

# Syntax II: [A] Case 2

## Minimalistische Ansätze

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Three minimalist analyses:

- 1 Bobaljik (1993): 1 = ERG, NOM, 2 = ACC, ABS
- 2 Murasugi (1992): 1 = NOM,ABS, 2 = ACC,ERG
- 3 Bittner & Hale (1996): 1 = ERG, 2 = ACC, 3 = NOM,ABS

# Ergativity in Yup'ik

(1) **Yup'ik** (canonical ergative pattern):

- a. Angute-m qusngiq ner-aa  
 man-ERG reindeer-ABS eat-+TRANS.3s/3s  
 'The man is eating the reindeer.'
- b. Qusngiq ner'-uq  
 reindeer-ABS eta--TRANS.3s  
 'The reindeer is eating.'

Focus of Bobaljik (1993):

The three basic argument encoding patterns (ergative, accusative, active); **not**: argument-type based, clause-type based, aspect/tense based splits.

# Bobaljik (1993): Basic Assumptions

The analysis follows Levin & Massam (1985), and particularly Chomsky (1993): The cases of primary arguments are determined by two different syntactic heads  $K_1$ ,  $K_2$  (e.g.:  $K_1 = Agr_s$ ,  $K_2 = Agr_o$ ). The two language types are identical with respect to  $V_t$  contexts; in  $V_i$  contexts, there are differences. Only  $K_2$  is “activated” in ergative languages, and only  $K_1$  is “activated” in accusative languages.

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The **morphological marking** problem (Chomsky (1993)):  
 “The “active” element typically assigns a less-marked Case to its Spec.”  
 (Chomsky (1993))

# The Obligatory Case Parameter

- (2) **Obligatory Case:**  
Case X is obligatorily assigned/checked.
- (3) **Obligatory Case Parameter (OCP):**
  - a. In nominative/accusative languages, CASE X is nominative (= **ERG**).
  - b. In ergative/absolutive languages, CASE X is absolutive (= **ACC**).

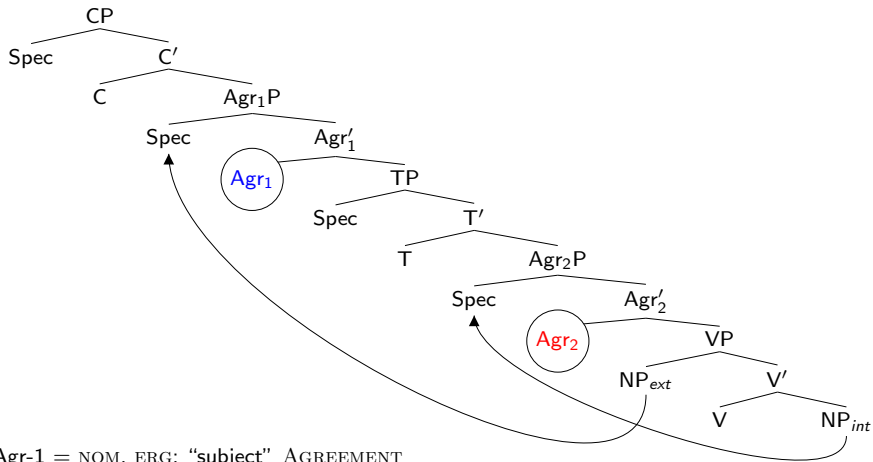
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“Presumably, the observed morphological tendency towards null morphology for these Cases is a reflection of this obligatory status.” (Bobaljik (1993, 51))

# Clause Structure

(4) **Clause Structure** (assumed by Bobaljik (1993)):



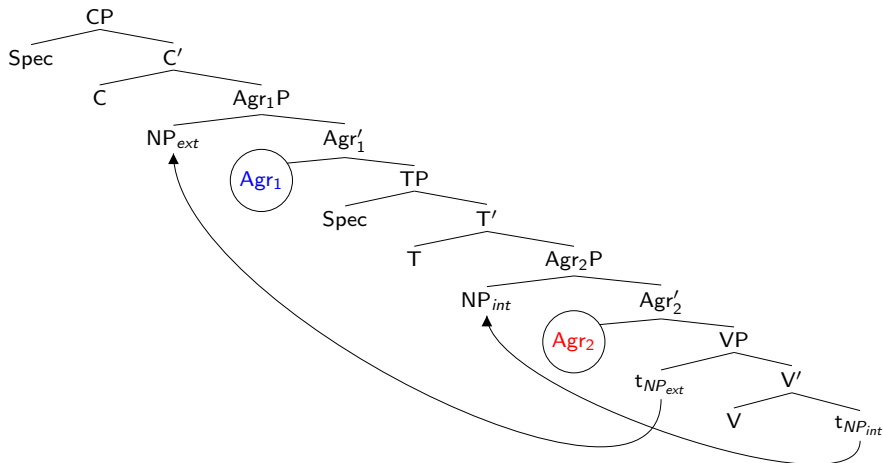
Agr-1 = NOM, ERG; "subject" AGREEMENT

Agr-2 = ACC, ABS; "object" AGREEMENT



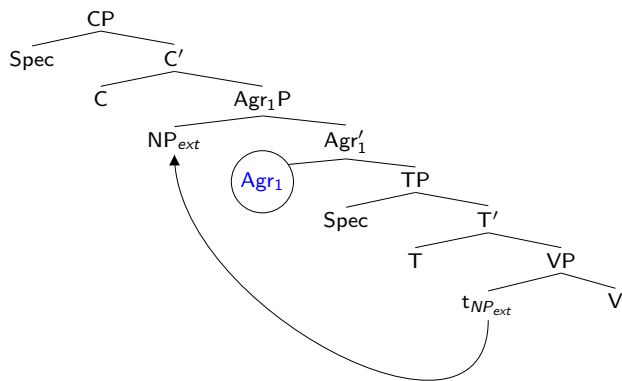
# Transitive Clauses: Ergative and Accusative Patterns

(5)  $NP_{ext}-V_t$  and  $NP_{int}-V_t$  move to case positions in transitive clauses:



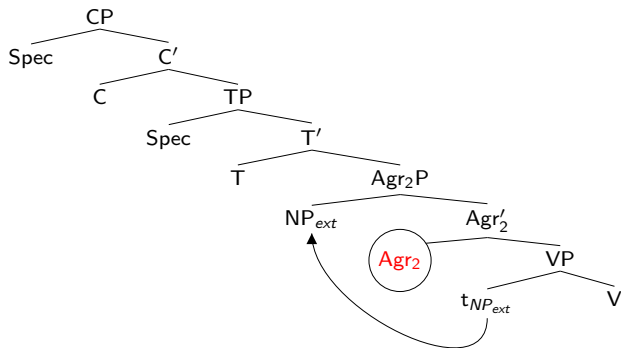
# Intransitive Clauses: Accusative Patterns

- (6)  $NP_{ext}\text{-}V_i$  (or  $NP_{int}\text{-}V_i$ ) moves to  $SpecAgr_1$  in transitive causes:



# Intransitive Clauses: Ergative Patterns

(7)  $NP_{ext}\text{-}V_i$  (or  $NP_{int}\text{-}V_i$ ) moves to  $SpecAgr_2$  in transitive causes:



# Argument Realization

Prediction:

Unless further assumptions are made, syntactic ergativity is not expected (argument realization is uniform).

