

## Under-Inheritance<sup>1</sup>

Julie Anne Legate  
University of Pennsylvania  
jlegate@ling.upenn.edu  
www.ling.upenn.edu/~jlegate/

### 1 Introduction

**Background:** Inheritance (Chomsky 2008) was designed to capture the generalization that T is only case/ $\phi$ -complete when selected by C.

**Proposal:** Economy considerations may result in the non-application of Inheritance (Chomsky 2008), whereby the A-features of C are not transferred to T = *Under-Inheritance*

#### Standard Inheritance:

- a subset of the features of C are inherited by T
- the features of T probe
- DP<sub>Subj</sub> values the features and raises to spec, T
- the features on C probe
- DP<sub>Subj</sub> values the features and raises to spec, C

Chomsky (2011) suggests that English wh-questions involve *Over-Inheritance*, whereby both the A- and A'-features of C are inherited by T. Thus, subject wh-phrases move to TP, not CP (e.g. Chung & McCloskey 1983, Chomsky 1986)

- (1) a. \*Who does want apple pie?  
b. Who wants apple pie?  
c. What kinds of gifts<sub>i</sub> are there rules about [ $t_i$  who<sub>k</sub> can give  $t_i$  to whom?]  
d. \*What kinds of people<sub>i</sub> are there rules about [what<sub>k</sub> you can give  $t_k$  to  $t_i$ ]?

Today I explore the opposite scenario, *Under-Inheritance*, whereby neither the A'- nor A- features of C are inherited by T. Thus, the subject moves to CP, not TP.

#### Under-Inheritance:

- the features of C probe
- DP<sub>Subj</sub> values the features and raises to spec, C

#### Outline:

- Subject-Initial V2
- Austronesian Nominal A'-movement
- Theoretical Considerations

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## 2 Subject-Initial V2

### 2.1 Subject in CP

The subject moves to the V2 position in CP (e.g. Vikner and Schwartz 1996, Shlonsky 1994, Branigan 1996, Haegeman 1996, Platzack 1998, Craenenbroeck & Haegeman 2007; contra Travis 1984, Zwart 1997a,b)

#### Landmark Arguments

e.g. *letzte Woche* “last week” (German), *trots allt* “after all” (Swedish) adjoined to TP; verb and subject appear before them in subject-initial V2 (Schwartz & Vikner 1996).

(2) German

- a. Ich weiß daß letzte Woche Peter tatsächlich ein Buch gelesen hat  
I know that last week Peter actually a book read has
- b. Hat letzte Woche Peter tatsächlich ein Buch gelesen?  
has last week Peter actually a book read
- c. Dieses Buch hat letzte Woche Peter tatsächlich gelesen.  
this book has last week Peter actually read
- d. \*Letzte Woche Peter hat tatsächlich ein Buch gelesen.  
last week Peter has actually a book read
- e. Peter hat letzte Woche tatsächlich ein Buch gelesen.<sup>2</sup>  
Peter has last week actually a book read

(3) Swedish

- a. Jag beklagar att trots allt Johan inte vill läsa de här böckerna.  
I regret that despite all Johan not will read these here books
- b. Will trots allt Johan inte läsa de här böckerna?  
will despite all Johan not read these here books
- c. De här böckerna vill trots allt Johan inte läsa  
these here books will despite all Johan not read
- d. \*Trots allt Johan vill inte läsa de här böckerna  
despite all Johan will not read these here books

e.g. the object clitic *t* “it” in Wambeek Dutch occupies a fixed position between C and spec, T (Craenenbroeck & Haegeman 2007);<sup>3</sup> verb and subject appear before it in subject-initial V2.

- (4) a. ... dan-t Marie al wetj.  
that-it Marie already knows  
“... that Marie already knows it.”

- b. Now wenj-t Marie al.  
now knows-it Marie already  
“Now, Marie already knows it.” (Craenenbroeck & Haegeman 2007:170)

- (5) a. Marie wenj-t al.  
Marie knows-it already  
“Marie knows it already”

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<sup>2</sup>Thank you to Florian Schwarz for confirming this example.

