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 $\Theta$-theory, since even when the predicate has no subject $\Theta$-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 $\Theta$-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 $\Theta$-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. ECM configurations and the EPP

(10) Standard ECM constructions, on their standard analysis, initially look like powerful evidence for the EPP:
(11) She will prove [Bob to be [__ guilty]]

(12) 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$_v$, arguably a canonical accusative Case position. The matrix verb then must have raised still higher, as in the analysis of Koizumi (1993), Koizumi (1995):
(13) The evidence for raising involves anaphor binding, bound variable anaphora, and negative polarity item licensing:

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

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

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

(17) The DA proved [no one to have been at the scene] during any of the trials

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

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

(20) ?*The DA proved [that no one was guilty] during any of the trials

(21) The DA accused two men during each other's trials

(22) The DA discredited no suspect_i during his_i trial

(23) The DA cross-examined none of the witnesses during any of the trials

(24) 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 even passed through that position.

(25) 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.

(26) Mary made John out to be a fool

(27) Mary made out that John is a fool

(28) Mary made out John to be a fool Kayne (1985), Johnson (1991)

(29) 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:

(30) a. (it seems that) everyone isn't there yet

b. everyone seems [t not to be there yet]

(31) Chomsky (p.327) argues as follows: "Negation can have wide scope over the Q in [(30)a]... but not in [(30)b]", concluding that "...reconstruction in the A-chain does not take place, so it appears."
(32) 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 (33).

(33) The mathematician made every even number out not to be the sum of two primes

(34) The alternative word order for (33), with every even number unraised, does allow narrow scope for the universal:

(35) The mathematician made out every even number not to be the sum of two primes

(36) I expected [everyone not to be there yet] Chomsky (1995)

(37) I believe everyone not to have arrived yet

(38) I proved every Mersenne number not to be prime

(39) 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:

(40) The DA proved every defendant, not to be credible during his trial

III. More on optionality of object shift

(41) Mary called up friends of John

(42) ?Mary called friends of John up

(43) Who did Mary call up friends of

(44) ?*Who did Mary call friends of up

(45) Who did you visit friends of

(46) Proposal: object shift (of objects or ECM subjects) is driven by the EPP requirement of Agr. Agr_0 is optional.

(47) Possibly problematic consequence of this:

(48) a. When there is no Agr_0 in a structure, accusative Case must be checked without raising.

   b. Therefore, even when Agr is present, Case is presumably checked without raising.

   c. But there is overwhelming evidence that A-movement is not possible once Case is checked.

   d. So raising of a DP to Spec of Agr_0 should never be possible.

(49) Proposal: Following Chomsky (2001), assume that a checked feature is not actually eliminated until the end of the (strong) phase. Thus, movement will still be possible to Spec of Agr_0 (but not much further).

IV. Binding theoretic evidence for the EPP

(50) The 'Governing Category' for Condition A is based on 'clause-mate'. Lasnik (2002b)

(51) a. Jack made himself out to be immoral

   b. *Jack made out himself to be immoral

(52) a. They made each other out to be honest

   b. *They made out each other to be honest

(53) ?Jack called up himself

(54) ?They called up each other

(55) John appears to Mary to seem to himself/*herself to be the best candidate [pointed out to me in this connection by Adolfo Ausin; also attributed to Danny Fox, via David Pesetsky, in Castillo et al. (1999)]
The 'Governing Category' for Condition B is based on 'clause-mate'. Lasnik (2002a) [But see Fiengo and May (1994) for an alternative take.]

*John, injured him;
*John, believes him, to be a genius

*Mary injured him, and John, did too
Mary believes him, to be a genius and John, does too

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))

Weak pronouns must cliticize onto the verb. Oehrle (1976)
The detective brought him in

*The detective brought in him Chomsky (1955)

Failure to cliticize in (60) is repaired by ellipsis. In (59), on the other hand, the pronoun and its antecedents are clause-mates independent of cliticization.

*John, is believed [ to seem to him, [ to be a genius]]

*John, injured even him;

*John, made even him, out to be a genius

*John, made out even him, to be a genius

*John, believes even him, to be a genius

*John, injured him and Bill

*John, believes him, and Bill to be geniuses

( ) John, made him, and Bill out to be geniuses

( ) John, made out him, and Bill out to be geniuses

Mary showed Susan Bill even though he didn't want her to. (Jason Merchant, attributed to Chris Potts)

*He, didn't want Mary to show Susan Bill

*He didn't want Mary to show Susan him

*Mary showed Susan him


*Which Marx brother did she say that [[a biography of _] is going to be published this year]

*Which Marx brother did she say that [[a biography of _] will appear this year]

A biography of one of the Marx brothers is going to be published this year – guess which!

A biography of one of the Marx brothers will appear this year – guess which!

*Which Marx brother did she say that [a biographer of _] worked for her

A biographer of one of the Marx brothers worked for her, but I don't remember which

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:
Which candidate were [posters of t] all over town
Which candidate were there [posters of t] all over town
*Which candidate did they say [to get t to agree to a debate] was hard
Which candidate did they say it was hard [to get t to agree to a debate]

Guess [which Marx brother], t is [vp going to be published [a biography of t]]

*Guess [which Marx brother], t is [vp going to be published [a biography of t]]

(92) violates the EPP, so why is (91) good? Inf1 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.

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?

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

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

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 (Inf1 on this account).