(8) *Reflexivization*:

- a. Mary<sub>1</sub> saw herself<sub>1</sub>/<sub>\*2</sub> (in the mirror)
- b. \*Herself<sub>1</sub> saw Mary<sub>1</sub> (in the mirror)

(9) *Principles A and B of Chomsky's (1981) Binding Theory*:

- a. A: An anaphor must be A-bound in its governing category.
- b. B: A pronoun must be A-free in its governing category.

(10) *Binding*:

$\alpha$  A-binds  $\beta$  iff (a) and (b) hold:

- a.  $\alpha$  and  $\beta$  are coindexed.
- b.  $\alpha$  c-commands  $\beta$ .

Note: **Reciprocals** are anaphors in the sense of (9).

# Basque Reciprocals

The evidence shows that the external argument binds the internal argument in transitive contexts, not vice versa.

(11) **Reciprocals in Basque:**

- a. mutil-ek elkar ikusi dute  
 boys-ERG each other-ABS see AUX.3sA/3pE  
 'The boys saw each other.'
- b. \*elkar-rek mutil-ak ikusi ditu(zte)  
 each other-ERG boys-ABS see AUX.3pA/3sE(3pE)  
 'The boys saw each other.'

# Abkhaz Reflexive Agreement

Abkhaz (North East Caucasian; Georgia) ensures argument encoding via **head marking**. Still, there is evidence that the  $NP_{ext}$  asymmetrically c-commands  $NP_{int}$ .

(12) Reflexive Agreement in Abkhaz:

- a. l-xe                    y-l-ba-yt'  
 3sf-head(n) 3snA-3sfE-see-PRES  
 'She sees herself.'
- b. s-xe        y-z-ba-yt'  
 1s-head 3snA-1sE-see-PRES  
 'I see myself.'

# Inuit Reflexive Possessives

## (13) *Inuit Reflexive Possessives:*

- a. Piita-up anaana-**ni** nagligi-ja~a  
 Piita-ERG mother-POSS.3s/refl/ABS love-3s/3s  
 'Piita loves his mother.' (his = Piita)
- b. Piita-up anaana-~**a** nagligi-ja~a  
 Piita-ERG mother-POSS.3s/ABS love-3s/3s  
 'Piita loves his mother.' (\*his = Piita)

## (14) *Impossible anaphoric binding into external arguments:*

- a. \*Anaana-**mi** Piita nagligi-ja~a  
 mother.3s/REFL/ERG Piita-ABS love-3s/3s  
 '\*His<sub>1</sub> mother loves Piita<sub>1</sub>.'
- b. Anaana-~**ata** Piita nagligi-ja~a  
 mother.3s/ERG Piita-ABS love-3s/3s  
 'His<sub>1/2</sub> mother loves Piita<sub>1</sub>.'

This is exactly the same pattern as in the accusative language Russian.

# Russian Reflexive Possessives

(15) *Russian Reflexive Possessives:*

- a. Ol'ga ljubit svoju mamu  
 Ol'ga-NOM loves her.REFL-ACC mother-ACC  
 'Ol'ga loves her mother.' (her = Ol'ga)
- b. Ol'ga ljubit eë mamu  
 Ol'ga-NOM loves her-ACC mother-ACC  
 'Ol'ga loves her mother.' (\*her = Ol'ga)

(16) *Impossible anaphoric binding into external arguments:*

- a. \*Svoja mama ljubit Ol'gu  
 her.REFL-NOM mother-NOM loves Ol'ga-ACC  
 '\*Her<sub>1</sub> mother loves Ol'ga.'
- b. Eë mama ljubit Ol'gu  
 her-NOM mother-NOM loves Ol'ga-ACC  
 'Her<sub>1/2</sub> mother loves Ol'ga<sub>1</sub>.'



# Weak Crossover

Weak crossover is a further diagnostic to determine argument hierarchies in syntax (via asymmetric c-command).

- (17) **Weak crossover in English:**
- a. Who<sub>1</sub> t<sub>1</sub> loves his<sub>1</sub> mother ?
  - b. \*Who<sub>2</sub> did his<sub>2</sub> mother love t<sub>2</sub> ?

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The same effect occurs in the ergative language Nisgha.

(18) **Weak crossover in Nisgha** (Tsimshian, Western Canada):

- a. næt      ʔæn-sip'ən-s nɔx<sup>w</sup>-t  
 who-3E REL-love-DM mother-3s  
 'Who<sub>1</sub> loves his<sub>1</sub> mother?'
- b. næ-gat ɬ ti-sip'ən-s nɔx<sup>w</sup>-t  
 who-one ND FOC-love-DM mother-3s  
 '\*Who<sub>1</sub> does his<sub>1</sub> mother love?'  
 'Who<sub>1</sub> does his<sub>2</sub> mother love?'

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A consequence of the analysis:

Ergative case can only be assigned in **transitive** environments. Therefore, active patterns (as in Basque, Guaraní, Hindi, Georgian) should not exist.

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Bobaljik's (1993) assumption (also see Laka (1993), Nash (1996), Bittner & Hale (1996), and many others):

**Unergatives are transitive!**

In languages with an active ergative argument encoding pattern, what looks like an intransitive verb is in fact a transitive verb with a hidden object (which can, e.g., be overtly realized as a **cognate object** ('dream a dream')); sometimes the presence of the internal argument is indicated by overt agreement morphology (Basque).

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This is in line with certain theories of argument structure, e.g., the approach taken in Hale & Keyser (2002).

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**Question:** What about pure ergative encoding patterns, as in Yup'ik, Archi, Sierra Popoluca? In these languages, the internal argument of the relevant verbs is **incorporated into V**; hence, V becomes intransitive.

# Active Argument Encoding Patterns 2

A **minimal pair**: Yup'ik vs. Basque. (Both languages are pro-drop languages; from the absence of an overt argument, one cannot tell whether it is present in syntax or not.)

## (19) Yup'ik:

a. John-am ner-aa  
 John-ERG eat-3s/3s  
 'John ate it.'

not: 'John ate.'

b. John ner'-uq  
 John-ABS eat-3s  
 'John ate.'

not: 'John ate it.'