<sup>3</sup>They equate this position with the head of an FP.

- b. \*T Marie wenj al.  
it Marie knows already  
“Marie knows it already”
- c. \*Marie t wenj al.  
Marie it knows already  
“Marie knows it already” (Craenenbroeck & Haegeman 2007:171)

### Locality Arguments

e.g. embedded V2 clauses are islands for A'-extraction (Schwartz & Vikner 1989), including subject-initial V2 clauses

- (6) a. Welchen Film hat sie gesagt daß die Kinder t gesehen haben?  
which film has she said that the children seen have
- b. \*Welchen Film hat sie gesagt in der Schule haben die Kinder t gesehen?  
which film has she said in the school have the children seen
- c. \*Welchen Film hat sie gesagt die Kinder haben t gesehen?  
which film has she said the children have seen  
(Vikner 1991, cited in Branigan 1996)

## 2.2 Spec, C as A-position

The initial subject behaves as in an A-position (e.g. Cardinaletti 1990, 1992, Haegeman 1996, Craenenbroeck & Haegeman 2007).<sup>4</sup>

e.g. in Dutch the subject movement in subject-initial V2 behaves as A-movement in not showing Condition C reconstruction effects:

- (7) a. Nou ein-t<sub>\*i/j</sub> den aaigeneir van t lemmeken<sub>i</sub> zelf muutn doewtuun.  
now has-it the owner of the lamb himself must kill  
“Now the owner of the lamb has had to kill it (not the lamb) himself.” (Craenenbroeck & Haegeman 2007:173)
- b. Den aaigeneir van t lemmeken<sub>i</sub> ein-t<sub>i/j</sub> zelf muutn doewtuun.  
the owner of the lamb has-it himself must kill  
“the owner of the lamb has had to kill it (possibly the lamb) himself.” (Craenenbroeck & Haegeman 2007:173)

e.g. Weak subject pronouns may appear in the initial position, weak object pronouns may not (Travis 1984)<sup>5</sup>

- (8) a. Er hat es gegessen.  
he had it eaten  
“He had eaten it.”
- b. \*Es hat er gegessen.  
it had he eaten  
“It, he had eaten.”

<sup>4</sup>Also Rizzi 1991, which I have not accessed, but is cited in Branigan 1996.

<sup>5</sup>Frey 2006 discovers special discourse situations in which weak object pronouns may appear initially; nevertheless, the initial placement of subject pronouns is much freer.

e.g. the verb in subject-initial V2 bears the regular subject agreement morphology, as distinct from non-subject-initial V2 (Zwart 1993)

non-V2 agreement: subject agreement on V cooccurs with distinct agreement on C (in some German and Dutch dialects)

- (9) a. Brabants  
dat-de gullie kom-t  
that-2pl you come-2pl
- b. East Netherlandic  
dat-e wij speul-t  
that-1pl we play-1pl
- c. West Flemish  
dat- $\emptyset$ -j gie werk gao-t een  
that-2sg-CL you work go-2sg have

non-subject-initial V2 agreement: V bears C-type agreement

- (10) a. Brabants  
Wanneer kom-de gullie?  
when come-2pl you
- b. East Netherlandic  
Wat speul-e wij?  
what play-1pl we
- c. West Flemish  
Morgen goa- $\emptyset$ -j gie werk een  
tomorrow are.going-2sg-CL you a.job to.have

subject-initial V2 agreement: V bears regular subject agreement

- (11) a. Brabants  
Gullie kom-t  
you come-2pl
- b. East Netherlandic  
Wij speul-t  
we play-1pl
- c. West Flemish  
Gie werk-t  
you work-2sg

**Tension:** Initial subject appears in CP and yet can pattern as in an A-position.

### 2.3 Analysis

Subject-initial V2 would involve an uneconomical derivation: the A-features of C are inherited by T, the subject values these features and raises to TP, only to then raise to CP (satisfying the features related to the V2 requirement).

