No Merge is an Island*

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1 If all you have is Merge, . . .

1.1 Merge α

(1) Hypothesis: All is Merge (Chomsky 2004)

(2) "[Narrow Syntax] is based on the free operation Merge" (p. 110)

(3) "[The Strong Minimalist Thesis] entails that Merge of α, β is unconstrained, therefore either *external* or *internal*." (p. 110)

(4) "[If Merge is unconstrained,] derivations cannot be failure-proof ("Crash-free")" (p. 112)

(5) All apparent constraints on Merge (incl. constraints on Move, "islands") reduce to interface constraints; back to Miller and Chomsky (1963), Chomsky and Lasnik (1977).

1.2 Conditions on Agree

(6) It is standard to use "Islands" as a diagnostic for movement (cf. Chomsky (1977, 86)), but:

(7) The operation *Agree* — a nonmovement operation — is constrained by Minimality (Chomsky 2000, Boeckx 2008a, among many others).

(8) Agree also cannot reach into 'opaque' domains (Boeckx 2003)
   a. Displaced subjects can't be probed
   b. (true) Adjuncts can't be probed

(9) Since Move/Remerge is (by default) parasitic on Agree (Chomsky 2000), Move/Remerge will be constrained by Minimality, and is expected to give rise to CED-effects

(10) If one could 'lift' the Agree-requirement on Move/Remerge, one may expect Minimality/CED-effects to go away (cf. Japanese-style scrambling, e.g.)

In light of this, consider:

(11) a. *Who did John say that ⟨who⟩ left?
   b. Who did John say ⟨who⟩ left?
   cf. Chomsky (2008): C* is the locus of $u\phi$

(12) a. *Qui il dit qui ⟨qui⟩ a vue Marie? *(Fr.)*
   who he said that.AGR has seen Marie
   'Who has he said saw Marie?'
   b. Qui il dit que Jean a vu ⟨qui⟩?
   who he said that Jean has seen
   'Who has he said that Jean saw?'

(13) a. *Nori buruzko sortu zitusten aurreko asteko istiluek
   who about.of create aux last week scandals
   zurrumurruak? *(Basque)*
   rumors
   'Who have last week's scandals caused rumors about?'
   (Uriagereka (1998, 395))
   b. Who did you see friends of ⟨who⟩?

(14) a. *Quanti abbia scritto [⟨quanti⟩ libri] Maria? *(It.)*
   how.many has written books Maria

*The following reflections build on Boeckx (2003, 2008b), and benefited immensely from discussions with Dennis Ott. For a more general (though no less personal) overview of "Islands," see Boeckx (2008d).

'How many books did Maria write?'

b. Quanti libri abbia scritto Maria?

(15) Quanti abbia scritto [⟨quanti⟩ di libri] Maria?
how.many has written of books Maria
'How many of the books did Maria read?'

(16) a. Quanto sono [⟨quanto⟩ alti]?
how are.3PL old
'How old are they?'
b. *Quanti alti sono?
(Moro (2000, 50))

For many more examples, see Boeckx (2003, 38ff.); see also Donati (2006, 36) on 'the freezing effect of agreement.'

1.3 In fact, we knew this all along

(17) "Chopping rules are subject to [island] constraints; copying rules are not." Ross (1967, 257)

(18) Islandhood is a much more dynamic, relativized property (like $\overline{X}$-relations; see already Fukui 1986). There is no consistently strong island (see Postal (1998), Boeckx (2003), Lasnik (2005)).

(19) Different domains count as opaque in different languages; it makes sense to look for features that vary cross-linguistically and that may induce islandhood (see Boeckx 2003, Gallego 2007 on this point)

1.4 Interim summary

(20) Remarkable degree of convergence in a minimalist context:
Bare Phrase Structure, Feature-checking without movement, and Free Merge all lead to this conclusion:
whatever islandhood is, it cannot not follow from Merge.
This does not mean that islandhood is not part of FLN (which includes the mapping from NS to SEM and PHON). Although a few constraints on variables may be part of FLB/Conceptual Structure (e.g., the Coordinate Structure Constraint, understood as a Parallelism Requirement), it strikes me as implausible to think that all of them may be.

2 What exactly is the Mapping problem? A first pass, in two steps (Boeckx 2003, 2008b)

2.1 Step 1 (Boeckx 2003)

(21) Hypothesis:
Certain featural relations ({case/agreement}) have a 'freezing (i.e., island forming) effect' because they provide 'conflicting' instructions to the interfaces

(22) *Principle of Unambiguous Chain* (Boeckx (2003, 13))
A Chain may contain at most one strong feature checking occurrence

(23) Auxiliary hypothesis (see also Richards 2001):
A strong feature checking occurrence serves as an instruction to the PHON interface to pronounce the displaced element (*and all the elements it contains*) in that position.