## (20) Basque:

a. Jon-ek jaten du  
 Jon-ERG eat AUX  
 'Jon ate it.'

b. Jon-ek jaten du  
 Jon-ERG eat AUX  
 'Jon ate.'

# Potential Problems

- 1 The correlation with morphological marking (ERG,ACC vs. NOM,ABS) is not straightforward.
- 2 Does the approach to active patterns based on Basque generalize to all languages that instantiate this pattern?
- 3 How can person-based, aspect-based, or clause-type based split ergativity be integrated into the analysis?
- 4 What about the well-established cases of syntactic ergativity?
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- 4 What about the well-established cases of syntactic ergativity?
- 5 The ergative/accusative parameter is closely tied to **movement** of NP arguments.
- 6 It is likely that NPs can check (or assign, or value) case without undergoing movement; see the concept of **Agree** in Chomsky (2001, 2005).



# Murasugi (1992): Basic Assumptions 1

- The cases of primary arguments are determined by two different syntactic heads  $K_1$ ,  $K_2$  (e.g.:  $K_1 = Agr_s$ ,  $K_2 = Agr_o$ ). In  $V_i$  contexts, the two language types are identical (only  $K_1$  can determine case). In  $V_t$  contexts,  $K_2$  is “strong” in ergative languages; and  $K_1$  is “strong” in accusative languages.

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Assumption: Strong K attracts the highest NP argument.

Consequence: Embedded vs. nesting paths in ergative vs. accusative languages.

- 1 ERG, ACC  $\rightarrow K_2$
- 2 NOM, ABS  $\rightarrow K_1$

(Murasugi (1992), Campana (1992), Jelinek (1993))

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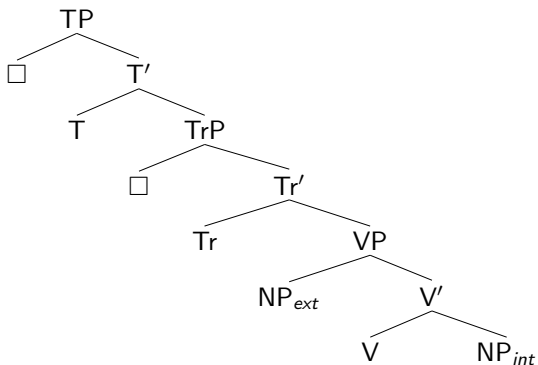
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- **ergative = accusative**, **nominative = absolutive**.
- The distinction between crossing paths and nesting paths is crucial.

# Clause Structure

(21)





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Difference between TrP and  $vP$ :

- Tr checks/assigns **structural case** (so does  $v$ ).
- Tr does not introduce an **external argument**  $NP_{ext}$  (in contrast to  $v$ ).

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## Accusative pattern:

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## Markedness:

- 1 The case that is checked by T is an unmarked case (morphologically less marked, or not marked at all; citation form).
- 2 The case that is checked by Tr is a marked case (morphologically more marked, not a citation form)



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- Syntactic movement is triggered by **strong features**. LF movement is triggered by **weak features**.

# Further Prerequisites

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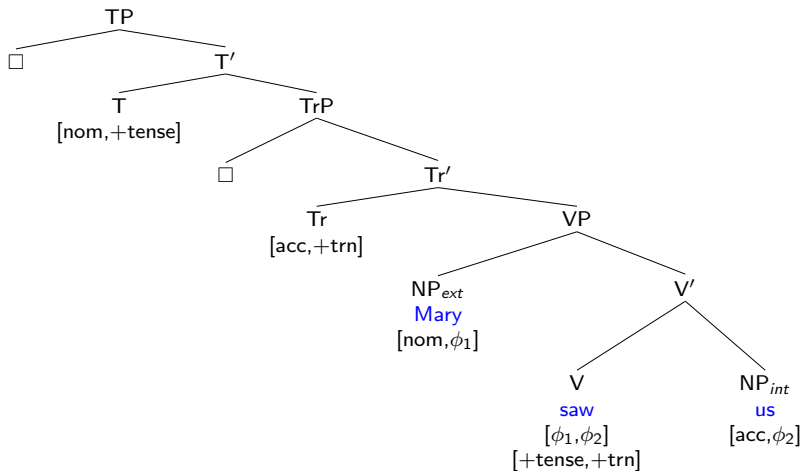
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- 1 Tr: [+trans]  $\rightarrow$  V takes two primary arguments.
- 2 Tr: [-trans]  $\rightarrow$  V takes one primary argument.

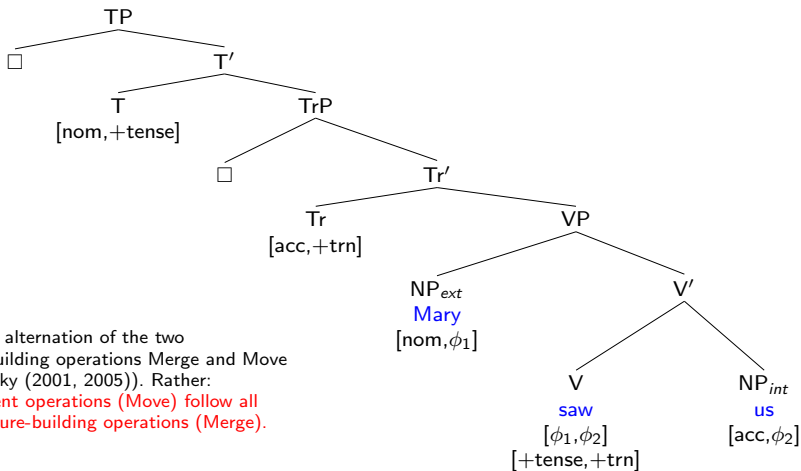
## Example

(22)



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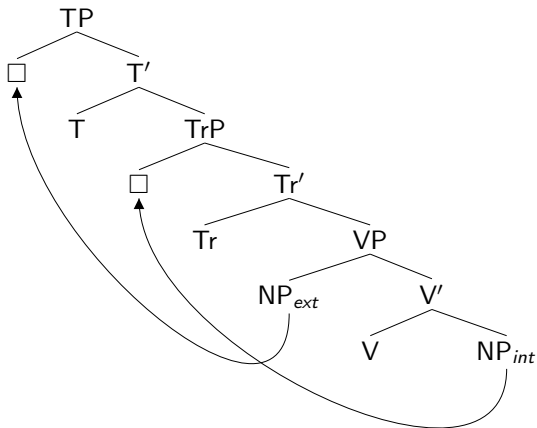
**Note:**