Solution: **Under-Inheritance**

The A-features of C remain on C; the subject raises directly to spec, C and values its features there. Spec, T remains empty.

Under-Inheritance provides a principled explanation for why the subject appears in spec, C and yet patterns as an A-position. (cf Zwart’s 1993 criticism of Rizzi 1991, and Branigan’s 1996 criticism of Platzack 1983 and Cardinaletti 1992)

**Additional Evidence:**

“SLF-coordination”, whereby a subject is shared between a non-subject initial V2 clause and a subject-initial V2 clause (Höhle 1983, Zwart 1991, Heycock & Kroch 1993)<sup>6</sup>

- (12) a. German  
 Die Briefmarken hat Claus gekauft und will sie jetzt wieder verkaufen  
 the stamps has Claus bought and wants them now again to.sell  
 “Claus bought the stamps, and now [he] plans to sell them again.” (Heycock & Kroch 1993:[4a])
- b. Dutch  
 ?Na Zwolle rijdt deze trein verder als intercity naar Groningen en zal alleen stoppen te  
 after Zwolle goes this train further as intercity to Groningen and will only stop in  
 Assen.  
 Assen (Zwart 1993)

Coordination of C’ with T’ permitted due to Under-Inheritance in the subject-initial clause and regular Inheritance in the other clause: presence of A-features on C renders C and T non-distinct.

- (13) Die Briefmarken hat Claus [<sub>T'</sub> t gekauft und  
 the stamps has Claus bought and  
  
 [<sub>C'</sub> will sie jetzt wieder verkaufen  
 wants them now again to.sell

“Claus bought the stamps, and now [he] plans to sell them again.”

In contrast, a non-initial subject and an initial non-subject cannot be shared:

- (14) a. Gestern ist Margot krank gewesen und has deshalb den ganzen Tag im Bett verbracht.  
 yesterday is Margot sick been and has therefore the whole day in.the bed spent  
 “Yesterday Margot was sick and therefore [she] spent the whole day in bed.” (Heycock & Kroch 1993:[8])
- b. \*Gestern ist Margot krank gewesen und glaubt jeder sei im Bett geblieben.  
 yesterday is Margot sick been and believes everyone is in.the bed stayed  
 Intended: “Yesterday Margot was sick and everyone believes [she] stayed in bed.” (Heycock & Kroch 1993:[7])

In (14b), coordination of T’ and C’ is impossible b/c Inheritance has applied in both conjuncts, rendering T’ and C’ distinct.

**Summary:** Under-Inheritance provides an explanation for the properties of subject-initial V2.

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<sup>6</sup>The construction is less than perfect due to an ATB violation: in (13) “the stamps” is associated with a trace in the first clause, but a pronoun in the second clause.

### 3 Austronesian Nominal A'-movement

Many Austronesian languages limit A'-movement of nominals to grammatical subjects, although the restriction manifests differently in different languages (see e.g. Keenan & Comrie 1977; Guilfoyle et al 1992; Pearson 2001; Davies 2003; Rackowski & Richards 2005; Cole, Hermon, Yanti 2008; Aldridge 2008; among many others).

Focus on Acehnese; three basic clause types:<sup>7</sup>

- (15) a. Active  
Uleue nyan di-kap lôn.  
snake that 3Fam-bite me  
'The snake bit me.'
- b. Passive  
Lôn di-kap lé uleue nyan.  
I 3Fam-bite by snake that  
'I was bitten by the snake.'
- c. Object Voice  
Lôn uleue nyan kap.  
I snake that bite  
'The snake bit me.'

Subject position may be left empty:

- (16) a. Na boh mamplam di peukan  
exist fruit mango at market  
'There are mangoes at the market'
- b. Teungoh ujeuen jinoe  
Imperf rain now  
'It is raining now'
- c. Ka troh dokto  
Perf arrive doctor  
'The doctor arrived'
- d. Di-kap le uleue nyan aneuk miet nyan  
3Fam-bite LE snake Dem child small Dem  
'Bitten by the snake is the boy'

In Acehnese,<sup>8</sup> nominal A'-movement precludes the presence of a (distinct) grammatical subject (also Durie 1985 in a different framework).