(24) Assumption: PHON must receive unambiguous instructions about which occurrence of a chain to pronounce

(25) Only one occurrence of an element can be pronounced (*pace* Nunes 2004)

(26) a. *John seems [that ⟨John⟩ is sick]
b. *Who did John say [that ⟨**who**⟩ is sick]
c. *Who did **[pictures of** ⟨**who**⟩**]** [⟨pictures of who⟩ annoy Mary]?

(27) a. Who did John see ⟨who⟩?
b. Who did John see [pictures of ⟨who⟩]?

(28) Who did John arrive [after Bill saw ⟨who⟩]?

(29) Adjoined structures are uniformly associated with strong occurrences

(30) This approach predicts no island-effects if the offending strong occurrence is deleted or resumed

(31) Islands as PHON-mapping phenomena; see also Merchant 2001, Hornstein, Lasnik, and Uriagereka 2007

2.2 Step 2 (Boeckx (2008b))

(32) Given Agree ({case/agreement}-checking at a distance), what constitutes a "strong feature checking occurrence"?

(33) An occurrence (other than the base position) sandwiched between two probing-heads (Boeckx 2008b)

(34) Generalized *that-t*-filter:
$[_{\text{CP}}\ \text{C}_\phi\ [_{\text{TP}}\ \textbf{XP}\ \text{T}_\phi\ \textbf{...}\ [\ \langle \textbf{XP} \rangle\ \textbf{...}\ ]]]]$

(35) Movement of *XP* 'forced' by minimality considerations (all other occurrences can be treated as non-feature-driven/intermediate traces; Boeckx (2008e))
(Note: This is the 'EPP;' Boeckx (2008c))

(36) a. $\text{C}_\phi \ldots \text{T}_\phi \ldots \text{XP}_\phi$
b. $\alpha \succ \beta \succ \gamma$

(37) In Boeckx (2008b) I related (22) to the idea that chains are like projections, they only allow for one unambiguous maximal projection

(38) Being unlabeled, structures created by adjunction necessarily lead to ambiguous paths (cf. Kayne 1984)

(39) Given (37), freezing effects need no longer be treated in exclusively PHON-terms (see also Rizzi and Shlonsky 2007)

3 A refinement (Boeckx 2008c)

(40) In retrospect, the situation characterized by (33) is the result of *Feature-inheritance* (Chomsky 2008, 2007)

(41) A strong phase (P*) bearing *u*F forces immediate transfer of its complement (Richards 2007); in effect, P* enforces Chomsky's 2000 version of the Phase Impenetrability Condition

(42) *Phase Impenetrability Condition* (PIC_1; Chomsky 2000, 108)
Spell-Out the Complement of Ph(ase) as soon as Ph is completed

(43) Hypothesis: The interface systems regard a chain CH as closed if the portion transferred contains multiple occurrences of an element ϵ, and one of which is a checking site (a sister of a head having inherited *u*F from P* (a sort of 'Earliness condition' on chain-formation)

(44) $[_{\text{CP}}\ \text{C}_\phi\ \boxed{[_{TP}\ \textbf{XP}\ \text{T}_\phi \ldots [\ \langle \text{XP} \rangle \ldots \upsilon\ ]]}\ \ldots]$

(45) $[\text{XP}\ \upsilon_\phi\ \boxed{[_{VP}\ \text{V}\ \langle \text{XP} \rangle]}\ \ldots]$

(46) Adjunction is Pair-Merge (Chomsky 2004)

(47) $\langle \alpha, \beta \rangle$: β transferred upon adjoining to α (Raposo 2002), i.e., PIC_1

(48) Specifically, for Pair Merge, the effect of PIC_2 is PIC_1 (assuming adjunction is always to a phase head; see Boeckx 2008c)

(49) *Phase Impenetrability Condition* (PIC_2; Chomsky 2001, 14)
Spell-Out the Complement of Ph(ase)_1 as soon as Ph_2 is merged

(50) Pair-Merge $\approx$ Pair of Probing heads ((33)); both enforce PIC_1, both require immediate transfer of their complements

(51) Note again that, unless we assume that transfer is only to PHON, the effects of PIC_1 will also hold at SEM

4 An extension

(52) Islandhood is not an NS notion; 'island repair' isn't, either.