There is no alternation of the two structure-building operations Merge and Move yet (Chomsky (2001, 2005)). Rather:

**All movement operations (Move) follow all basic structure-building operations (Merge).**

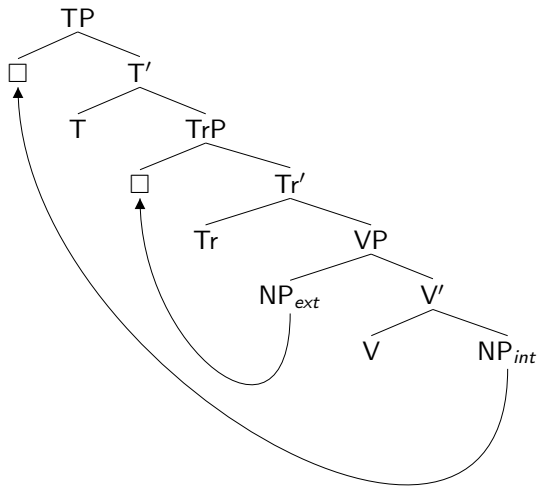
## Accusative pattern: crossing paths

(23)



## Ergative pattern: nesting paths

(24)





# The System

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At all levels of the derivation, a **probe** attracts the closest available NP.

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At all levels of the derivation, a **probe** attracts the closest available NP.
  - b. **Minimal Probe** ('Closest Featured Target'):  
At all levels of the derivation, a **goal** NP must be moved to the closest available probe.

# The System

- (25) **The ergative/accusative parameter:**
- The **case feature of T** is strong in an accusative language.
  - The **case feature of Tr** is strong in an ergative language.
- (26) **Economy principles** (moderately updated terminology):
- Minimal Goal** ('Closest Available Source'):  
At all levels of the derivation, a **probe** attracts the closest available NP.
  - Minimal Probe** ('Closest Featured Target'):  
At all levels of the derivation, a **goal** NP must be moved to the closest available probe.
  - Procrastinate**:  
A syntactic operation applies as late as possible.  
(“Covert (LF) movement is cheaper than overt movement.”)

Note: “goal” here stands for the target of the operation, it does not refer to the  $\Theta$ -role of the same name.

# Consequences 1

Assumptions about case-driven movement of NPs:

- At a given level of representation, a goal NP has to be the NP that is closest to the minimal probe **before any movement takes place** in order to be eligible for movement.
- A goal NP has to be available for movement; i.e., it must not have checked its case features yet.

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- A goal NP has to be available for movement; i.e., it must not have checked its case features yet.

Consequence:

- Only one NP can undergo case-driven movement in overt syntax: NP<sub>ext</sub> ('subject').
- Case-driven movement of NP<sub>int</sub> ('object') takes place at LF.

## Consequences 2

“Suppose that both T and Tr have strong Case features [...], requiring movement to their Specs at S-structure [...] The closest NP to both T and Tr is [...] the subject. However, this NP cannot satisfy the feature requirements of both functional heads simultaneously. Therefore, unless something else is inserted in SpecT to satisfy T, the derivation will crash.” (p.25-26)

“At any one level, then, there will be neither Crossing nor Nested Paths (i.e., the result of both subject and object raising), but only independent movements of subjects to functional specs.”

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(It is not so clear whether this assumption is actually needed in the present context.)

Note:

Movement of an internal argument  $NP_{int}$  at LF may violate the **Strict Cycle Condition** (see Chomsky (1973)) (or the **Extension Condition** of Chomsky (1993)) verletzen.

# Transitive Clauses, Accusative Pattern

- (27) a. Base structure before movement:  
 $T_{[+tense],[nom]} Tr_{[+trn,acc]} [ \text{John saw Mary} ]$

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  - d. **Covert LF movement:**  
 $\text{John}_1 T_{[+tense],[nom]} \text{Mary}_2 Tr_{[+trn,acc]} [ t_1 \text{ saw } t_2 ]$



# Transitive Clauses, Ergative Pattern

(28) **Inuktitut** (Inuit, SOV):

Jaani<sub>1</sub>-up [ t<sub>1</sub> tuku-Ø malik-p-a-a ] Tr<sub>[+trn,erg]</sub>  
 John-ERG Karibou-NOM follow-Ind-Tr-3sE.3sN

'John followed the Karibou.'

(29) **Mam** (Maya, VSO):

ma Ø-jaw t-tx'ee?ma-n<sub>1</sub> Cheep<sub>2</sub> Tr<sub>[+trn,erg]</sub> [ t<sub>2</sub> t<sub>1</sub> tzee? ]  
 REC 3sN-DIR 3sE-cut-DS José tree

'José cut the tree.'

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# Intransitive Clauses

## Prediction:

- There is movement of the sole NP argument (in need of case checking) to SpecT **in both language types**. The reason for this uniform behaviour is that Tr does not have a case feature in this context.
- In accusative systems, this movement operation takes place overtly. (Reason: the case feature of T is strong.)
- In ergative systems, this movement operation takes place covertly (at LF). (Reason: The case feature of T is weak.)  
(Note: Murasugi acknowledges that there might be a problem lurking here; see her footnote 21, p.40.)

# Consequences: Chomsky/Bobaljik vs. Murasugi

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Chomsky (1993), Bobaljik (1993):

- 1 Transitive constructions are identical in ergative and accusative argument encoding systems.
- 2 Intransitive constructions are different in ergative and accusative argument encoding systems.

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'John went.'

(32) Mam:

ma  $\emptyset$ -beet<sub>1</sub>- $T_{[+tense,nom]}$  [ xuʔj  $t_1$  ]  
 REC 3sN-go woman

'The woman went.'

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Assumption:  $NP_{int}$  is merged in  $CompV$ .

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- b. the man<sub>1</sub>  $T_{[+tense, nom]}$  [ t<sub>1</sub> arrived ]

(34) Jacaltec (Maya):

- a. x-Ø-'ich-i                      munil  
ASP-3sN-begin-INTR work  
'Work began.'
- b. ch-Ø-aw-ich-e                      munil  
ASP-3sN-2sE-begin-Tr work  
'You begin the work.'

# Active Patterns

Note:  
As with Bobaljik (1993), ergative case for truly intransitive verbs is unexpected.  
The solution of this problem will have to be similar.

# Potential Problems

- 1 The ergative/accusative parameter is closely tied to **movement** of NP arguments.

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- 3 In contrast to Move, Agree does not depend on **strength** of features; cf. **uninterpretability**, probe features.
- 4 Is it possible to come up with a similar model of parametrization under an Agree-based (rather than Move-based) approach?
- 5 Probably not: A violation of the **Strict Cycle Condition** will otherwise invariably occur in accusative languages.
- 6 Murasugi's analysis can avoid this general problem only by assuming that case is checked on two separate levels of representation (S-structure, LF). If all case checking takes place on a single level of representation, there is a problem (compare the concept of **multiple spell-out of phases**).