- (17) Relative clause
- a. \*Lôn ngieng moto nyang ureueng nyan geu-bloe bunoe.  
I see car RelC person that 3Pol-buy earlier  
'I saw the car that that person bought earlier.' (Durie 1985:234)

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<sup>7</sup>Unreferenced data are from my own consultant work. Thank you to my Acehnese consultants Saiful Mahdi, Dian Rubianty, Abdul Jalil, Tjut Zahara, and Muhammad Zaki for teaching me about their language. Saiful speaks a mixture of the Pidie and Banda Aceh dialects; Dian speaks the Banda Aceh dialect; Abdul and Tjut speak the North Aceh dialect; Zaki speaks a variety of the Banda Aceh dialect spoken in Lho-nga. Some data were elicited during classes co-taught with Abby Cohn at Cornell University and Gene Buckley at the University of Pennsylvania; thank you also to them and to the participants in those classes.

<sup>8</sup>as well as varieties of Indonesian, including Standard Indonesian and Sarolangun Malay, see Cole et al 1998.

- b. Lôn nging moto nyang geu-bloe lé ureueng nyan bunoe.  
 I see car RelC 3Pol-buy by person that earlier  
 “I saw the car that was bought by that person earlier” (Durie 1985:234)

(18) Wh-question

- a. \*Glah soe nyang mak lôn geu-pinjam?  
 glass who RelC mother I 3Pol-borrow  
 “Whose glass did my mother borrow?”
- b. Glah soe nyang geu-pinjam lé mak lôn?  
 glass who RelC 3Pol-borrow by mother I  
 “Whose glass was borrowed by my mother?”

(19) Topicalization

- a. \*Ibrahim dokto ka geu-peu-ubat.  
 Ibrahim doctor Perf 3Pol-Cause-medicine  
 “Ibrahim, the doctor has treated.”
- b. Dokto ka geu-peu-ubat Ibrahim.  
 doctor Perf 3Pol-Cause-medicine Ibrahim  
 “The doctor has treated Ibrahim.”

However, the A'-moved nominal need not become the grammatical subject.

Long distance A'-movement requires the grammatical subject position be empty not only in the embedded clause but also in the matrix clause

- (20) a. \*Soe Ibrahim geu-peugah yang tingkue aneuk miet nyan?  
 who Ibrahim 3Pol-say C carry child small Dem  
 “Who did Ibrahim say carried the child?”
- b. Soe geu-peugah lé Ibrahim yang tingkue aneuk miet nyan  
 who 3Pol-say by Ibrahim C carry child small Dem  
 “Who did Ibrahim say carried the child?”

Yet the A'-moved nominal shows no A-properties in the matrix clause.

e.g. WCO: the wh-phrase cannot bind a pronoun in the matrix clause

- (21) a. \*Soe<sub>i</sub> nyang neu-deungo dari teutangga jih<sub>i</sub> bahwa beurangkat u Kutaradja singoh?  
 who C 2Pol-hear from neighbour he C leave to Kutaradja tomorrow  
 “Who<sub>i</sub> did you hear from his<sub>i</sub> neighbour is leaving for Kutaradja tomorrow?”
- b. Soe<sub>i</sub> nyang neu-deungo dari teutangga jih<sub>i</sub> bahwa jih<sub>i</sub> ji-beurangkat u Kutaradja singoh?  
 who C 2Pol-hear from neighbour he C he 3Fam-leave to Kutaradja tomorrow  
 “Who did you hear from his neighbour that he is leaving for Kutaradja tomorrow?”

