The alignment of case and agreement: matches and mismatches[o]

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1 Introduction

1.1 Alignment: a very short introduction(/recap)

(1) 'Core arguments' (Comrie 1978):

- **S**: the sole argument of an intransitive clause;
- **A**: the most agent-like argument of a transitive clause;
- **P**: the most patient-like argument of a transitive clause.

(a) *Lucy runs.*

S

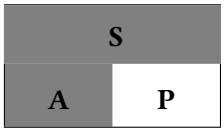
(b) *Lucy licks lollipops.*

A **P**

(2) **Alignment** refers to the grouping of arguments in terms of case, agreement,[1] (word order):

Major alignment patterns:

(a) *(Nominative-)accusative*:

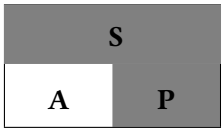


[o]With thanks in particular to Michelle Sheehan and Ian Roberts for helpful comments relating to this work.

[1]For 'agreement', always read 'φ-agreement'.

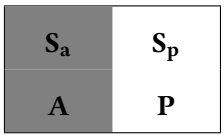
- English:
  i. **They** run.
  ii. **She** runs.
  iii. **They** visit **her**.

(b) *Ergative(-absolutive):*



- Yup'ik (Eskimo, Alaska; Payne 1997, p. 135):
  i. Doris-**aq** ayallruuq.
  Doris-ABS travelled
  'Doris travelled.'
  ii. Tom-**am** Doris-**aq** cingallrua.
  Tom-ERG Doris-ABS greeted
  'Tom greeted Doris.'

(c) *Split-S:*[2,3]



- Basque:
  i. Gizon-a-**k** ni-**Ø** ikusi n-au-Ø.
  man-DEF-ERG 1PS-ABS saw 1PS-have-3PS
  'The man saw me.'
  ii. Ni-**Ø** etorri n-aiz.
  1PS-ABS came 1PS-be
  'I came.'
  iii. Ni-**k** jan d-u-t.
  1PS-ERG ate DEFAULT-have-1PS
  'I ate.'

[2] Alias *active, active-stative, agentive-patientive, semantically-aligned, split intransitive* ...

[3] There are other sorts of split-S system, e.g. Yawa (isolate, Indonesia) has three sets of marking: for **A+S$_a$**, **S$_p$**, **P** (Jones 1986). But the 'two-way' system diagrammed is by far the most common.

1.2 Alignment (mis)matches and a long-standing problem

(3) Many languages have the same alignment for both *case* and *agreement*.

- Latin: nominative-accusative case + agreement

  (a) Serv-**us** labora-**t**.

  slave-NOM:SG work-3SG:PRES

  'The slave works.'

  (b) Serv-**us** equ-**os** ama-**t**.

  slave-NOM:SG horse-ACC:PL love-3SG:PRES

  'The slave loves horses.'

(4) Others have a 'mismatched' system: *ergative* case alignment but *accusative* agreement:

- Nepali (Bickel and Yādava 2000, p. 348):

  Maile yas pasal-mā patrikā kin-ē.

  1SG.**ERG** DEM.OBL store-LOC newspaper.ABS buy-PT.**1SG**

  'I bought the newspaper in this store.'

(5) **But no languages**[4] **have *accusative* case alignment with *ergative* agreement.** (Anderson 1977, Dixon 1979)

	Nom:acc case	Erg:abs case
Nom:acc agreement	Yes	Yes
Erg:abs agreement	**No**	Yes

(6) Existing analyses of this problem:

- Bobaljik (2008);
- Woolford (2000, 2006a, 2010, 2015).

(7) What about split-S systems?

[4]Or at least very few. Patel (2006) discusses an apparently exceptional case, Kutchi. Plausibly something more is going on in Kutchi than simple inherent agreement with **A**: i.e. it has a more complex underlying system of agreement and/or case that is rare on account of that complexity.

