

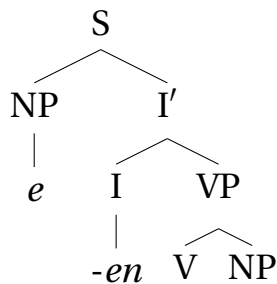
A reformulation of Baker et al. (1989) in terms of ordering

1 Passive à la Baker et al. (1989)

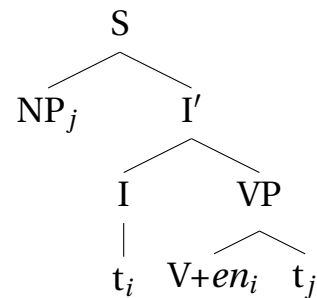
BASIC IDEA:

- There is neither argument reduction nor case absorption in the lexicon or in the syntax (the passive morphology *-en* is the external argument that is assigned accusative case).
- **Case reversal:**
 - active: DP_{ext} receives nominative from Infl (T), DP_{int} receives accusative from V (v)
 - passive: DP_{ext} (= *-en*) receives accusative from V (v), DP_{int} receives nominative from Infl (T)
- In order to be in the governing domain of the verb, the external argument (= *-en*) must lower from Infl to V in the syntax.

(1) D-structure:



(2) S-structure:



PROBLEMS WITH A MINIMALIST REFORMULATION:

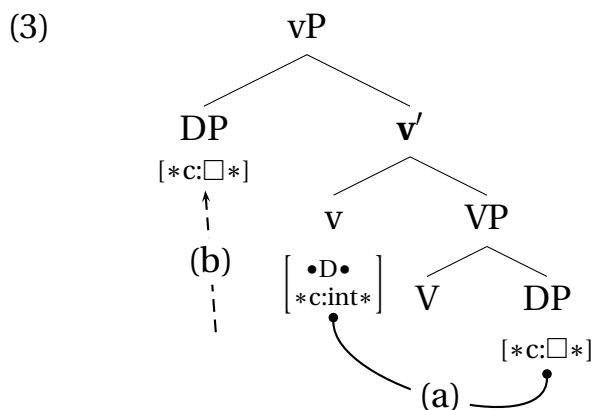
- ⚡ lowering in syntax
- ⚡ Earliness: Case assignment by v/V must be delayed in order to block accusative assignment to DP_{int}
- ⚡ counter-cyclic case assignment / checking between v/V and the external argument (happens after at least T' is generated because T introduces this argument)

2 A reformulation in terms of the order of elementary operations

- I adopt the basic idea by BJR that passive involves case reversal.
- I follow Sternefeld (1995) in assuming that the external argument is *pro*, an empty element merged in SpecvP.
- Case reversal is the result of the order of Merge and Agree on v (as proposed in Heck and Müller 2007; Müller 2009, see Lahne 2008; Assmann et al. 2012; Georgi 2014 for further developments).
- This avoids the aforementioned problems with BJR's analysis in Minimalism.

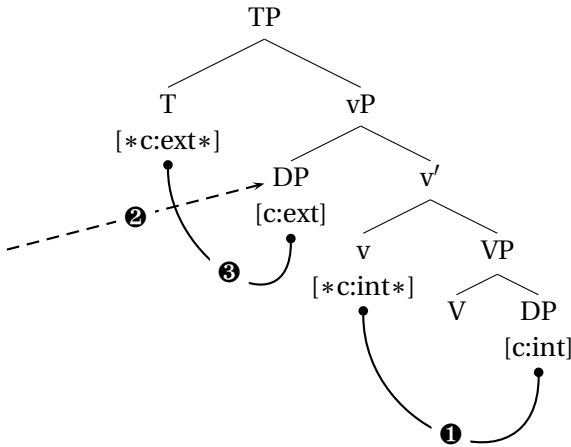
2.1 Ergativity and accusativity in Heck and Müller (2007); Müller (2009)

- Observation: v has a dual role in Minimalism. It triggers Agree (case assignment, ϕ -Agree) and Merge (of DP_{ext}); $v \{ [\bullet D \bullet], [*c:int*] \}$
- Assumption: Operations apply sequentially. Hence, there is an indeterminacy at the stage of the derivation where v is merged. v can trigger Merge or Agree next.