The wh-phrase is unambiguously in the specifier of CP: (e.g. (18b))

- movement is non-string-vacuous for objects and long-distance moved elements
- wh-phrase appears to the left of an (optional) complementizer *nyang*

**Previous analyses type I:** Phase-based (e.g. Aldridge 2008 on Indonesian)

Use the *vP* phase as a barrier to prevent more than one DP from escaping the *vP*.

Incorrectly predicts nominal A'-movement with a distinct grammatical subject if the matrix predicate is non-phasal (unaccusative or passive)

- (22) a. \*Soe nyang peng nyoe geu-jôk lé Ibrahim?  
 who C money this 3Pol-give by Ibrahim  
 “Who was this money given (to) by Ibrahim?”  
 b. Soe nyang geu-jôk peng nyoe lé Ibrahim?  
 who C 3Pol-give money this by Ibrahim  
 “Who was given this money by Ibrahim?”

**Previous analyses type II:** Agreement-based (e.g. Cole et al 2008 on Indonesian)

Require any DP extracted from the *vP* to show morphological agreement in case/ $\theta$  with the voice morpheme. Prohibit conflicting features.

e.g. if the subject raises to spec, T and the object raises to spec, C, both have to agree with the voice morpheme, but cannot since they bear conflicting features (agent/patient, NOM/ACC)

Incorrectly predicts nominal A'-movement with with a distinct grammatical subject if the two moved DPs have identical case/ $\theta$ -features; e.g. NOM and agent in (20a) above

In addition, for Indonesian the voice morphemes (active, passive, object voice) are invariant, so active can be claimed to agree with an agent/NOM and object voice with patient/ACC (and passive not at all or with patient/ACC).

However, in Acehnese, the active and passive voice morphemes register agreement with the thematic agent (and the object voice is null) regardless of the nature of the extracted DP (see Durie 1985, and Legate 2008 for an analysis).

- (23) a. {lôn /tanyoe /kamoe /droeneuh /gopnyan} {lôn- /meu- /ta- /neu- /geu-} tingkue  
 I /us(incl) /us(excl) /you /him/her 1- /1incl- /1excl- /2Pol- /3Pol- carry  
 aneuk miet nyan.  
 child small that  
 “The child is carried by me/us/you/him/her.”  
 b. Aneuk miet nyan {lôn- /meu- /ta- /neu- /geu-} tingkue lé {lôn /tanyoe /kamoe  
 child small that 1- /1incl- /1excl- /2Pol- /3Pol- carry by I /us(incl) /us(excl)  
 /droeneuh /gopnyan}.  
 /you /him/her  
 “The child is carried by me/us/you/him/her.”  
 c. Ureueng agam nyan geu-plueng.  
 person male that 3Pol-run  
 “The man is running.”  
 d. Dokto ka (\*geu)-troh.  
 doctor Perf 3Pol-arrive  
 ‘The doctor arrived.’



- e. Peue yang geu-pajoh lé Ibrahim  
 what RelC 3Pol-eat by Ibrahim  
 “What does Ibrahim eat?”
- f. Peue ka-peugah?  
 what 2Fam-say  
 “What did you say?”

**Problem:** How to prevent spec, T from being filled when spec, C is filled?

**Proposal:** extended use of Under-Inheritance.

Whenever C contains nominal A'-features, Inheritance of A-features by T from C fails to apply.

**Case 1:** the A'-element also values the A-features of C = equivalent to subject-initial V2.

- the features of C probe
- $DP_{Subj}$  values the features and raises to spec, C

**Case 2:** A'-element cannot value the A-features of C (e.g. object A'-movement, long-distance A'-movement).

- the features of C probe
- $DP_{Abar}$  values the A'-features and raises to spec, C
- $DP_{subj}$  values the A-features of C in situ under closest c-command (Agree, Chomsky 1998)

**Conclusion:** Under-Inheritance provides an explanation for an Austronesian extraction restriction.

## 4 Theoretical Considerations

**Question:** Do we need transderivational comparison for Under-Inheritance? (e.g. Collins 1996)

**Answer:** No. Relative economy may be determined locally.

Following e.g. Chomsky (2008), all operations occur at the phase-level.

