Subject-Object Asymmetries and the Relation of Internal Merge and Pied-Piping

1. Overview: The paper strives to explain subject-object asymmetries (SOA) from GB, traditionally accounted for in terms of the Empty Category Principle (ECP). It is shown that it is possible to analyse SOAs by adhering to Merge, the most fundamental structure building operation. Further topicalization, successive-cyclic movement and complementizer-agreement (comp-agr) in Bavarian, English superiority and the Vacuous Movement Hypothesis (VMH) are discussed.

2. Crucial data: Subjects cannot extract, objects can, (1a) vs. (1b). A similar phenomenon is experienced in cases of subextraction, (2a) and (2b). Another puzzle that falls into this class is the fact that adjuncts pattern with subjects, not with objects, (3a) vs. (3b,c) (Huang’s 1982 Condition on Extraction Domain). The question is, why can objects and elements from within them be extracted more easily than subjects, elements from within subjects, and adjuncts.

3. The idea: The dichotomy in (1)-(3) is connected to the underlying structural difference. The present work accounts for this without introducing new principles to the grammar (e.g. Rizzi & Shlonsky 2005, Uriagereka 1999) or appealing to the ECP. To do so Merge is defined in the following way: Merge takes two syntactic objects α and β and combines them, which results in a new object [α, β]. One of the two elements becomes the subset of the other. [α, β] ∈ [γ, [α, β]]. Once [γ, [α, β]] is formed γ cannot extract and leave [α, β] behind. This intuition lies behind descriptive principles like the Left Branch Condition (LBC, Ross 1967) or Connectedness (Kayne 1984). I.e. the structure merged to an element to which Internal Merge (IM) applies, must undergo IM together with this element (also Koster 2005). To achieve this, the following condition on IM has to be made: IM at derivational stage Σᵢ must apply to binary sets (= informally labels) within the same projection line as the head H inducing IM by Agree, thus to any such set from Σᵢ₋₁, Σᵢ₋₂,..., Σᵢ₋ₙ. Projection line is defined in terms of c-selection (Abels 2000). An effect is that left branches cannot extract, because when they are introduced into the derivation and IM applies to them the structure they are merged with has to be moved with them. This explains, why both subjects and adjuncts are impossible to extract without any further licensing. Elements within subjects cannot move, since at the relevant derivational stage they are not part of H’s projection line. In addition it follows that objects cannot move, if another element is embedded within them, exemplified in (4b). The present theory accounts for LBC effects such as (5b) and Kayne’s 1984 data.

4. Successive Cyclic Movement and the role of agreement: Data from Bavarian show that elements undergoing IM through embedded [Spec,CP] are able to pied-pipe the embedded CP, which follows from the present theory (Bayer 2001, von Stechow & Sternefeld 1988 and references therein). Both pied-piping and further movement without it are possible (6b,c), but staying in the embedded [Spec,CP] without pied-piping is impossible (6a). Adjuncts, though, can only pied-pipe the CP, but cannot extract alone (7). It is suggested that this is related to agreement. It has an effect similar to resumption, which can make extraction from islands licit (Ross 1967). I.e. it indicates, from which position a subject comes from (among others Borer 1986, Bresnan & Mchombo 1987). Crucial data come from comp-agr in Bulgarian (8). Unlike in English no that-trace effect arises, which follows from agreement of Bavarian subjects with embedded C (Rizzi 1990 on French), which leaves an indicator of the extracted subject. Absence of comp-agr renders extraction of subjects impossible. In English extraction of subjects from embedded clauses must take place directly from [Spec,TP], because C does not bear agr-features and is thus not merged as in (9) (Bošković 1997, den Dikken 2006).

5. Simple subject questions and superiority: English short subject questions are argued to pied-pipe the whole IP (10), which bears on the question of the VMH (Chomsky 1986, den Dikken 2006, Koopman 2000). Evidence for this is English superiority. *Which books did which boy read? is ungrammatical because of the following definition of Agree: A head H can undergo Agree with an element XP iff the first node dominating H also dominates XP. In the case at hand pied-piping of the clause because of wh-movement of the subject has applied first. Thus C does not dominate the object any more, which is now embedded in [Spec,CP], as in (11). This is contrasted with Bulgarian (Richards 2001).
Examples:

(1) a. ? Which paper does John wonder [CP t₁ whether Bill will read t₁]?
   
b. *Who does John wonder [CP t₁ whether Bill will read a paper on Tagalog]?

(2) a. [which war] does John think [t₁ that the president proposed a referendum about t₁]?
   
b. *[which country] does John think [t₁ that [the president of t₁] proposed a referendum]?

(3) a. ? Who did they ask [CP t₁ whether John has invited]?
   
b. *Who did they ask [CP t₁ whether had invited his family in a rude manner]?
   
c. *[In which way] did they ask [CP t₁ whether John had invited his family]?

(4) a. [what proposal of importance] does John think [CP t₁ that the president has made]?
   
b. *[What proposal] does John think [CP t₁ that the president has made [of importance]]?

(5) a. [Whose book] did John read t₁?
   
b. *[whose] did John read [CP t₁ book]?

(6) a. *Da Michl hot gsogt [CP an Regenschirm] dass da Hauns t₁ kafft hot
   
the Michael has said an umbrella that the John bought has

b. [An Regenschirm] hot da Michl gsogt [CP t₁ dass da Hauns t₁ kafft hot]
   
an umbrella has the Michael said that the John bought has

   c. [CP [CP [CP [an Regenschirm] dass da Hauns t₁ kafft hot] hot da Michl gsogt t₁] an umbrella that the John bought has has the Michael said
   
   'Michael said that John bought an umbrella.'

(7) a. Da Fraunz glaubt [CP dass da Willi in an schlechten Stil seine Biachaghschriebm hot],
   
the Frank thinks that the Willy in a bad style his books written has

b. ? [CP [CP [In an schlechten Stil dass da Willi seine Biachaghschriebm hot] glaubt da Fraunz t₁] in a bad style that the Willy his books written has thinks the Frank

   c. *[CP [In an schlechten Stil] glaubt da Fraunz [CP t₁ dass da Willi t₁ seine Biachaghschriebm hot] in a bad style that the Willy his books written has thinks the Frank that the Willy his books written has
   
   'Frank thinks that Willy has written his books a bad style.'

(8) a. [Es Bauern] hot a gfroggt [t₁ wann-ts t₁ kumm-ts] you.2pl farmers has-3sg he ask-3sg when-2pl come-2pl
   
   'He has asked when you farmers will come.'

b. *[Es Bauern] hot a gfroggt [t₁ wann-Ø t₁ kumm-ts] you.2pl farmers has-3sg he ask-3sg when come-2pl

(9) ? [CP t₁ left home]?

(10) [CP [Which boy read all books] C t₁]?

(11) [CP [Which boy read which books] C [C C t₁]]?

Selected References:

Abels, Klaus 2000, Move? ms. University of Connecticut
Chomsky, Noam 1981, Lectures on Government and Binding, de Gruyter
Kayne, Richard 1984, Connectedness and Binary Branching, Dordrecht: Foris
Ross, John 1967, Constraints on Variables in Syntax, PhD thesis, MIT