- My database: 27 languages where I have data on both case and agreement alignment where at least one is (at least sometimes[5]) split-S.

  Setting aside languages where one of case or agreement is never overt (the majority):[6,7]

Case	Agreement	Languages
Erg:abs	Split-S	4
Nom:acc	Split-S	3
Split-S	Split-S	3
Split-S	Nom:acc	2
Split-S	Erg:abs	0

- Tentative conclusions:
  - split-S *agreement* can occur with any other case alignment;
  - split-S *case* can occur with nom:acc or split-S agreement, *but never with erg:abs agreement.*

  Though note small number of languages considered.

(8) Possible overall typology:

	Nom:acc case	Erg:abs case	Split-S case
Nom:acc agreement	Yes	Yes	Yes
Erg:abs agreement	**No**	Yes	**No**
Split-S agreement	Yes	Yes	Yes

All case/agreement mismatches are possible, *except that* ergative-absolutive agreement cannot occur in the presence of overt case alignment of some other type.

(9) How can we capture this formally?

[5]Many languages have additional alignment splits, e.g. for tense/aspect, pronouns vs. full NPs.

[6]Where a language has more than one case alignment, or more than one agreement alignment, only split-S is counted.

[7]References available on request.

2 Capturing the patterns formally

2.1 The main idea

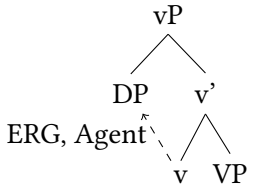
(10) **Central postulate:** there exists *inherent agreement*, which can only occur in the presence of *inherent case*.

- Inherent case may occur without inherent agreement (i.e. there is only a one-way implication).
- Structural case may occur without structural agreement, and vice versa.

(11) Some definitions:

- **Inherent case:** case assigned by a functional head to an argument first-merged in its specifier, where that head also theta-marks the argument (after Woolford 2006b and others).
  - **Inherent agreement**, therefore: φ-agreement relation holding between a functional head and an argument first-merged in its specifier, where that head also theta-marks the argument

    ⇒ φ-agreement relation holding between a functional head and an argument to which it assigns inherent case.
  - I assume *ergative case* (marking only **A**) is always an inherent case (Legate 2002, Aldridge 2004); ergative agreement is inherent agreement.

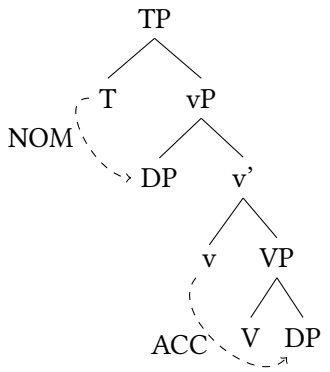


  - *Agentive case/agreement* (marking **A**+$\mathbf{S_a}$)[8] is sometimes but not always inherent

...

[8] In an attempt at clarity, I restrict the label 'ergative' to case/agreement marking only **A**, and 'agentive' to case/agreement marking **A**+$\mathbf{S_a}$; likewise, 'patientive' is used for case/agreement marking only **P+S**$_\mathbf{p}$ and 'absolutive' for case/agreement marking **P+S** more generally. Note that descriptions of individual split-S languages in the literature often use 'ergative' and 'absolutive' where I employ 'agentive' and 'patientive'.

- **Structural case:** case assigned by a functional head to an argument independently of theta-marking; argument is not therefore first-merged in the specifier of the functional head.
  - **Structural agreement:** φ-agreement between a functional head and an argument likewise independent of theta-marking.
  - *Nominative case* (marking **A+S**), *absolutive case* (marking **P+S**) and *patientive case* (marking **P+S$_p$**) are all structural; the same goes for the equivalent φ-agreement relations.