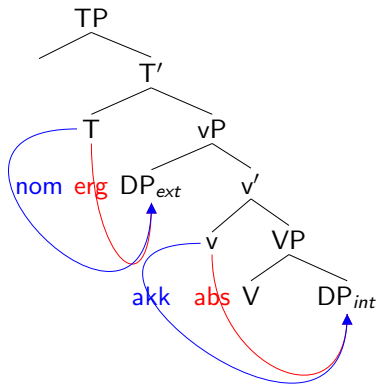
# Ziel

Updates der zwei zentralen minimalistischen Analysetypen für Argumentkodierungssysteme (Bobaljic-Typ-Analysen und Murasugi-Typ-Analysen) in einem modernen System der Satzstruktur, das ohne Agr-Projektionen und mit den funktionalen Kategorien T und v arbeitet, und das Kasuszuweisung nicht an (abstrakte/koverte oder sichtbare/overte) Bewegung koppelt, sondern durch Abgleich erfasst.

Im Folgenden sind **ergativische** Kodierungsmuster immer **rot** dargestellt, **akkusativische** Kodierungsmuster dagegen **blau**.

## Bobaljik-Typ-Analysen: Transitive Kontexte

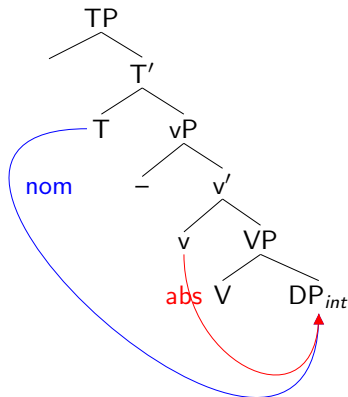
(35) Erg=Nom durch T, Abs=Akk durch v



- Ergative und akkusative Kodierungssysteme sind in transitiven Kontexten identisch.

# Bobaljik-Typ-Analysen: Intransitive unakkusativische Kontexte

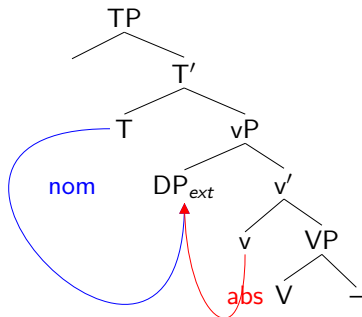
(36) Nom durch T, Abs durch v



- Ergativische und akkusativische Kodierungssysteme sind in intransitiven Kontexten unterschiedlich.

# Bobaljik-Typ-Analysen: Intransitive unergative Kontexte

(37) Nom durch T, Abs durch v



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# Mögliche Annahmen für Bobaljik-Typ-Analysen

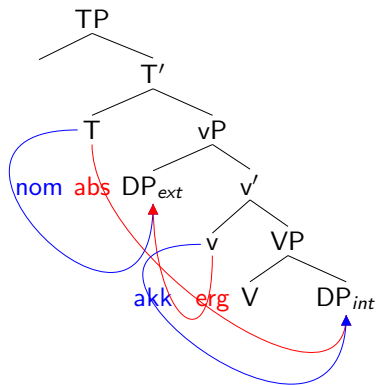
Annahmen, die (1)-(3) ableiten:

- Kasuszuweisung ist eine Instanz von Abgleich (Agree).
- Abgleich erfolgt unter M-Kommando.  
( $\alpha$  m-kommandiert  $\beta$ , wenn keine Dominanzrelation vorliegt und die nächste maximale Projektion, die  $\alpha$  dominiert, auch  $\beta$  dominiert.)
- Es gilt mit übereinzelsprachlicher Invarianz: Abgleich in Komplementdomäne  
» Abgleich in Spezifikatordomäne.
- Parameter: In intransitiven Kontexten weist nur ein Kopf aus  $\{T, v\}$  Kasus zu.  
(Dies unterscheidet Ergativ- von Akkusativsystemen.)
- Der Kasus des jeweils allein übrig bleibenden Kasuszuweisers in intransitiven Kontexten ist generell morphologisch weniger stark markiert.



## Murasugi-Typ-Analysen: Transitive Kontexte

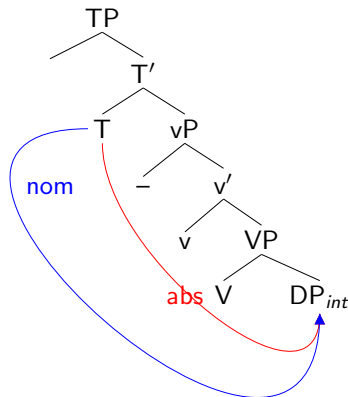
(38) Abs=Nom durch T, Erg=Akk durch v



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# Murasugi-Typ-Analysen: Intransitive unakkusativische Kontexte

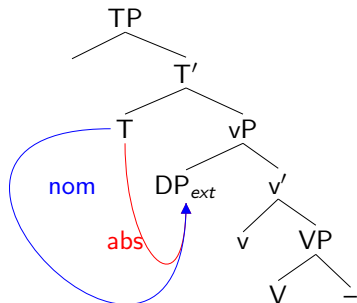
(39) Nom=Abs durch T



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# Murasugi-Typ-Analysen: Intransitive unergative Kontexte

(40) Nom=Abs durch T



- Ergative und akkusative Kodierungssysteme sind in intransitiven Kontexten identisch.

# Mögliche Annahmen für Murasugi-Typ-Analysen

Annahmen, die (4)-(6) ableiten:

- Kasuszuweisung ist eine Instanz von Abgleich (Agree).
- Abgleich erfolgt unter M-Kommando.  
( $\alpha$  m-kommandiert  $\beta$ , wenn keine Dominanzrelation vorliegt und die nächste maximale Projektion, die  $\alpha$  dominiert, auch  $\beta$  dominiert.)
- Parameter: Abgleich in Komplementdomäne  $\gg$  Abgleich in Spezifikatordomäne (Akkusativsystem) **oder** Abgleich in Spezifikatordomäne  $\gg$  Abgleich in Komplementdomäne (Ergativsystem)  
(Dies unterscheidet Ergativ- von Akkusativsystemen.)
- Es gilt mit übereinzelsprachlicher Invarianz: In intransitiven Kontexten weist nur T Kasus zu; v ist inhärent an transitive Kontexte gebunden (vgl. Burzios Generalisierung) und tut das nicht mehr.
- Der Kasus von T ist generell morphologisch weniger stark markiert als der Kasus von v.

