On the EPP

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I. Background

(1) The Extended Projection Principle (EPP) (here called by Chomsky 'principle P') "is the structural requirement that certain configurations ... must have subjects..." Chomsky (1981, p.27)

(2) a. It seems that John is here
b. *Seems that John is here

(3) This does not entirely follow from θ-theory, since even when the predicate has no subject θ-role to assign, a subject must nonetheless be present, at least in one class of languages. "...the subject of a clause is obligatory in English and similar languages." [p.40]

(4) Chomsky (1982) introduces the name 'Extended Projection Principle', since the requirement goes beyond anything demanded by the Projection Principle, "which states informally that the θ-marking properties of each lexical item must be represented categorially at each syntactic level...". [p.8]

(5) Given that finite Infl is a Case 'assigner' (nominative Case), Fukui and Speas (1986) propose that the effects of the EPP actually follow from a more general requirement that a Case assigner must assign its Case. (2)b is out because Infl is unable to assign its Case.

(6) But there are situations where neither θ-theory nor Case theory demand a subject, yet one is apparently still required (even if the result is ungrammatical; i.e., with or without a (pleonastic) subject, the sentences are bad).

(7) *the belief [to seem [Peter is ill]]
(8) *[To seem [Peter is ill]] is widely believed
(9) *John has conjectured [to seem [Peter is ill]] Boskovic (1997)

II. An argument against the EPP

(10) Epstein and Seely (1999), in addition to adopting the Fukui and Speas position, offer a conceptual/technical argument against the EPP: The EPP demands successive cyclic A-movement, thus creating a chain. According to Chomsky (1995), a chain is a set of 'occurrences' where each occurrence is defined in terms of sisterhood. Since an EPP position is a Spec of some X, its sister is X', an intermediate projection of X. But it is widely assumed that syntactic operations can't target intermediate projections. Therefore the needed chain links can't exist, so the EPP must not be valid.

(11) Possible responses:
(12) Is it completely clear that syntactic operations can't target X'? I actually believe that the assumption is correct, but it is interesting to note that very little actual evidence has been offered in the literature.

(13) Why must occurrences be defined in terms of sisterhood? Motherhood would seem to work equally well, and avoid any question of intermediate projections.

(14) Epstein and Seely assume, completely reasonably, that chains are representational objects, existing at the ends of derivations. At that point, it is certainly true that most of the occurrences constituting a chain are intermediate projections. However, this has no consequences for the EPP per se.

(15) There is no a priori reason to assume that the EPP requirement must be met at the end of the derivation. Rather, it is naturally viewed derivationally. But then, at the point where the EPP will be satisfied, the moving DP will be targeting a maximal projection.

III. ECM configurations and the EPP

(16) Standard ECM constructions, on their standard analysis, initially look like powerful evidence for the EPP:

(17) She will prove [Bob to be [t guilty]]

(18) But Lasnik and Saito (1991), following Postal (1974), argue that the ECM subject has raised into the higher clause, suggesting that it is in Spec of Agr_O, arguably a canonical accusative Case position. The matrix verb then must have raised still higher, as in the analysis of Koizumi (1993), Koizumi (1995):

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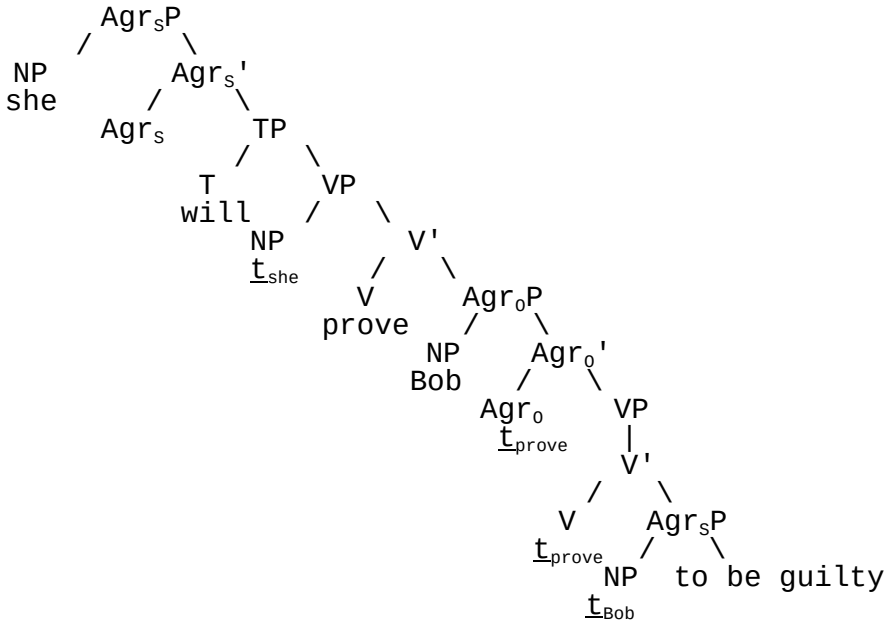