2.2 Accounting for different case systems

(12) The inherent case model of ergative case systems (Aldridge 2004 *et seq.*, cf. Legate 2002 *et seq.*):

- Nominative is a structural case assigned by T; accusative is a structural case assigned by v.
- Ergative is an *inherent case* assigned by v.
  - In 'high ABS' languages, absolutive is a structural case assigned by T. (*Q'anjob'al, Dyirbal*: Sheehan 2014)
  - In 'low ABS' languages, absolutive is a structural case assigned by T in intransitives and v in transitives. (*West Greenlandic, Tagalog*: Sheehan 2014)

	Nom:acc	High ABS	Low ABS
T_{trans}	nominative	absolutive	–
$T_{intrans}$	nominative	absolutive	absolutive
v_{trans}	accusative	ergative (inherent)	ergative (inherent), absolutive
$v_{intrans}$	–	–	–

	Nom:acc	High ABS	Low ABS
T	**S**, **A**	**S**, **P**	**S**
v: structural	**P**	–	**P**
v: inherent	–	**A**	**A**

– All arguments must be marked by *either* structural *or* inherent case.

(13) What about split-S case systems?

- I assume for present purposes that $\mathbf{S_a}$/**A** are *external arguments* and $\mathbf{S_p}$/**P** are *internal arguments*.[9]
- I also assume[10] that there are two main types of split-S case system:
  - An '*extended ergative*' type, where agentive is an inherent case assigned by v and patientive is a structural case assigned by T/v.[11]
    - Unlike in ordinary ergative languages, the assignment of the inherent case by v is not sensitive to transitivity. v always assigns agentive to an external argument.
  - An '*extended accusative*' type, where agentive and patientive are both structural cases assigned by T and v respectively.
    - Unlike in ordinary accusative languages, the assignment of structural case by v is not sensitive to transitivity. v always assigns patientive to an internal argument.

[9]This assumption glosses over issues including cross-linguistic variation and the universality of thematic role assignment. See Baker (2013) for a partial discussion of these issues.

[10]For various reasons which I will not go into here. There are also other conceivable and attested types that I leave aside for purposes of simplicity;

[11]I will assume T assigns patientive in intransitives and v in transitives: i.e. extended-ergative split-S languages are always 'low ABS'.

– I will also assume that split-S *agreement* manifests in extended ergative and extended accusative varieties.

	Split-S (1)	Split-S (2)
T_{trans}	–	agentive
$T_{intrans}$	patientive	agentive
v_{trans}	agentive (inherent), patientive	patientive
$v_{intrans}$	–	patientive

	Split-S (1)	Split-S (2)
T	**S_p**	**S_a, A**
v: structural	**P**	**S_p, P**
v: inherent	**S_a, A**	–

2.3 Accounting for agreement

(14) The main idea, again: inherent agreement can only occur in the presence of inherent case.

- Why? I'll come back to that later ...

(15) *Ergative agreement (agreement with only **A**) is always inherent, and so requires the presence of ergative case.* An ergative agreement alignment can only occur in the presence of (overt/covert) ergative agreement.

- How does this work out in practice?

2.3.1 Matched systems

(16) Most easily accounted for: systems with *same* case/agreement alignments:[12,13]

- head which φ-agrees with an argument also assigns case to it.

[12]Key for this and the following subsection:

(i) *dotted* arrow from DP to functional head: φ-agreement relation (labelled φ).

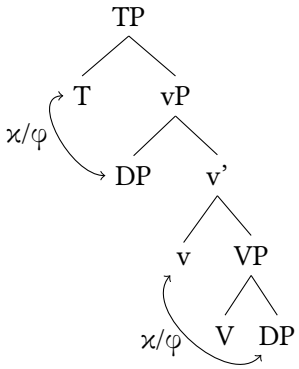
(ii) *dashed* arrow pointing from functional head to DP: case assignment relation (labelled ϰ).

(iii) *continuous, doubled-headed* arrow: both φ–agreement and case assignment relations hold (labelled ϰ/φ).