# Bittner & Hale (1996): Background

- The cases of primary arguments are determined by two different syntactic heads  $K_1$ ,  $K_2$  ( $K_1 = I$ ,  $K_2 = V$ ). In ergative languages,  $K_1$  determines ergative case, and  $K_2$  does not determine a structural case. In accusative languages,  $K_1$  does not determine a structural case, and  $K_2$  determines accusative case. The remaining (or single) argument receives C(omp)-related **default case** ('K-Filter').
  - 1 ERG  $\rightarrow K_1$
  - 2 ACC  $\rightarrow K_2$
  - 3 NOM, ABS  $\rightarrow$  Default

(Bittner & Hale (1996))

# Bittner & Hale (1996): Basic Assumptions

Nominal arguments can be **KPs** ('Case phrases'), or DPs, or even bare NPs:

(41)  $[_{KP} K [_{DP} D [_{NP} N \dots ]]]$

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Clause Structure:

The external argument is merged by adjunction to VP; this produces a **small clause**. (Order is irrelevant here.)

(42)  $[_{CP} C [_{IP} I [_{VP} \{KP/DP\}_{ext} [_{VP} V \{KP/DP\}_{int} ]]]]$

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(42)  $[_{CP} C [_{IP} I [_{VP} \{KP/DP\}_{ext} [_{VP} V \{KP/DP\}_{int} ]]]]$

- In ergative systems, I Case-binds  $KP_{ext}$ : ERG.
- In accusative systems, V Case-binds  $KP_{int}$ : ACC.
- The remaining argument in a transitive context is a DP (rather than KP), which gets default Case from C.



# Definitions 1

- (43) **K Filter** (NOM):  
 An argument chain headed by a K-less nominal (DP or NP) contains a position that is c-commanded and governed by K or C, and does not contain any Case-bound position.
- (44) **Oblique Case Realizations** (DAT, INS, ABL; for Inuit):  
 If  $\alpha$  Case-binds an overt empty-headed KP  $\beta$  and does not meet the conditions of (45-ab), then the empty K of  $\beta$  is realized as
- DAT, if  $\alpha$  is V and is not c-commanded by  $\beta$ .
  - INS, if  $\alpha$  is V and is c-commanded by  $\beta$ .
  - ABL, if  $\alpha$  is N and is not c-commanded by  $\beta$ .
- (45) **Direct Case Realizations** (ERG, ACC):  
 If  $\alpha$  **Case-binds** an overt empty-headed KP  $\beta$ , then the empty K of  $\beta$  is realized as
- ERG, if  $\alpha$  is I;
  - ACC, if  $\alpha$  is V and has an adjoined D.

# Definitions 2

## (46) Case-Binding:

Let  $\alpha$  be a head that **delimits a clause**, and let  $\beta$  be an argument. Then  $\alpha$  Case-binds  $\beta$ , and  $\beta$ 's head, iff

- a.  $\alpha$  **locally c-commands**  $\beta$ .
- b.  $\alpha$  **governs** a **Case competitor** for  $\beta$ .

## (47) Delimiting heads:

A small clause is delimited by its lexical head, from below, and by any governing functional head, from above.

## (48) Local C-Command:

Let  $\alpha$  be a head that delimits a small clause, and let  $\beta$  be an argument. Then  $\alpha$  locally c-commands  $\beta$ , iff:

- a.  $\alpha$  c-commands  $\beta$ , and
- b. no other argument, or head that delimits a small clause, both c-commands  $\beta$  and is c-commanded by  $\alpha$ .

## (49) Case Competitor:

$\gamma$  is a Case competitor for an argument  $\beta$ , iff  $\gamma$  is a K-less nominal that is (in a chain with) a **coargument** of  $\beta$ , or a **pseudo coargument**.

# Definitions 3

- (50) **Coargument:**  
 Let  $\beta$  and  $\gamma$  be arguments. Then  $\gamma$  is a coargument of  $\beta$ , iff (a) and (b) hold:
- Locality:** Some head that governs or **A-projects**  $\gamma$  also governs or A-projects  $\beta$ .
  - Independence:**  $\gamma$  excludes  $\beta$  and is not in a chain with  $\beta$ .
- (51) **Government:**  
 $\alpha$  governs  $\beta$ , iff:
- $\alpha$  **m-commands**  $\beta$ .
  - There is no **barrier** between  $\alpha$  and  $\beta$ .
- (52) **M-Command:**  
 $\alpha$  m-commands  $\beta$ , iff  $\alpha$  does not **include**  $\beta$ , and every maximal projection that includes  $\alpha$  also includes  $\beta$ .
- (53) **C-Command:**  
 $\alpha$  c-commands  $\beta$ , iff  $\alpha$  **excludes**  $\beta$ , every projection that includes  $\alpha$  also includes  $\beta$ , and at most one projection segment dominates  $\alpha$  but not  $\beta$ .
- (54) **Barrier:**  
 A barrier between  $\alpha$  and  $\beta$  is an XP,  $\gamma$ , with the  $X^0$  head,  $\gamma^0$ , such that
- $\gamma$  excludes  $\alpha$ , includes  $\beta$ , and is not an extended projection of  $\beta$ ;
  - $\gamma^0$  c-commands  $\beta$ , and neither  $\alpha$  nor any adjunct of  $\alpha$  binds  $\gamma^0$ .

# Deriving an Ergative/Absolutive Pattern in Transitive Contexts 1

(55) [CP C [IP I [VP Arg<sub>ext</sub> [VP V Arg<sub>int</sub> ]]]]

What we want to derive:

- 1 Arg<sub>ext</sub> is a KP Case-bound by I (then it is assigned ergative).
- 2 Arg<sub>int</sub> is a DP that obeys the K Filter (then it has no case: nominative/absolutive).

# Deriving an Ergative/Absolutive Pattern in Transitive Contexts 2

## Case-Binding of $KP_{ext}$ by I and K Filter for $DP_{int}$ :

- 1 If I is to Case-bind  $Arg_{ext}$  as a KP, then I must be a head that delimits a clause. It is such a head (it delimits the VP small clause from above because it is a governing functional head).

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- 2 If I is to Case-bind  $Arg_{ext}$  as a KP, then I must locally c-command  $Arg_{ext}$ . It does: There is no other argument (or small-clause-delimiting head) that intervenes between I and  $Arg_{ext}$ . (In particular,  $Arg_{int}$  does not intervene: it is lower in the structure.)