(20) The evidence for raising involves anaphor binding, bound variable anaphora, and negative polarity item licensing:

(21) The DA proved [two men to have been at the scene of the crime] during each other's trials

(22) The DA proved [no $suspect_i$ to have been at the scene of the crime] during his_i trial

(23) The DA proved [noone to have been at the scene] during any of the trials

(24) ?*The DA proved [that two men were at the scene of the crime] during each other's trials

(25) ?*The DA proved [that no $suspect_i$ was at the scene of the crime] during his_i trial

(26) ?*The DA proved [that noone was guilty] during any of the trials

(27) The DA accused two men during each other's trials
(28) The DA discredited no suspect$_i$ during his$_i$ trial
(29) The DA cross-examined none of the witnesses during any of the trials

(30) But then, we no longer have an obvious argument for the EPP, as the ECM DPs are not in Spec of IP, and they might never have been.

(31) ON THE OTHER HAND, there is considerable evidence that the ECM subject need not raise, i.e., that it can remain in Spec of IP. That is, ECM constructions do after all provide an argument for the EPP.

(32) Mary made John out to be a fool
(33) Mary made out that John is a fool
(34) Mary made out John to be a fool Kayne (1985), Johnson (1991)

(35) An observation about scope that Zubizarreta (1982) attributes to Chomsky, and that is discussed again by Chomsky (1995) provides further evidence for the optionality of object shift with ECM subjects:
(36) a. (it seems that) everyone isn't there yet
b. everyone seems [t not to be there yet]
(37) Chomsky (p.327) argues as follows: "Negation can have wide scope over the Q in [(36)a]... but not in [(36)b]", concluding that "...reconstruction in the A-chain does not take place, so it appears."

(38) When the word order makes it clear that a universal ECM subject has raised, that subject cannot be interpreted inside the scope of negation in the complement clause, as seen in (39).
(39) The mathematician made every even number out not to be the sum of two primes
(40) The alternative word order for (39), with every even number unraised, does allow narrow scope for the universal:
(41) The mathematician made out every even number not to be the sum of two primes

(42) I expected [everyone not to be there yet] Chomsky (1995)
(43) I believe everyone not to have arrived yet
(44) I proved every Mersenne number not to be prime

(45) Note that if the ECM subject has to be 'high' in order to license some element in the higher clause, then the lower reading for that ECM subject becomes impossible:
(46) The DA proved no defense witnesses to be credible during any of the trials

IV. Binding theoretic evidence for the EPP

(47) The 'Governing Category' for Condition A is based on 'clause-mate'. Lasnik (2002b)
(48) a Jack made himself out to be immoral
b?*Jack made out himself to be immoral
(49) a They made each other out to be honest
b?*They made out each other to be honest

(50) ?Jack called up himself
(51) ?They called up each other

(52) John appears to Mary to seem to himself/*herself to be the best candidate [pointed out to me in this connection by Adolfo Ausín; also attributed to Danny Fox, via David Pesetsky, in Castillo et al. (1999)]

(53) The 'Governing Category' for Condition B is based on 'clause-mate'. Lasnik (2002a) [But see Fiengo and May (1994) for an alternative take.]

(54) *John$_i$ injured him$_i$
(55) *John$_i$ believes him$_i$ to be a genius

(56) *Mary injured him$_i$ and John$_i$ did too
(57) ?Mary believes him$_i$ to be a genius and John$_i$ does too

(58) Suppose Postal (1966), Postal (1974) was right (contra Chomsky (1973)) that the relevant structural configuration for such obviation is based on the notion clause-mate. (For related discussion, see Lasnik (2002b))

(59) Weak pronouns must cliticize onto the verb. Oehrle (1976)
(60) The detective brought him in
(61) *The detective brought in him Chomsky (1955)

(62) Failure to cliticize in (57) is repaired by ellipsis.
(63) In (56), on the other hand, the pronoun and its antecedents are clause-mates independent of cliticization.