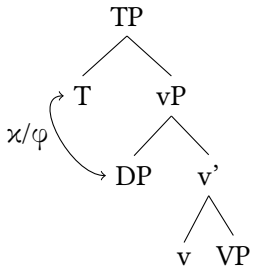
[13]Not all conceivable varieties of language are covered in these two subsections, but I aim to illustrate what are probably the major types.

(17) *Nominative-accusative case + agreement* *English, Latin*

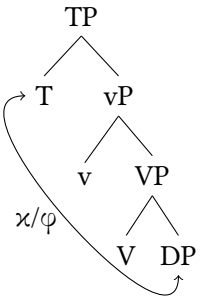
(a) Transitives:



(b) Unergatives:

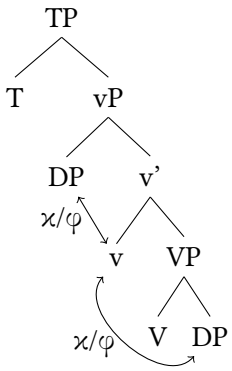


(c) Unaccusatives:

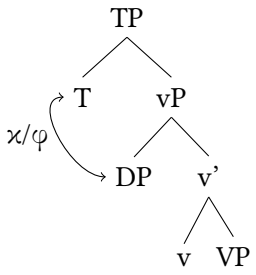


(18) *Ergative-absolutive case + agreement (low ABS)*[14] *Kabardian(?)*

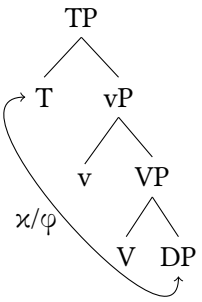
(a) Transitives:



(b) Unergatives:



(c) Unaccusatives:



A necessary assumption here: if a head has two unvalued [φ:_] features, these cannot both be valued on the same head (otherwise transitive v might agree twice with the internal argument and not at all with the external argument).

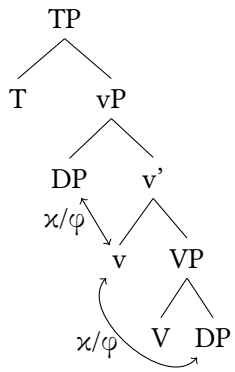
High ABS languages raise some further issues which, though by no means insurmountable, I leave aside here for reasons of time.

[14] References for languages mentioned in marginal notes:

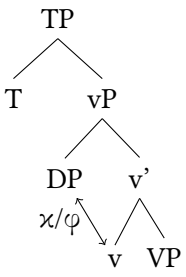
- Chickasaw—Andréasson (2001)
- Georgian—Harris (1981), Siewierska (2013)
- Kabardian, Nepali, Nez Perce—Woolford (2000)
- Koasati, Natchez—Mithun (1999)
- Tsova-Tush—Arkadiev (2008)

(19) *Split-S case + agreement (extended ERG)* *Tsova-Tush??*

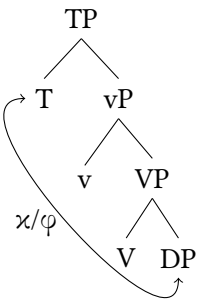
(a) Transitives:



(b) Unergatives:

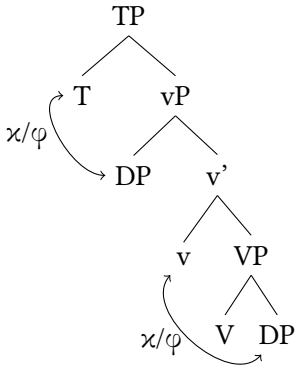


(c) Unaccusatives:

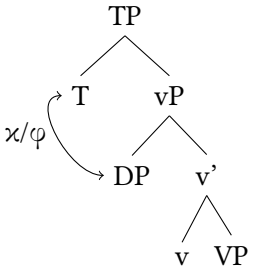


(20) *Split-S case + agreement (extended ACC)* *Basque*

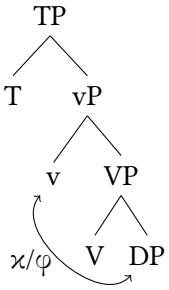
(a) Transitives:



(b) Unergatives:



(c) Unaccusatives:



(21) What about systems where only one of case/agreement is overt?