- the phase head C is merged
- the features of C probe
- if both A- and A'- features may be satisfied by a single phrase, Inheritance does not apply = *Under-Inheritance*
- otherwise, Inheritance applies.

## 5 Conclusions

- Motivated *Under-Inheritance*, whereby the A- and A'- features remain on C, and are valued with one movement to the specifier of CP
- Expansion underway ...

## References

- Aldridge, E. 2008. Phase-based account of extraction in Indonesian. *Lingua* 118:1440-1469.
- Branigan, Phil. 1996. Verb second and the A-bar status of subjects. *Studia Linguistica* 50:354380.
- Cole, Peter, Gabriella Hermon, & Yanti. 2008. Voice in Malay/Indonesian. *Lingua* 118:1500-1553.
- Cardinaletti, Anna. 1990. Subject/object asymmetries in German null- topic constructions and the status of SpecCP. In *Grammar in progress: GLOW essays for Henk van Riemsdijk*, ed. by Joan Mascaró and Marina Nespó, 75-84. Dordrecht: Foris.
- Cardinaletti, Anna. 1992. SpecCP in verb second languages. *Geneva Generative Papers* 0:19.
- Craenenbroeck, Jeroen van & Liliane M.V. Haegeman. 2007. The Derivation of Subject-Initial V2. *Linguistic Inquiry* 38.1:167-178.
- Davies, William D. 2003. Extreme Locality in Madurese *Wh*-Questions. *Syntax* 6.3:237-259.
- Durie, M. 1985. *A Grammar of Acehnese on the Basis of a Dialect of North Aceh*. Dordrecht: Foris.
- Frey, Werner. 2006. How to get an object *-es* into the German prefield. In *Form, structure and grammar: A festschrift presented to Gunther Grewendorf on the occasion of his 60th birthday*, 159-185.
- Guilfoyle, Eithne, Henrietta Hung, & Lisa Travis. 1992. SPEC of IP and SPEC of VP: two subjects in Austronesian languages. *Natural Language and Linguistic Theory* 10: 375-414.
- Haegeman, Liliane. 1996. Verb second, the split CP and initial null subjects in early Dutch finite clauses. *Geneva Generative Papers* 4:133-175.
- Heycock, Caroline & Anthony Kroch. 1993. Verb Movement and the Status of Subjects: Implications for the Theory of Licensing. *Groninger Arbeiten zur germanistischen Linguistik* 36:75-102. Legate, Julie Anne. 2008. *Passive Agreement in Acehnese*. NELS 39, Cornell.
- Pearson, Matthew. 2001. *The Clause Structure of Malagasy: A Minimalist Approach*. UCLA Dissertation.
- Platzack, Christer. 1998. A visibility condition for the C-domain. *Working Papers in Scandinavian Syntax* 61:539-9.
- Rackowski, Andrea & Norvin Richards. 2005. Phase edge and extraction: a Tagalog case study. *LI* 36.44:565-599.
- Rizzi, Luigi. 1991. Proper head government and the definition of A- positions. Paper presented at the GLOW Colloquium, Leiden University, April.
- Shlonsky, Ur. 1994. Agreement in Comp. *The Linguistic Review* 11: 351-375.
- Travis, Lisa. 1984. *Parameters and effects of word order variation*. Doctoral dissertation, MIT, Cambridge, Mass.
- Vikner, Sten, and Bonnie Schwartz. 1996. The verb always leaves IP in V2 clauses. In *Parameters and functional heads*, ed. by Adriana Belletti and Luigi Rizzi, 116-122. Oxford: Oxford University Press.
- Zwart, C. Jan-Wouter. 1997a. The Germanic SOV languages and the universal base hypothesis. In *The new comparative syntax*, ed. by Liliane Haegeman, 246-264. London: Addison-Wesley.
- Zwart, C. Jan-Wouter. 1997b. *Morphosyntax of verb movement: A minimalist approach to the syntax of Dutch*. Dordrecht: Kluwer.