(64) *John$_i$ is believed [to seem to him$_i$ [to be a genius]]

V. Repair of EPP violations? Merchant (1999, pp. 220-230)

(65) *Which Marx brother did she say that [[a biography of _] is going to be published this year]
(66) *Which Marx brother did she say that [[a biography of _] will appear this year]

(67) A biography of one of the Marx brothers is going to be published this year - guess which!
(68) A biography of one of the Marx brothers will appear this year - guess which!

(69) *Which Marx brother did she say that [a biographer of _] worked for her
(70) A biographer of one of the Marx brothers worked for her, but I don't remember which

(71) Subject position is an island. But there is a potential source for the sluices where the extraction is not out of 'subject position', roughly as in:

(72) *Which candidate were [posters of *t*] all over town
(73) Which candidate were there [posters of *t*] all over town

(74) *Which candidate did they say [to get *t* to agree to a debate] was hard
(75) Which candidate did they say it was hard [to get *t* to agree to a debate]

(76) Guess [which Marx brother]$_2$ ~~[$_{IP}$ _ is [$_{VP}$ going to be published [a biography of t_2]]]~~
(77) *Guess [which Marx brother]$_2$ [$_{IP}$ _ is [$_{VP}$ going to be published [a biography of t_2]]]

(78) (77) violates the EPP, so why is (76) good? Infl has a strong EPP feature, where 'strong' means uninterpretable at the PF interface. If, as a result of deletion, the strong feature does not reach the PF

interface, then the absence of checking movement should not matter. According to Merchant, that's what happens in the Sluicing examples.

(79) On the other hand, Merchant (based on Ross (1969)) also presents considerable evidence that certain island violations (his 'PF islands) can be repaired by ellipsis. One of his PF islands is actually the subject island. So are we dealing with EPP repair or with island repair?

(80) [Every biography of one of the Marx brothers]$_1$ seemed to its$_1$ author to be definitive, but I don't remember which (Marx brother)

(81) Here, there must have been raising in the sluice in order for the bound pronoun to be licensed.

(82) Merchant suggests that phrasal A-movement takes place in covert syntax. Thus, EPP, an overt requirement, would have been violated, had deletion not removed the offending item (Infl on this account).

BUT

(83) a. Some applicants$_i$ seem to each other$_i$ to be eligible for the job
b.*There seem to each other$_i$ to be some applicants$_i$ eligible for the job
den Dikken (1995)

(84) a. The DA made every defendant$_1$ out to be guilty during his$_1$ trial
b.*The DA made out every defendant$_1$ to be guilty during his$_1$ trial
Lasnik (2001b), Lasnik and Park (2002)

VI. Failure of repair of EPP violations? [Based on Lasnik (2001a)]

(85) Certain heads have a strong feature, demanding overt movement for checking. Chomsky (1995)

(86) Certain heads require Spec's. Chomsky (2000), Chomsky (1981)

(87) Lasnik (2001a), Lasnik (In press) shows that apparent failure to move in order to check a strong feature can be repaired by ellipsis. Pseudogapping provides one instance:

(88) You might not believe me but you will Bob

(89) NP-raising to Spec of Agr$_O$ ('Object Shift') is overt in English. [Koizumi (1993), Koizumi (1995), developing ideas of Johnson (1991)]

(90) Pseudogapping as overt raising to Spec of Agr$_O$ followed by deletion of VP. Lasnik (1995)

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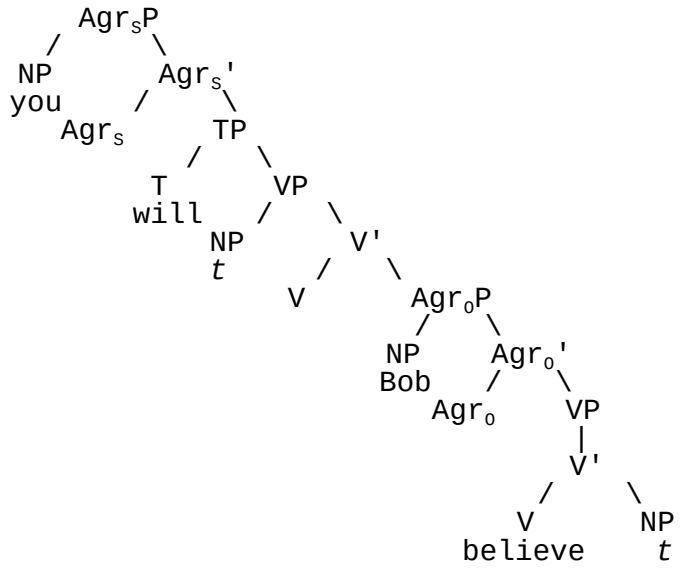