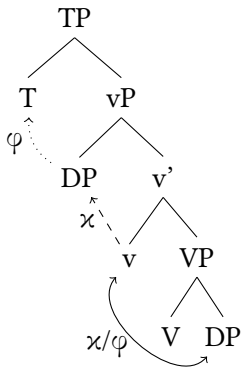
- Assumption is that the covert category reflects the alignment of the overt one: i.e. such systems belong to one of the types listed above.
- This seems a natural assumption for the language learner, too.

2.3.2 Mismatched systems

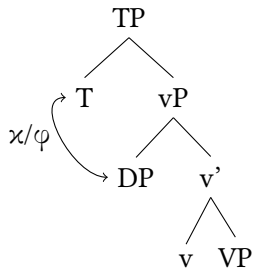
Nb. some of these analyses will be revised slightly below, to incorporate DP movement which is not shown here.

(22) *Erg:abs case (low ABS) + nom:acc agreement* *Nepali, Nez Perce*

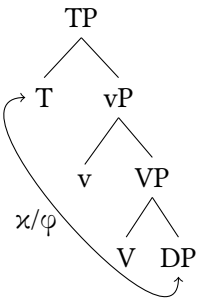
(a) Transitives:



(b) Unergatives:



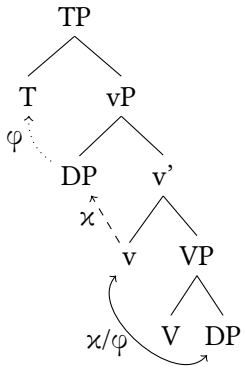
(c) Unaccusatives:



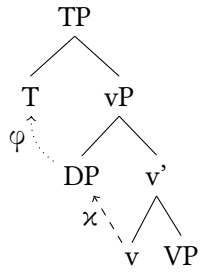
Note that I do not assume any sort of 'activity condition' (cf. Chomsky 2000): that is, the presence of case-marking on an argument does not prevent that argument from agreeing with a separate head.

(23) *Split-S case (extended ERG type) + nom:acc agreement* *Georgian??*

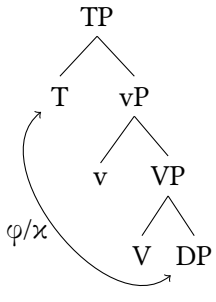
(a) Transitives:



(b) Unergatives:

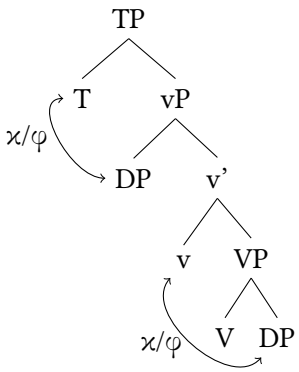


(c) Unaccusatives:

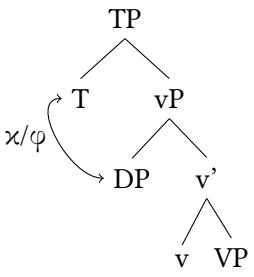


(24) *Split-S case (extended ACC type) + nom:acc agreement*

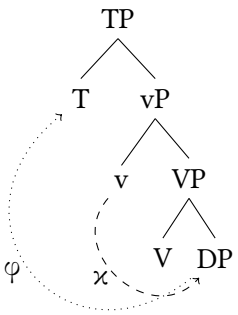
(a) Transitives:



(b) Unergatives:



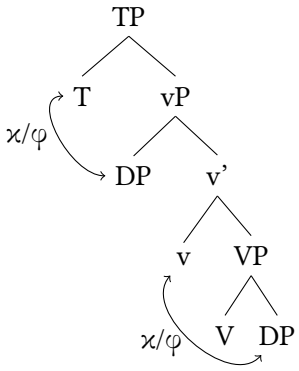
(c) Unaccusatives:



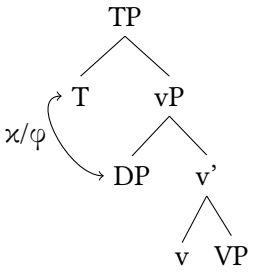
(25) *Nom:acc case + split-S agreement* *Koasati, Chickasaw*

Split-S agreement with non-split-S case must be of the 'extended accusative' type.

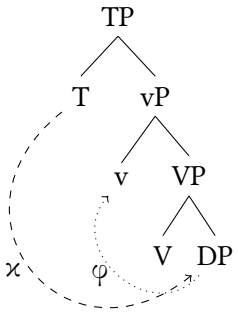
(a) Transitives:



(b) Unergatives:



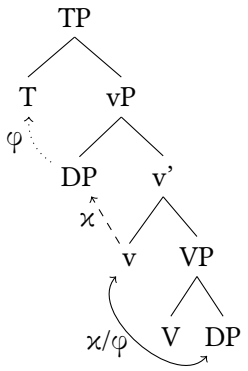
(c) Unaccusatives:



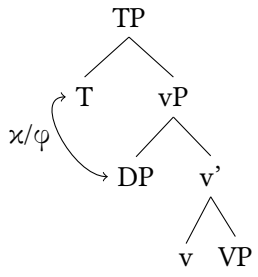
(26) *Erg:abs case (low ABS) + split-S agreement* *Natchez*

Again, necessarily 'extended accusative' type agreement.[15]

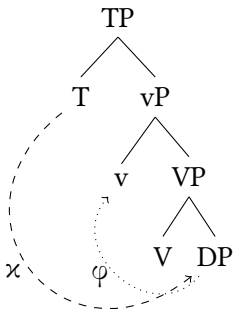
(a) Transitives:



(b) Unergatives:



(c) Unaccusatives:



2.3.3 The non-occurring systems

(27) Two systems don't occur: erg:abs agreement with (i) nom:acc case, (ii) split-S case.

- Ruled out because no way for ergative agreement to occur without (overt or covert) ergative case.
- Split-S agreement of the 'extended ergative' variety ruled out with non-split-S case alignment for the same reason, as agentive agreement is here a variety of inherent agreement.
- But split-S agreement can occur with nom:acc/erg:abs case if the agreement is of the 'extended accusative' variety (see above).

2.4 The dependence of inherent agreement on inherent case

(28) How can we independently derive the postulate that inherent agreement requires the presence of inherent case?

(29) One possible argument from acquisition:

[15] Though there is another plausible pattern, where v agrees inherently with **A** in addition to agreeing structurally with **P** and $\mathbf{S_p}$, and T agrees only with $\mathbf{S_a}$. This is plausibly the pattern observed in Yawa (which does have ergative case).

- inherent case/agreement are to do with thematic roles;
- thematic roles are fundamentally properties of *arguments*;
- therefore, the learner expects thematic relations to be marked on nominals not verbs in the first instance;
- therefore, inherent agreement (reflex of a thematic relation on the verb) can only be postulated in the presence of inherent case (reflex of a thematic relation on the nominal).[16]

(30) More formally/substantially: adopt the standard approach to Agree (Chomsky 2000):

- Ordinarily for a goal G to value a feature of a probe P, *P must c-command G.*
- *But* G may alternatively value a feature on P if P is independently able to value a separate feature on G:
  - i.e. if G c-commands P, and
    (a) G bears features [F_1:_, F_2:v];
    (b) F bears features [F_1:v, F_2:_].[17]
  - That is, 'upward' Agree occurs only if a 'downward' Agree relation also holds between the same heads.
  - Standardly, this allows v to value [Case:ACC] on a lower DP (as v itself probes for the DP's φ-features).