(53)
a. Resumption
b. Ellipsis
c. *Wh*-in situ
d. Pied-piping

4.1 Resumption as stranding

(54) RP and its antecedent are Merge-mates (Boeckx 2003, Aoun, Choueiri, and Hornstein 2001):
$[_{\langle D;DP/PP\rangle}\ [_D$ RP] $[_{DP/PP}$ Op]]

(55) RP takes care of the A-chain formation requirement; its DP/PP-merge-partner takes care of the $\overline{A}$-chain requirement

(56) [Phase [**Op** [. . . [⟨Op⟩ [Phase [$\mathbf{D}_{RP}$] [. . . [⟨D; Op⟩ [Phase]]]]]]]]

4.2 *Wh*-in situ as reverse resumption

(57) $[_{\langle DP/PP;D\rangle}\ [_{DP/PP}$ indeterminate-'wh' . . .] $[_D$ Op]] (see already Demirdache 1991; see also Watanabe 1992, Tsai 1994)

(58) No island effect (except with true adjuncts, where resumption is unavailable)

4.3 Pied-piping without percolation

(59) Instances of Pied-piping are really instances of *Wh*-in situ (Boeckx 2008b, Cable 2007)

(60) $[_{ForceP}$ Force$_Q$ [. . . [⟨Q; $[_{XP}$ . . . *wh* . . .]⟩]]] (Cable 2007)

(61)
a. If Q-insertion takes place via adjunction (Pair Merge), 'stranding' (i.e., *wh*-in situ) takes place
b. If Q-insertion takes place via 'complementation' (Set Merge), pied-piping takes place (Cable 2007)

(62) Optionality of pied-piping reduces to different merge-sites for Q

(63) 'Secondary movement' of *wh* is due to an Agree-relation between Q and *wh* (parameter)

4.4 Ellipsis as covert resumption

(64) Sluicing data (Ross 1969, Merchant 2001, Lasnik 2001, 2005) provide *prima facie* evidence for a PHON-oriented approach to island-effects

(65) Wang (In press):
a. John made the claim that Fido bit someone, but I didn't hear who ~~John made the claim that Fido bit ⟨who⟩~~
b. John made the claim that Fido bit someone, but I didn't hear who ~~John made the claim that Fido bit [*pro* ⟨who⟩]~~

(66) *Agnes wondered how John managed to cook, but it is not clear hat food ~~Agnes wondered how John managed to cook~~

(67) Merchant's 2001 argument against a resumption strategy:
a. Case morphology
(i) Who/*Whose did the police say that finding *his* car took all morning
(ii) The police said that finding someone's car took all morning, but I can't remember whose/*who
b. Lack of resumptive pronouns in some languages
c. Functional readings of *wh*-remnants
d. Preposition-stranding generalization

(68)
a. The case morphology on RP forces default case morphology on its antecedent
b. Lack of *overt* resumptive pronouns in some languages (see Kennedy and Lidz 2001)
c. RP *pro* need not be definite
d. Are we sure it holds? And why should it?

5 Concluding remarks

(69) Island effects are not part of NS, but part of FLN

(70) Island effects arise due to the specific format of instructions sent to the interfaces (both SEM and PHON); specifically, they are a side-effect of PIC_1, a side effect of cyclic mapping (cf. Uriagereka 1999a,b)

References

Aoun, J., L. Choueiri, and N. Hornstein. 2001. Resumption, movement, and derivational economy. *Linguistic Inquiry* 32:371–403.

Boeckx, C. 2003. *Islands and chains*. Amsterdam: John Benjamins.

Boeckx, C. 2008a. *Aspects of the syntax of agreement*. London: Routledge.

Boeckx, C. 2008b. *Bare syntax*. Oxford: Oxford University Press.

Boeckx, C. 2008c. Elementary syntactic structures. Ms, Harvard University.

Boeckx, C. 2008d. Islands. *Language and Linguistics Compass* 2:151–167.

Boeckx, C. 2008e. *Understanding Minimalist Syntax: Lessons from Locality in Long-distance Dependencies*. Oxford: Blackwell.

Cable, S. 2007. The grammar of Q. Doctoral Dissertation, MIT.

Chomsky, N. 1977. On wh-movement. In *Formal syntax*, ed. P. Culicover, T. Wasow, and A. Akmajian, 71–132. New York: Academic Press.

Chomsky, N. 2000. Minimalist inquiries: the framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. R. Martin, D. Michaels, and J. Uriagereka, 89–155. Cambridge, Mass.: MIT Press.