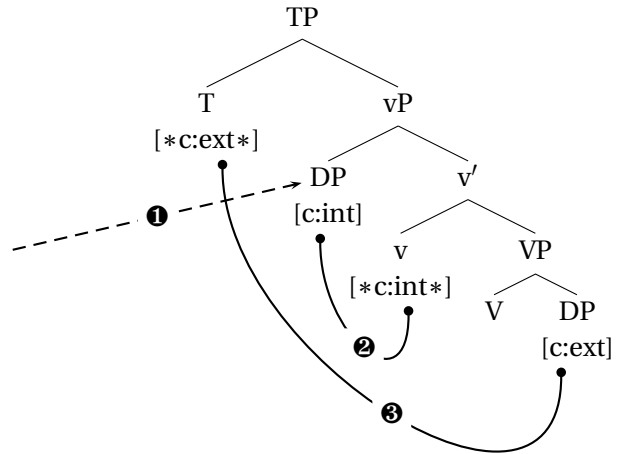


- The operation-inducing features on v are ordered (on a stack). The order is language-specific. The two possible orders result in morphological ergativity and accusativity, respectively.
- Assumptions:
 - T assigns (the morphologically unmarked) case [c:ext], v assigns (the morphologically marked) case [c:int].
 - Intransitive context: Only T assigns case.
 - Agree applies under m-command.
 - Spec-Head bias: Spec-head Agree is preferred to Agree under c-command.
- Consequence = **case reversal**:
 - Agree > Merge (accusativity): $DP_{int} - [c:int]$ from v; $DP_{ext} - [c:ext]$ from T
 - Merge > Agree (ergativity): $DP_{int} - [c:ext]$ from T, $DP_{ext} - [c:int]$ from v