(31) How does this relate to our main idea?

- In cases of structural φ-agreement: a functional head F bearing unvalued [φ:_] c-commands DP bearing valued [φ:v]. ✓
- Structural case: either:
  - DP bearing [Case:_] is c-commanded by F bearing [Case:v], but DP values F's φ-features as above; ✓

[16] If we adopt this argument, we must also accept that *covert* inherent case is a sufficient trigger to allow the learner to postulate inherent agreement. The evidence for inherent case in this instance is inherent agreement morphology in the input.

[17] I use the shorthand [F:_] = unvalued feature, F:v] = valued feature.

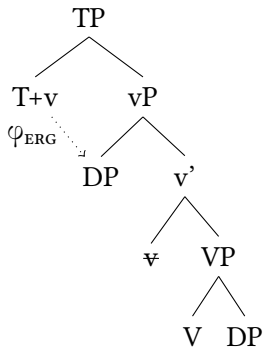
  - or, where no φ-relation holds, DP bearing [Case:_] may move to c-command F. ✓

- Inherent case: DP bearing [Case:_] c-commands F bearing [Case:v]. ✓

- Inherent agreement:

  - F bearing [φ:_] is c-commanded by DP bearing [φ:v], but F values DP's [Case:_] feature as above. ✓

  - In the absence of inherent case, could F value its inherent φ-features by moving to c-command the DP? (cf. structural agreement above) [⇒ inherent agreement *without* inherent case]



  - Quite possibly *not*: ✗

    * Let's focus on the most potentially problematic instance, inherent ergative agreement on v, by way of example (though similar arguments can be applied to other instances).

    * If v moves above **A**, the connection to thematic roles is weakened—we may no longer be dealing with true inherent agreement at all.

    * If we adopt a version of the defective goals account of head movement / incorporation (Roberts 2010), according to which a head H incorporates into a higher head G iff H's formal features are a proper subset of G's:

      · If v incorporates into T (the most plausible landing-site) and T has its own unvalued [φ:_] feature, the two sets of [φ:_] features may no longer be distinct.

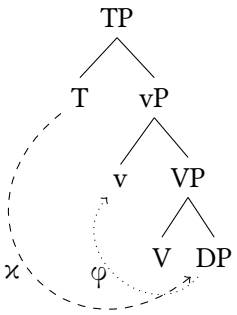
      ⇒ we end up with what resembles a nominative-accusative agreement alignment (as T agrees with **S** in intransitives).

- If T *lacks* a [φ:_] feature (cf. low ABS languages), v may not be able to incorporate into it at all. This may force v to remain in situ, where it cannot agree.

(32)

- A consequence: where an argument gets structural case from a head H but does not agree with it, the argument must move above H. This means we predict movement of an argument to Spec,HP (or some other position c-commanding H) in at least the following types of languages:[18]
  - Split-S case (extended ACC type) + nom:acc agreement (movement to Spec,vP)
  - Nom:acc case or erg:abs case + split-S agreement (movement to Spec,TP)
- For example: earlier we posited the following unaccusative structure for languages with nominative-accusative case and split-S agreement:

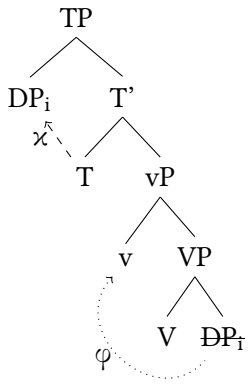
(a) *Nom:acc case + split-S agreement*—unaccusatives:



A better structure may be the following:

[18]Strictly this movement only has to occur in unaccusative contexts, though it seems reasonable to expect it might occur in unergatives and transitives as well.