# Deriving an Ergative/Absolutive Pattern in Transitive Contexts 3

- 3 If I is to Case-bind  $\text{Arg}_{\text{ext}}$  as a KP, then I must govern a Case competitor for  $\text{Art}_{\text{ext}}$ . I does not govern such a Case competitor for  $\text{Arg}_{\text{ext}}$  in the structure in (55). The reason is that  $\text{Arg}_{\text{int}}$  is protected by government by I through a **barrier**, viz., VP. However, **there are two ways to make I govern  $\text{Arg}_{\text{int}}$  after all**: First,  $\text{Arg}_{\text{int}}$  can **move** to SpecI (movement may cross a barrier as defined here). Second,  $\text{Arg}_{\text{int}}$  may be governed by I because head movement of V to I opens up the barrier and makes government of I into the VP possible (V is then an adjunct of I that binds its trace  $\gamma^0$ ). Thus, for I to govern  $\text{Arg}_{\text{int}}$  as a Case competitor for  $\text{Arg}_{\text{ext}}$ , either V or  $\text{Arg}_{\text{int}}$  has to move out of the VP. Furthermore, if I is to Case-bind  $\text{Arg}_{\text{ext}}$ ,  $\text{Arg}_{\text{int}}$  must be a K-less nominal: a DP. Finally,  $\text{Arg}_{\text{int}}$  must be a Case competitor for  $\text{Arg}_{\text{ext}}$ . It is because they are co-arguments. (They are co-arguments because they are A-projected by the same head – V –, and because they are not in a dominance or chain relation.)

# Deriving an Ergative/Absolutive Pattern in Transitive Contexts 3

- 3 If I is to Case-bind  $\text{Arg}_{\text{ext}}$  as a KP, then I must govern a Case competitor for  $\text{Art}_{\text{ext}}$ . I does not govern such a Case competitor for  $\text{Arg}_{\text{ext}}$  in the structure in (55). The reason is that  $\text{Arg}_{\text{int}}$  is protected by government by I through a **barrier**, viz., VP. However, **there are two ways to make I govern  $\text{Arg}_{\text{int}}$  after all**: First,  $\text{Arg}_{\text{int}}$  can **move** to SpecI (movement may cross a barrier as defined here). Second,  $\text{Arg}_{\text{int}}$  may be governed by I because head movement of V to I opens up the barrier and makes government of I into the VP possible (V is then an adjunct of I that binds its trace  $\gamma^0$ ). Thus, for I to govern  $\text{Arg}_{\text{int}}$  as a Case competitor for  $\text{Arg}_{\text{ext}}$ , either V or  $\text{Arg}_{\text{int}}$  has to move out of the VP. Furthermore, if I is to Case-bind  $\text{Arg}_{\text{ext}}$ ,  $\text{Arg}_{\text{int}}$  must be a K-less nominal: a DP. Finally,  $\text{Arg}_{\text{int}}$  must be a Case competitor for  $\text{Arg}_{\text{ext}}$ . It is because they are co-arguments. (They are co-arguments because they are A-projected by the same head – V –, and because they are not in a dominance or chain relation.)
- 4 As a result, we derive that I Case-binds  $\text{KP}_{\text{ext}}$  if the internal argument is a K-less nominal  $\text{DP}_{\text{int}}$  that either moves out of VP or shows up in a VP out of which the verb has moved to I.



# Deriving an Ergative/Absolutive Pattern in Transitive Contexts 4

- 5 If  $Arg_{int}$  is a DP, it obeys the K Filter. This means that it must be governed by C, and is not Case-bound itself. It cannot be Case-bound since it is not **locally** c-commanded by a clause-delimiting head; and we can assume that C governs  $Arg_{int}$  (IP is transparent, e.g., because of I-to-C movement).

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(56) Two ways to get an ergative encoding pattern:

a. **Movement of  $NP_{int}$  to SpecI:**

[CP [IP  $DP_2$  [I' [VP  $KP_1$  [VP V  $t_2$  ] ] ] ] C ]

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[CP [IP  $DP_2$  [ $I'$  [ $VP$   $KP_1$  [ $VP$   $V$   $t_2$  ] ] ] ] C ]

b. **Movement of V to I:**

[CP [IP - [ $I'$  [ $VP$   $KP_1$  [ $VP$   $t_V$   $DP_2$  ] ]  $V-I$  ] ] C ]

Conclusion:

Ergative case shows up on an external argument, but only in the presence of a lower coargument.

# Syntactic vs. Morphological Ergativity

The two options in (56) cover syntactic vs. morphological ergativity:

- **Syntactic Ergativity:**

If  $DP_{int}$  moves to SpecI, it becomes the highest argument. Syntactic operations referring to the notion of **highest argument** ('subject') will now treat  $Arg_{int-V_t}$  in the same way as  $Arg_{ext-V_i}$  and  $Arg_{int-V_i}$  (and will treat  $Arg_{ext-V_t}$  differently).

- **Morphological Ergativity:**

If  $DP_{int}$  stays in situ, within VP (and V moves to I), it maintains 'object properties'. Syntactic operations referring to the notion of **highest argument** ('subject') will now treat  $Arg_{ext-V_t}$  in the same way as  $Arg_{ext-V_i}$  and  $Arg_{int-V_i}$  (and will treat  $Arg_{int-V_t}$  differently).

Assumption:

Dyirbal, Inuit: syntactic ergativity (but recall Bobaljik (1993) on reflexives in Inuit; see (13))

Samoan, Warlpiri: morphological ergativity

# Active Patterns

There is no obvious way to account for an ergative case on an external argument of a transitive verb, as in Basque, Hindi, Guaraní, and Georgian. Strategy (well-known by now): **Unergative verbs are hidden transitive verbs**. In Basque, the evidence for this may not be poor: “Unergatives regularly take the form of light verb constructions,” as in **hitz egin** (‘word do’, ‘speak’). However, things are not so clear in Georgian, where the verbs that are involved do not look like light verb constructions (‘Funktionsverbgefüge’); also see Nash (1996).

(57) **Active patterns in Georgian** (past-tense, perfective aspect only):

- a. Vano-m gamozarda dzma  
 Vano-ERG<sub>1</sub> 3.SG<sub>2</sub>.raised.3.SG<sub>1</sub> brother-NOM<sub>2</sub>  
 ‘Vano raised his brother.’ (transitive)
- b. Bavšv-ma itira  
 child-ERG<sub>1</sub> cried.3.SG<sub>1</sub>  
 ‘The child cried.’ (unergative intransitive)
- c. Rezo gamoizarda  
 Rezo-NOM<sub>2</sub> grew.3.SG<sub>2</sub>  
 ‘Rezo grew up.’ (unaccusative intransitive)

# Why Ergative Patterns are Simpler

We have seen that I Case-binds  $\text{Arg}_{\text{ext}}$  in (58). Can  $\text{Arg}_{\text{int}}$  also be Case-bound?