(4) a. *Agree before Merge: accusative*



b. *Merge before Agree: ergative*

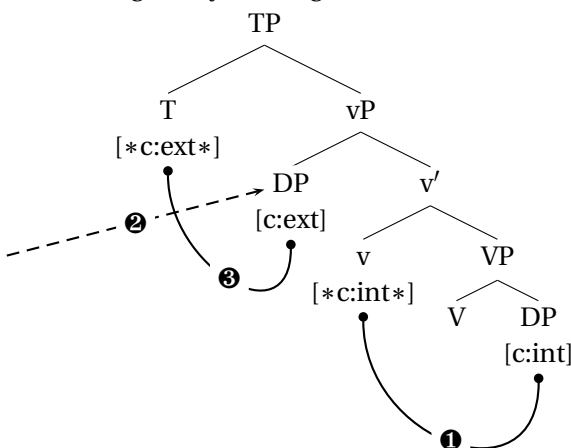


2.2 Passive and the order of operations on v

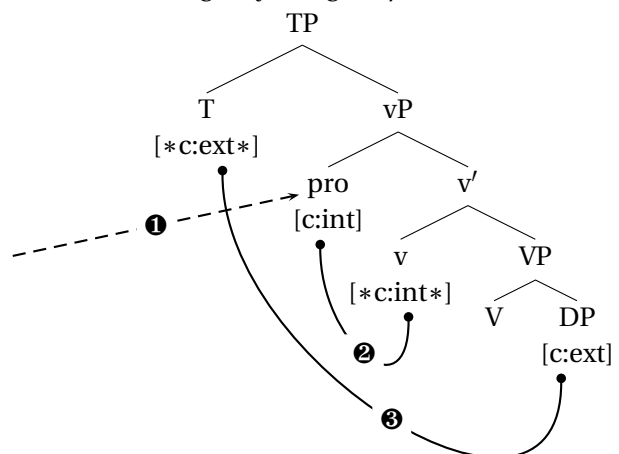
2.2.1 Passive

- active: basic accusative system as a consequence of Agree \succ Merge on v
- passive (à la BJR): reverse “ergative” order of operations on v Merge \succ Agree + *pro* merged as DP_{ext}
- Consequence = **case reversal in the passive**: DP_{int} is assigned the unmarked $[c:ext]$ by T, *pro* is assigned the marked $[c:int]$ (“accusative”) by v (but since DP_{ext} is not phonetically realized, we do not hear the accusative marker attached to it).
- Passive = ergativity with the special property that DP_{ext} must be a silent element.
- no lowering necessary, no counter-cyclic case assignment (if every XP is a cyclic node), no Earliness violation (all operations apply as soon as their trigger is on top of the stack)

(5) a. *Agree before Merge: active*



b. *Merge before Agree: passive*



2.2.2 Core properties

ARGUMENT REDUCTION:

No argument reduction; *pro* is the external argument.

CASE ABSORPTION:

There is no case absorption; *pro* is assigned the marked (accusative) case.

MORPHOLOGICAL REFLEX:

- The reflex signals that the basic order of operations on *v* is reversed.
- implementation: There is a lexically specified order of operations on *v* that can, however, be freely changed. This change leads to the insertion of a diacritic on *v* which is spelled out as the reflex on *v* (or on the head *v* moves to).
- Languages in which the passive involves an auxiliary: The verbal head that is occupied by the auxiliary selects a *vP* with this diacritic.

CASE-DRIVEN MOVEMENT:

DP_{int} must be assigned case by T. This can be achieved without movement via Agree or by movement to SpecTP (in languages that require a local relation for case assignment).

IS THE APPROACH LEXICAL OR SYNTACTIC?

Reordering on *v* can take place in the lexicon or in the syntax (immediately after *v* has triggered Merge with VP). In this respect the approach can be lexical or syntactic. But there is no argument reduction or case absorption in the lexicon. Case reversal happens in the syntax, as a result of (lexical) reordering.

2.2.3 Further issues

WHY MUST DP_{ext} BE *pro*?

Selectional requirements:

(i) Sternefeld (1995): There is a *vP*-external head (occupied by the auxiliary in passives) that attracts DP_{ext} . The head has the selectional requirement that the element in its Spec is *pro* (checked via Spec-head Agree).

(ii) selectional requirement of *v*: There is an operation that replaces the general Merge-trigger [$\bullet D \bullet$] on *v* by the more specific [$\bullet D_{pro} \bullet$]; it applies only in case the order of operations on *v* has been reversed (an information that is available through the presence of the diacritic).

by-PHRASES:

Sternefeld (1995): *by*-phrases bind a subject *pro*.

LEXICAL CASE:

Lexical case on DP_{int} is preserved under passivization, it is not replaced by nominative. Sternefeld (1995): This follows because lexical case is tied to a θ -role. Hence, it cannot be assigned to *pro*. Since it is assigned early to DP_{int} it cannot be overwritten by the nominative from T.

PASSIVE OF INTRANSITIVE VERBS:

Intransitives cannot be passivized because *v* only triggers a single operation (in addition to Merge with VP), so reversal of the operation-inducing features [$\bullet D \bullet$] and [$*c:int*$] is not possible (and hence no insertion of a diacritic and no *pro*-licensing).

IMPERSONAL PASSIVES, E.G. IN GERMAN:

(6) Hier wird getanzt
 here is danced

(i) Unergatives are hidden transitives (Levin 1983; Bobaljik 1993; Laka 1993; Hale and Keyser 1993; 2002; Nash 1996; Bittner and Hale 1996). Hence, *v* triggers two operations and reversal can take place. In the passive, both arguments are zero.

(ii) Unergative verbs are intransitive (no DP_{int} present) but *v* can assign accusative nevertheless. Hence, reversal of the operations on *v* can take place.