Chomsky, N. 2001. Derivation by phase. In *Ken hale: A life in language*, ed. M. Kenstowicz, 1–52. Cambridge, Mass.: MIT Press.

Chomsky, N. 2004. Beyond explanatory adequacy. In *Structures and beyond: The cartography of syntactic structures*, ed. A. Belletti, 104–131. New York: Oxford University Press.

Chomsky, N. 2007. Approaching UG from below. In *Interfaces + recursion = language? Chomsky's minimalism and the view from semantics*, ed. U. Sauerland and H.-M. Gärtner, 1–30. Mouton de Gruyter.

Chomsky, N. 2008. On phases. In *Foundational issues in linguistics*, ed. C. Otero, R. Freidin, and M.-L. Zubizarreta. Cambridge, Mass.: MIT Press.

Chomsky, N., and H. Lasnik. 1977. Filters and Control. *Linguistic Inquiry* 8:425–504.

Demirdache, H.K. 1991. Resumptive chains in restrictive relatives, appositives and dislocation structures. Doctoral Dissertation, MIT.

Donati, C. 2006. On wh-head-movement. In *Wh-movement: Moving on*, ed. L. Cheng and N. Corver, 21–46. Cambridge, Mass.: MIT Press.

Fukui, N. 1986. A theory of category projection and its applications. Doctoral Dissertation, MIT.

Gallego, À. 2007. Phase theory and parametric variation. Doctoral Dissertation, Universitat Autònoma de Barcelona.

Hornstein, N., H. Lasnik, and J. Uriagereka. 2007. The dynamics of islands: Speculations on the locality of movement. *Linguistic Analysis* 33:149–175.

Kayne, R. S. 1984. *Connectedness and binary branching*. Dordrecht: Foris.

Kennedy, C., and J. Lidz. 2001. A (covert) long distance anaphor in english. In *Proceedings of the 20th west coast conference on formal linguistics*, 318–331. Somerville, Mass.: Cascadilla Press.

Lasnik, H. 2001. When can you save a structure by destroying it. In *Proceedings of NELS 31*, 301–320. Amherst, Mass.: GLSA.

Lasnik, H. 2005. Review of Jason Merchant, *the syntax of silence*. *Language* 81:259–265.

Merchant, J. 2001. *The syntax of silence: sluicing, islands, and identity in ellipsis*. Oxford: Oxford University Press.

Miller, G., and N. Chomsky. 1963. Finitary models of language users. In *Handbook of mathematical psychology*, ed. R. D. Luce, R. Bush, and

E. Galanter, 419–491. New York: Wiley.
Moro, A. 2000. *Dynamic antisymmetry*. Cambridge, Mass.: MIT Press.
Nunes, J. 2004. *Linearization of chains and sideward movement*. Cambridge, Mass.: MIT Press.
Postal, P. M. 1998. *Three investigaitons of extraction*. Cambridge, Mass.: MIT Press.
Raposo, E. 2002. Nominal gaps with prepositional modifiers in portuguese and spanish: A case for Quick Spell-Out. *Cuadernos de Lingüística del I. U. Ortega y Gasset* 9:127–144.
Richards, M. 2007. On feature inheritance: An argument from the phase impenetrability condition. *Linguistic Inquiry* 38:563–572.
Richards, N. 2001. *Movement in language: interactions and architectures*. Oxford: Oxford University Press.
Rizzi, L., and U. Shlonsky. 2007. Strategies of subject extraction. In *Interfaces + recursion = language? Chomsky's minimalism and the view from semantics*, ed. U. Sauerland and H.-M. Gärtner, 115–160. Mouton de Gruyter.
Ross, J. R. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT.
Ross, J. R. 1969. Guess who? In *Chicago Linguistics Society*, ed. Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 252–286. Chicago, Illinois.
Tsai, W.T.D. 1994. On economizing the theory of A'-dependencies. Doctoral Dissertation, MIT.
Uriagereka, J. 1998. *Rhyme and reason: An introduction to minimalist syntax*. Cambridge, Mass.: MIT Press.
Uriagereka, J. 1999a. Multiple Spell-Out. In *Working minimalism*, ed. S. D. Epstein and N. Hornstein, 251–282. Cambridge, Mass.: MIT Press.
Uriagereka, Juan. 1999b. Minimal restrictions on Basque movement. *Natural Language and Linguistic Theory* 17:403–444.
Wang, A. In press. Sluicing and resumption. In *Proceedings of NELS 37*. Amherst, Mass.: GLSA.
Watanabe, Akira. 1992. Subjacency and S-structure movement of wh-in-situ. *Journal of East Asian Linguistics* 1:255–291.