BUT

Some applicants seem to each other to be eligible for the job
*There seem to each other to be some applicants, eligible for the job
den Dikken (1995)

Merchant acknowledges this sort of potential difficulty, but claims that the relation between there and its associate is not one of covert phrasal movement, but rather, possibly (formal) feature movement and thus irrelevant to binding and scope. This is, in fact, exactly the proposal of Lasnik (1995a), Lasnik (1995b) for such constructions.

BUT

The DA made every defendant out to be guilty during his trial
*The DA made out every defendant, to be guilty during his trial

John-ga subete-no gakusei-o, soitu-no-sensei-ni syookaisita
-Nom all-gen student-acc he-gen teacher-dat introduced
'John introduced every student to his teacher

*John-ga soitu-no sensei-ni subete-no gakusei-o syookaisita
-Nom he-gen teacher-dat all-gen student-acc introduced

Short scrambling is (or can be) A-movement. If there were covert A-scrambling, then (102) should be as good as (101). Takano (1998)

Thus, there is good reason to believe that subject island violations can be repaired by ellipsis (and, hence, no reason yet to assume that EPP violations can be).
VI. Failure of repair of EPP violations? [Based on Lasnik (2001a)]

(105) Certain heads have a strong feature, demanding overt movement for checking. Chomsky (1995)
(107) Lasnik (2001a), Lasnik (2002c) shows that apparent failure to move in order to check a strong feature can be repaired by ellipsis. Pseudogapping provides one instance:

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


(110) Pseudogapping as overt raising to Spec of Agr_o followed by deletion of VP. Lasnik (1995c)

(111)
```
  Agr_sP /
    \   /
     NP Agr_s'
       \   /
        you Agr_s
          \   /
           TP /
             \ /
              VP /
                \ /
                 T will /
                   \ /
                    NP /
                      V'
                        \ /
                          V /
                            \ /
                              Agr_oP /
                                \ /
                                 NP Agr_o'
                                   \ /
                                    Bob /
                                      \ /
                                       Agr_o VP /
                                          \ /
                                           V'
                                              \ /
                                               V /
                                                 \ /
                                                   NP believe /
                                                       \ /
                                                        t
```

(112) *You will Bob believe

(113) In (114), if only the attracted features raise, but the V does not raise, a PF crash will ensue (Ochi (1999)), 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.
(114)  
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(115) 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)]

(116) Now suppose that EPP satisfaction were likewise a matter of strong feature checking.

(117)  
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(118) Mary said she won't run, although she will run

(119)  
```

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

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

(122) Further, this need for a Spec is presumably not a phonetic requirement, given that various phonetically null elements (pro, PRO) can satisfy it. I will immediately return to what kind of requirement the EPP actually is.

-7-
VII. An argument against the EPP?

(123) Epstein and Seely (1999) 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.

(124) Possible responses:
(125) 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.

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

(127) 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.

(128) There is no a priori reason to assume that the EPP requirement must be met at the end of the derivation. Rather, it might be viewed derivationally. In fact, this seems natural, given that the only alternatives are an LF constraint or a PF one. Yet semantically null elements (pleonastics) and phonetically null elements (PRO, pro) can satisfy it.

(129) But then, assuming standard bottom-up structure building, at the point where the EPP will be satisfied, the moving DP will be targeting a maximal projection - the entire existing structure. Lasnik (2003)

(130) Note that this would entail that EPP violations cannot be repaired, if, as argued in Section VI, the EPP is not a matter of strong feature checking.

VIII. Reconstruction, and lack thereof

(131a) (it seems that) everyone isn't there yet
   b. everyone seems [t not to be there yet]

(132) The mathematician made every even number out not to be the sum of two primes (both from Section II above)

(133) No large Mersenne number was proven to be prime
(134) (133) cannot accurately be paraphrased by (135).
(135) It was proven that no large Mersenne number is prime

(136) No one is certain to solve the problem
(137) It is certain that no one will solve the problem

(138a) a. Every coin is 50% likely to land heads *
   b. It is 50% likely that every coin will land heads

(139a) a. Every coin is 3% likely to land heads *
   b. It is 3% likely that every coin will land heads

   Lasnik (1998)

(140) 'Total' reconstruction (i.e., for scope) is generally not available with A-chains.

(141) But apparently sometimes it is (indefinite subject, no negation):

(142) Someone is likely to solve the problem
Sauerland and Elbourne (2002) propose that in these reconstruction circumstances, the movement is in the PF component. So as far as LF is concerned, the subject is still downstairs.

As they observe, this requires some version of the 'T-model' rather than a single cycle model, so that PF movement strictly follows 'syntactic' movement, and doesn't affect LF.

Another potential argument for a T-model:

How likely to win is John
*How likely to be a riot is there Lasnik and Saito (1992),
  following Kroch and Joshi (1985)
[How likely [PRO to win]] is John
*[How likely [t to be a riot]] is there [out by Proper Binding
  Condition]

*How likely to be a man outside is there
"a man" must replace "there" in LF (as in Chomsky (1986)), but this
movement is illicit here, being sideways. Barss (1986)

There is a man here
There are men here

Chomsky (1986) proposed expletive replacement to capture the
agreement facts.

Expletive replacement per se cannot be correct, as shown by Lasnik
(1995b), based on Lasnik and Saito (1991) [see also Postal (1974) and

But the essence of Barss's account can be maintained under the feature

*([How likely [t to be a man outside]] [τ is [if there ... ]
  [F] ——— [F]
  | [ ] ||

✓There is [likely [ to be [a man outside]]]
  [F] ——— [F]
  | | |

But feature movement without pied-piping renders the residual item PF

(159) (157) then demands a separate LF cycle (so the feature movement
doesn't affect PF), as in the T-model.

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