(Why don't we see the accusative in the active then? Under the active order Agree \succ Merge, the feature [$*c:int*$] of *v* is deleted by default (cf. Řezač 2004; Anand and Nevins 2005; Preminger 2011) because there is no argument to which it could be assigned at the point of the derivation where the case probe feature is on top of the stack. Under the passive order Merge \succ Agree, however, it will be assigned to *pro* in SpecvP. In the passive, the feature [$*c:ext*$] of T is deleted by default.)

PASSIVE OF UNACCUSATIVES, E.G. IN LITHUANIAN:

BJR's solution: In these languages, *pro* (= *-en*) can be generated as the internal argument that is assigned [$c:ext$] by T. But there can be no reordering of operation-inducing features on *v* and hence, no morphological reflex.

In the present account, unaccusatives would probably have to be hidden transitives.

TRANSITIVE PASSIVES (NO CASE ABSORPTION, E.G. IN UKRAINIAN):

BJR's / Baker's (1988) solution is not applicable: *pro* would have to incorporate into *v* (*before* *v* triggers Agree); consequently, the internal case would be assigned to DP_{int} . However, this involves lowering again. 'Upward-incorporation' of *pro* into T does not help because the internal case would then already be assigned to *pro*.

A different solution: [$*c:int*$] of *v* is able to enter into Multiple Agree (Hiraiwa 2001): It assigns the internal case to *pro* and DP_{int} . But this must be prohibited in the active (reference to the diacritic?).

RECIPIENT PASSIVE:

According to the logic of the present approach, dative would have to be assigned to *pro* by *v* as a result of reordering of operation-inducing features on *v*. However, dative is not assigned by *v* but by *V* or *Appl*.

Possible solution: The head that assigns dative case is moved to *v*. In this way, *v* inherits the dative assigning property from *V* / *Appl*. Given Merge \succ Agree [**c:dat**] \succ Agree [**c:int**], dative is assigned to *pro*.

2.2.4 Summary

- The approach can account for the core properties of the passive without lowering, counter-cyclic case assignment or dissociation of case features (cf. Collins 2005).
- Other properties / “marked” passives can be accounted for with the same additional assumptions that Baker et al. (1989); Sternefeld (1995) have to make as well.
- Problems: passive of unaccusatives, recipient passive
- Advantages: compatible with core assumptions about structure-building; the core property (case reversal as a result of the reversal of operation-inducing features) has been developed for a different empirical domain (ergativity vs. accusativity)

2.3 Antipassive

The basic logic can also be applied to the antipassive in morphol. ergative languages:

- active: basic ergative system as a consequence of Merge \succ Agree on *v*
- antipassive (à la BJR): reverse “accusative” order of operations on *v* Agree \succ Merge (resulting in a diacritic on *v*) + *pro* merged as DP_{int}^1
- Consequence = case reversal: *pro* is assigned the marked case by *v*, DP_{ext} is assigned the unmarked “absolutive” case by T.

2.4 Language change

- Literature on language change: In originally accusative languages, ergativity developed from the passive. Reasoning: In the passive, it is the external argument which receives a special marking (the argument is realized in a PP), and the internal argument is in the default form, just as in an ergative system. This marking strategy was then grammaticalized.

¹Note: It must be the element that ends up with the marked internal case under the non-basic, derived order of operations that appears as *pro*. What would happen if the other argument could be zero? Basic accusative pattern: antipassive-like construction (only DP_{ext} surfaces) with the marked case on the sole argument; basic ergative pattern: passive-like construction (only DP_{int} surfaces) with the marked case on the sole argument. Do these constructions exist??

- Assume that this is correct. In the present system, this is not surprising because passive and ergativity have something in common: Both are the result of the order Merge > Agree on v.
- Change from accusativity to ergativity: The languages simply lost the condition that DP_{ext} must be *pro*.
- Change from ergativity to accusativity via the antipassive: antipassive and accusativity are the result of Agree > Merge on v.