(92) *You will Bob believe

(93) "For the most part - perhaps completely - it is properties of the phonological component that require pied-piping. Isolated features and other scattered parts of words may not be subject to its rules, in which case the derivation is canceled; or the derivation might proceed to PF with elements that are 'unpronounceable,' violating FI." Chomsky (1995, p.262)

(94) "Applied to the feature F, the operation Move thus creates at least one and perhaps two "derivative chains" alongside the chain $CH_F=(F,t_F)$ constructed by the operation itself. One is $CH_{FF}=(FF[F],t_{FF[F]})$, consisting of the set of formal features FF[F] and its trace; the other is $CH_{CAT}=(\alpha,t_\alpha)$, α a category carried along by generalized pied-piping and including at least the lexical item containing F. CH_{FF} is always constructed, CH_{CAT} only when required for convergence...As noted, CH_{CAT} should be completely dispensable, were it not for the need to accommodate to the sensorimotor apparatus." [p.265]

(95) " Just how broadly considerations of PF convergence might extend is unclear, pending better understanding of morphology and the internal structure of phrases. Note that such considerations could permit raising without pied-piping even overtly, depending on morphological structure..." [p.264]

(96) In (97), if only the attracted features raise, but the V does not raise, a PF crash will ensue, but only if the offending item exists at that level. Deletion provides another way to salvage the derivation. When the lower VP is deleted without the V having raised, a PF crash is avoided and the result is acceptable Pseudogapping.

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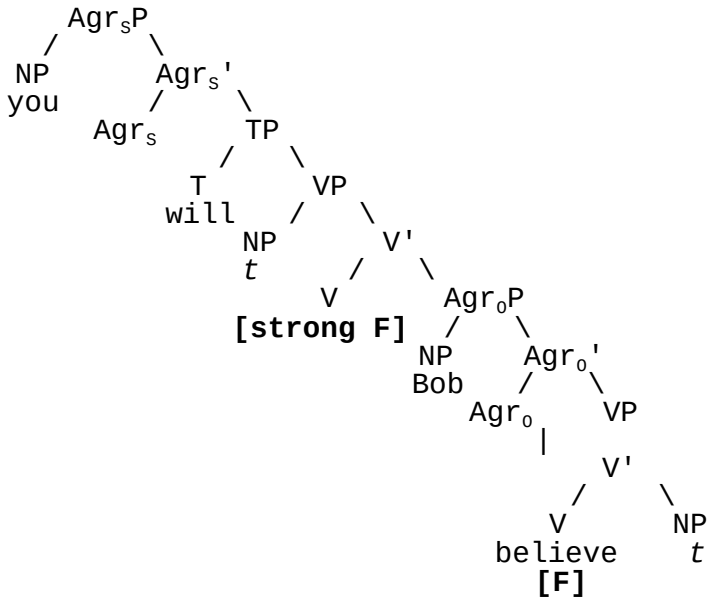

(98) Once the matching feature of the lower lexical V is attracted, the lower V becomes defective (marked *, if you like). A PF crash will be avoided if either pied-piping or deletion of a category containing the lower V (VP Deletion = Pseudogapping in the relevant instances) takes place. [Lasnik (1999), developing an idea of Ochi (1999)]

(99) Now suppose that EPP satisfaction is likewise a matter of feature checking.

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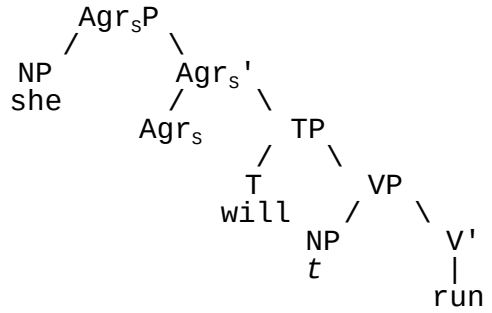

(101) Mary said she won't run, although she will ~~run~~

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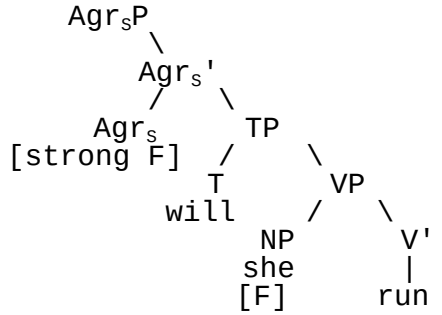

(103) *Mary said she won't run, although will ~~she run~~

(104) Agr (or T) requires a Spec. It does not suffice to check its 'EPP feature'.

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