(b) **Revised:** *nom:acc case + split-S agreement*—unaccusatives:



- As there is often independent reason for positing movement of the subject to Spec,TP, this may not be an unreasonable assumption to make.

3 Conclusion

(33) The observed matches and mismatches between case and agreement alignment in languages prove amenable to a description in terms of the following postulate:

- Inherent agreement can only occur in the presence of inherent case.

(34) It is possible to justify this postulate on independent grounds.

(35) The analysis presented accounts for split-S as well as nominative-accusative and ergative-absolutive types.

References

Aldridge, E. (2004). *Ergativity and word order in Austronesian languages.* Ph. D. thesis, Cornell University.

Anderson, S. (1977). On the mechanisms by which languages become ergative. In C. Li (Ed.), *Mechanisms of Syntactic Change.* Austin: University of Texas Press.

Andréasson, D. (2001). Active languages. Undergraduate thesis, Stockholm University.

Arkadiev, P. (2008). Thematic roles, event structure, and argument encoding in semantically aligned languages. In M. Donohue and S. Wichmann (Eds.), *The Typology of Semantic Alignment*. Oxford: Oxford University Press.

Baker, J. (2013). *Theoretical approaches to alignment, with special reference to split/fluid-S systems*. Undergraduate dissertation, University of Cambridge.

Bickel, B. and Y. Yadava (2000). A fresh look at grammatical relations in Indo-Aryan. *Lingua 110*(5), 343–373.

Bobaljik, J. (2008). Where's phi? Agreement as a post-syntactic operation. In D. Harbour, D. Adger, and S. Béjar (Eds.), *Phi-Theory: Phi features across interfaces and modules*. Oxford: Oxford University Press.

Chomsky, N. (2000). Minimalist inquiries: The framework. In R. Martin, D. Michaels, and J. Uriagereka (Eds.), *Step by Step: Essays on Minimalist Syntax in Honour of Howard Lasnik*. Cambridge, Mass.: MIT Press.

Comrie, B. (1978). Ergativity. In W. Lehmann (Ed.), *Syntactic typology: Studies in the phenomenology of language*. Austin: University of Texas Press.

Dixon, R. (1979). Ergativity. *Language 55*(1), 59–138.

Harris, A. (1981). *Georgian Syntax*. Cambridge: Cambridge University Press.

Jones, L. (1986). The question of ergativity in Yawa, a Papuan language. *Australian Journal of Linguistics 6*(1), 37–56.

Legate, J. (2002). *Warlpiri: Theoretical Implications*. Ph. D. thesis, Massachusetts Institute of Technology.

Mithun, M. (1999). *The Languages of Native North America*. Cambridge: Cambridge University Press.

Patel, P. (2006). Split agreement and ergativity in Kutchi. Unpublished ms.

Payne, T. (1997). *Describing Morphosyntax: A Guide for Field Linguists*. Cambridge: Cambridge University Press.

Roberts, I. (2010). *Agreement and head movement: clitics, incorporation, and defective goals*. Cambridge, Mass.: MIT Press.

Sheehan, M. (2014). Towards a parameter hierarchy for alignment. In R. Santana-LaBarge (Ed.), *Proceedings of WCCFL 31*. Somerville, Mass.: Cascadilla Press.

Siewierska, A. (2013). Alignment of verbal person marking. In M. Dryer and M. Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology.

Woolford, E. (2000). Ergative agreement systems. *University of Maryland Working Papers in Linguistics 10*, 157–191.

Woolford, E. (2006a). Case-agreement mismatches. In C. Boeckx (Ed.), *Agreement Systems*. Amsterdam: John Benjamins.

Woolford, E. (2006b). Lexical case, inherent case and argument structure. *Linguistic Inquiry 37*(1), 111–130.

Woolford, E. (2010). Active-stative agreement in Choctaw and Lakota. *ReVel 8*(1), 6–46.

Woolford, E. (2015). Ergativity and transitivity. *Linguistic Inquiry 46*(3), 489–531.