References

- Anand, Pranav and Andrew Nevins (2005): The locus of ergative case assignment: Evidence from scope. *In*: A. Johns, D. Massam and J. Ndayiragije, eds, *Ergativity: Emerging issues*. Kluwer, Dordrecht, pp. 3–27.
- Assmann, Anke, Doreen Georgi, Fabian Heck, Gereon Müller and Philipp Weisser (2012): Ergatives Move Too Early: On an Instance of Opacity in Syntax. Ms., Universität Leipzig, available at LingBuzz: [lingbuzz/001646](http://lingbuzz.org/001646). To appear in *Syntax*.
- Baker, Mark C. (1988): *Incorporation: A Theory of Grammatical Function Changing*. University of Chicago Press Chicago.
- Baker, Mark, Kyle Johnson and Ian Roberts (1989): ‘Passive Arguments Raised’, *Linguistic Inquiry* **20**(2), 219–251.
- Bittner, Maria and Ken Hale (1996): ‘The Structural Determination of Case and Agreement’, *Linguistic Inquiry* **27**, 1–68.
- Bobaljik, Jonathan (1993): Ergativity and Ergative Unergatives. *In*: C. Phillips, ed., *Papers on Case and Agreement II*. MITWPL, Cambridge, Mass., pp. 45–88.
- Collins, Chris (2005): ‘A Smuggling Approach to the Passive in English’, *Syntax* **8**(2), 81–120.
- Georgi, Doreen (2014): Opaque Interactions of Merge and Agree. On the Nature and Order of Elementary Operations. PhD thesis, Leipzig University.
- Hale, Ken and Samuel Jay Keyser (1993): On Argument Structure and the Lexical Expression of Syntactic Relations. *In*: K. Hale and S. Keyser, eds, *The View from Building 20*. MIT Press, Cambridge, Mass., pp. 53–109.
- Hale, Ken and Samuel Jay Keyser (2002): *Prolegomenon to a Theory of Argument Structure*. MIT Press, Cambridge, Mass.
- Heck, Fabian and Gereon Müller (2007): Extremely Local Optimization. *In*: E. Brainbridge and B. Agbayani, eds, *Proceedings of the 26th WECOL*. California State University, Fresno, pp. 170–183.
- Hiraiwa, Ken (2001): Multiple Agree and the Defective Intervention Constraint in Japanese. *In*: O. Matushansky, A. Costa, J. Martin-Gonzalez, L. Nathan and A. Szczegielniak, eds, *Proceedings of the HUMIT 2000. Vol. 40 of MITWPL*. MIT Press, Cambridge, Mass., pp. 67–80.
- Lahne, Antje (2008): Excluding SVO in Ergative Languages: A New View on Mahajan’s Generalisation. *In*: F. Heck, G. Müller and J. Trommer, eds, *Varieties of Competition*. Universität Leipzig, Institut für Linguistik, pp. 65–80. Vol. 87 of *Linguistische Arbeitsberichte*.
- Laka, Itziar (1993): Unergatives that Assign Ergative, Unaccusatives that Assign Accusative. *In*: J. Bobaljik and C. Phillips, eds, *Papers on Case and Agreement I*. MITWPL, Cambridge, Mass., pp. 149–172.
- Levin, Beth (1983): On the Nature of Ergativity. PhD thesis, MIT, Cambridge, Mass.
- Müller, Gereon (2009): Ergativity, Accusativity, and the Order of Merge and Agree. *In*: K. Grohmann, ed., *Explorations of Phase Theory. Features and Arguments*. Mouton de Gruyter, Berlin, pp. 269–308.
- Nash, Léa (1996): The Internal Ergative Subject Hypothesis. *In*: K. Kusumoto, ed., *Proceedings of NELS 26*. GLSA, Amherst, Mass., pp. 195–209.
- Preminger, Omer (2011): Agreement as a Fallible Operation. PhD thesis, MIT, Cambridge, Mass.
- Řežač, Milan (2004): Elements of Cyclic Agree: Agree and Merge. PhD thesis, University of Toronto.
- Sternefeld, Wolfgang (1995): Voice Phrases and Their Specifiers. Ms., Universität Tübingen (SfS-Report 05-95).