(58)  $[_{\text{CP}} \text{C} [_{\text{IP}} \text{I} [_{\text{VP}} \text{Arg}_{\text{ext}} [_{\text{VP}} \text{V} \text{Arg}_{\text{int}} ]]]]$

Two candidates: I and V.

- 1 I cannot Case-bind  $\text{Arg}_{\text{int}}$  in (58) because I **does not locally c-command**  $\text{Arg}_{\text{int}}$  ( $\text{Arg}_{\text{ext}}$  intervenes).
- 2 V cannot Case-bind  $\text{Arg}_{\text{int}}$  either because V **does not govern a Case competitor** for  $\text{Arg}_{\text{int}}$  ( $\text{Arg}_{\text{ext}}$  is not governed by V because V does not m-command it: VP includes V but not  $\text{Arg}_{\text{ext}}$  in the VP-Adj position).

The latter consequence follows in an even simpler way (without invoking the inclusion/exclusion distinction) if external arguments are base-generated in the specifier of vP (rather than in a VP-adjoined position).

Consequence: **Accusative patterns are more marked than ergative patterns; something extra needs to be said about the former!**

# Towards Accusative Encoding Patterns

Recall the notion of Case competitor in (59); **pseudo coargument** still needs to be defined:

(59) **Case Competitor:**

$\gamma$  is a Case competitor for an argument  $\beta$ , iff  $\gamma$  is a K-less nominal that is (in a chain with) a **coargument** of  $\beta$ , or a **pseudo coargument**.

(60) **Pseudo Coargument:**

Let  $\beta$  be an argument;  $\delta$ , a head that delimits a small clause; and  $\gamma$ ; a head adjoined to  $\delta$ . Then  $\gamma$  is a pseudo coargument of  $\beta$ , iff (a) and (b) hold:

- a. **Locality:**  $\delta$  governs  $\beta$ , and  $\gamma$  c-commands  $\beta$ .
- b. **Independence:**  $\gamma$  is not in a chain with the  $X^0$  head of  $\beta$ , and  $\beta$  is not in a chain with the subject of the small clause delimited by  $\delta$ .



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Consequences:

- **Locality:**  $\gamma$  can never be a pseudo coargument of  $\text{Arg}_{\text{ext}}$ .
- **Independence:** Pseudo coarguments only come into being if there is more than one argument in the clause.

# Antipassive

(61) **Antipassive Alternation in Chukchee** (Paleosiberian; Comrie (1979)):

- a. Yemronə-na qərir-ərkən-in ekək  
 Yemron-ERG<sub>1</sub> search-PRS-3.SG<sub>1</sub>.3.SG<sub>2</sub> son-NOM<sub>2</sub>  
 'Yemron is searching for his son.'
- b. Yemron ine-lqərir-ərkən (akka-gtə)  
 Yemron-NOM<sub>1</sub> APASS-search-PRS.3SG<sub>1</sub> (son-DAT)  
 'Yemron is searching (for his son).'

Analysis:

- 1 The APASS morpheme is an N head adjoined to V; it is a pseudo coargument for  $Arg_{int}$ , which accordingly is a Case-bound KP.
- 2  $KP_{int}$  is Case-bound by V and gets DAT rather than ACC case for the simple reason that the pseudo coargument is an N rather than a D (see (44), (45)).
- 3  $Arg_{ext}$  cannot be Case-bound anymore in this configuration because there is no coargument (or close pseudo coargument) that might act as a Case competitor (i.e., be K-less – the Case-bound  $Arg_{int}$  certainly is not).
- 4  $Arg_{ext}$  therefore must be DP and gets default case from C.

# Accusative Encoding Patterns

## Assumptions:

- 1 Accusative patterns can be traced back to a V-adjoined pseudo-argument, as in antipassives. The only difference: The adjoined item is **D** rather than **N**; hence, the Case realized for a KP Case-bound by V-D is ACC rather than, say, DAT.
- 2  $DP_{ext}$  must be governed by C, which can take place either via raising to SpecI, or via head movement of I to C (just as in ergative encoding systems). Result: English-type vs. Japanese/German-type accusative languages.

## (62) Two accusative patterns:

### a. Movement of $DP_{ext}$ to SpecI:

$$[CP \ C \ [IP \ DP_1 \ [I' \ [VP \ t_1 \ [VP \ V \ KP_2 \ ] \ ] \ ] \ ] \ ]$$

### b. Movement of I to C:

$$[CP \ C-I \ [IP \ - \ [I' \ [VP \ DP_1 \ [VP \ V \ KP_2 \ ] \ ] \ ] \ ] \ ]$$

# Three-Way Systems 1

Like optimality-theoretic analyses, but in contrast to the other two minimalist types of approach, the present analysis can in principle capture a co-occurrence of ERG and ACC. Languages like Antekerrepenhe (Arandic; Central Australia) and Nez Perce (Penutian; Oregon) seem to instantiate this rare pattern.

(63) **Antekerrepenhe:**

- a. Arengke-le aye-nhe ke-ke  
 dog-ERG me-ACC bite-PST  
 'The dog bit me.'
- b. Apwerte-le athe arengke-nhe we-ke  
 stones-INS I-ERG dog-ACC pelt-PST  
 'I pelted the dog with stones.'
- c. Arengke nterre-ke  
 dog-NOM run-PST  
 'The dog ran.'

# Three-Way Systems 2

Analysis:

- 1 There must be an additional pseudo coargument for  $Arg_{ext}$  somewhere in the structure, so that the latter can be Case-bound by I even though  $Arg_{int}$  is Case-bound by V.
- 2 There is an additional **NP shell** on top of the  $Arg_{int}$  KP. The N head of the NP shell undergoes incorporation to D in V. Now  $Arg_{ext}$  and  $Arg_{int}$  both have Case competitors, and two structural cases can be realized.

(64) **VP Structure in Three-Way Systems:**

$$[VP \text{ KP}_{ext} [VP [V' [NP [N' [KP_{int} \text{ K} [DP \text{ D} [NP \text{ N} ]]]] \text{ t}_N ]]] [V [D \text{ N} \text{ D} ] \text{ V} ]]]]$$

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(64) **VP Structure in Three-Way Systems:**  
 $[VP\ KP_{ext}\ [VP\ [V'\ [NP\ [N'\ [KP_{int}\ K\ [DP\ D\ [NP\ N\ ]]]\ t_N\ ]]\ [V\ [D\ N\ D]\ V\ ]]]]$

Claim:

This is indicative of a more general feature of Bittner & Hale's analysis: The system is quite flexible (more so than the analyses developed by Bobaljik and Murasugi, e.g.), but this is mainly due to the fact that highly articulate structures, and subtle structural differences (e.g., N vs. D) between languages, are postulated.

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