semantics and phonology).
- (38) So: broad similarities across languages, but also differences (sometimes only on a smaller scale): as perhaps to be expected from work in other domains.
- (39) ‘Irregular’ forms constitute cases of *nanoparametric variation?* - though nb. again that even here lexical items tend to cluster to a degree.

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Due to time constraints in preparation of this handout, some works referred to above have been omitted from the bibliography. These references are available on request.