

### The Free Rider Principle: Agree, features and atoms

Chomsky (1995:268-270, 275) proposes the *Free Rider Principle*, whereby Attract-F necessarily involves the entire formal feature set  $FF(H)$  of a syntactic atom  $H$  (a terminal or its projection). An Attract-F dependency between  $\alpha$  and  $\beta$  re-Merges  $FF(\beta)$  in the checking domain of  $\alpha$ , which checking an automatic consequence of two feature sets in a checking domain (cp. Reuland 2001). For the purposes of checking/Attract then,  $FF(H)$  is an atom. However, locality is feature-relativized, not  $FF(H)$  relativized. This creates a dichotomy between the objects which Attract-F locality is sensitive to, individual subatomic features of  $H$ , and those which are manipulated by it in a minimal syntactic dependency, the phrase-structural atoms  $FF(H)$ . In Chomsky (2000), re-Merge forms no part of Agree; the uninterpretable features of  $\alpha$  are valued by Agree from  $\beta$ , and these are not syntactic terminals. Locality continues to be relativized to features. Therefore, Agree does not manipulate atoms at all, but only subatomic features. The Free Rider Principle emerges in the former but not in the latter framework because only the former implicates Merge in the minimal syntactic dependency, and Merge can only manipulate phrase-structural atoms. Empirical evidence that  $\varphi$ -agreement is LF-inert ((1), Lasnik 1999) indicates the Agree view is correct.

I review three situations of Case/ $\varphi$  –  $\bar{A}$ -interaction on  $v$  and argue that they show the Free Rider Principle is correct, all showing the same basic pattern: Branigan & MacKenzie (2001) and Bruening (2001) on Algonquian, Svenonius (2000) on Icelandic, and Schütze (2001) on Korean. Branigan & MacKenzie (2001) and Bruening (2001) show that successive-cyclic cross-clausal  $\bar{A}$ -movement in Algonquian must trigger  $\varphi$ -Agree on intervening  $v$ , provided the *wh*-phrase is capable of Agree (2). If the *wh*-phrase is not capable of  $\varphi$ -Agree, or if there is no *wh*-movement across  $v$ ,  $\varphi$ -Agree of  $v$  independently takes place with the closest  $\varphi$ -set (3). Bruening proposes that when an  $\bar{A}$ -phrase passes through the edge of the  $vP$  (as a phase), it automatically triggers  $\varphi$ -Agree beside  $\bar{A}$ -Agree. I identify the Free Rider Principle as the culprit, indicating that despite their different locality properties, both the  $\varphi$  and  $\bar{A}$  probes necessarily Agree together in this situation.

Svenonius (2000) shows that Icelandic possesses overt QR to the edge of the VP, obligatory for negative quantifiers and optional for others. This QR is distinct from Object Shift OS, an A-movement to the edge of the VP, in possessing  $\bar{A}$ -movement properties such as parasitic gap licensing and skipping intervening A-positions (4), and in not being restricted by Holmberg's Generalization HG which limits OS. Just in case HG does permit OS though, QR loses its  $\bar{A}$ -properties and acquires A-properties such as A-locality (5). Yet Svenonius shows that QR (in addition to OS) is still applying, because negative quantifiers continue to move obligatorily, a property of QR but not OS. Assuming that HG limits when  $v$ 's  $\varphi$ -probe can access a goal past V,  $\varphi$ -Agree automatically satisfies the  $\bar{A}$ -feature driving QR provided the goal has one. The Icelandic data provide evidence beyond Algonquian in showing that  $\varphi$ -Agree of  $v$  pre-empts  $\bar{A}$ -Agree, because QR cannot show its independent properties if  $\varphi$ -Agree is possible by HG; this is compatible with the Algonquian data.

The Free Rider Principle does not emerge from the Agree framework as it stands, which independently makes correct predictions. I argue that it does emerge if probes are construed not as unstructured sets but as connected structures, trees, as in Béjar (2003) and Starke (2001) who argue independently that the geometric relations of such structures (entailment, constituency) define intervention effects in locality. Given such a geometry, Agree for F entails Agree for F' if F' entails F (i.e.  $[F[F']]$ ), because F' is a dependent of F. Thus  $\bar{A}$  entails  $\varphi$ . Moreover, such entailments also provide ordering relationship; if geometries are evaluated root-out, since  $\bar{A}$  entails  $\varphi$ ,  $\varphi$  is evaluated first, and  $\varphi$ -Agree pre-empts  $\bar{A}$ -Agree. The two features continue to be independent probes with different locality conditions.  $\bar{A}$  can probe independently of  $\varphi$  after  $\varphi$ -Agree;  $\varphi$ -Agree will not entail  $\bar{A}$ -Agree if  $\bar{A}$  is not present or has been valued on an earlier cycle. Interestingly, the same ordering applied to interpretable features seems to govern Merge, where after the  $\theta$ -layer, the  $\varphi$ -layer precedes the  $\bar{A}$ -layer.

The existence of Free Rider Principle type phenomena has important implications in the bundling of features and atoms. It suggests that cartography-style unbundling of probes cannot be continued to its logical consequence that each atom correlates with no more than one probe (distinct from unbundling to correlate an atom with a unique interpretable feature, Kayne 2003). If F, F' (with verifiably distinct locality, e.g.  $\bar{A}$  and  $\varphi$ ) are on different terminals, Agree for F cannot be forced to imply Agree for F'; if they are, on "syncretic" terminals, the phenomenon can be accounted for.

- 1) a) Several runners<sub>1</sub> seem-PL<sub>1</sub> to each other<sub>1</sub> t<sub>1</sub> to be likely to win the race.  
 b) \*There seem-PL<sub>1</sub> to each other<sub>1</sub> to be several runners<sub>1</sub> likely to win the race.
- 2) Auen<sub>1</sub> tshit-itenim-âu/\*en [CP t<sub>1</sub>' C [TP t<sub>1</sub> aimi-epan Mânîua]]?  
 who 2-think-3/\*TI called-3 Marie  
 Who do you think called Marie? (Branigan & MacKenzie 2001:402)
- 3) Tân eshpish<sub>1</sub> [<sub>vP</sub> t<sub>1</sub>' [<sub>CP</sub> t<sub>1</sub> tshe-mishikât Mânî] tshit-itenim-âu/\*en]?  
 when FUT-arrive Marie 2-think-3  
 When do you think Marie will arrive? (Branigan & MacKenzie 2001:402n17)
- 4) a) Jón hefur [<sub>vP</sub> ekkert<sub>1</sub> sagt Sveini t<sub>1</sub>] (QR; intervener underl'd)  
 John-N has nothing-A said Svein-D  
 John has told Svein nothing. (Svenonius 2000; bracketing added)  
 b) ?\*Ég lána [<sub>vP</sub> bækurnar ekki Mariu t<sub>1</sub>] (OS; intervener underl'd)  
 I-N lend the.books-A not Maria-D  
 I do not lend Maria the books. (Collins & Thráinsson 1996:420; bracketing added)
- 5) Jón sagði<sub>2</sub> [<sub>vP</sub> (\*ekkert<sub>1</sub>) t<sub>2</sub> Sveini (ekkert<sub>1</sub>)] (QR-cum-OS)  
 John-N said nothing-A Svein-D nothing-A  
 John told Svein nothing. (Svenonius 2000; bracketing added)

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