Commentary on 2004 papers by Pesetsky & Fox and Erteschik-Shir to appear in
Theoretical Linguistics

How Phonological is Object Shift?

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1. Introduction

The papers here represent very different analyses of Object Shift (OS), and take very
different positions on the interaction of phonology and syntax, an area in which there
are many unsettled questions.

Mainstream work tends to hold that syntax is blind to phonological content,
with certain exceptions, for example sometimes phonetically null elements require
special syntactic licensing (Chomsky 1981), or certain syntactic rules only apply to
nodes with phonetically visible features (Holmberg 2001). Basically falling within the
mainstream are proposals that syntactic movement can be blocked by or driven by
requirements that have phonological effect at the output, such as adjacency (Bobaljik
1995, Kidwai 1999) or rules matching prosodic structure with focus structure
(Zubizarreta 1998). Such accounts generally describe movements in the syntactic
terms of specifiers and feature checking and so on, and do not rely on the visibility to
syntax of strictly phonological features. We can call these all Syntactic accounts.[1]
Most accounts of OS are Syntactic in these terms, for example those of Holmberg
(1986), Holmberg and Platzack (1995), and Bobaljik (1995, 2002).

In other work, a distinction is countenanced between Syntactic and
Postsyntactic movement. Such accounts typically argue that Postsyntactic movement
has properties that syntactic movement doesn't have; for example violating the
Coordinate Structure Constraint (Adger 1997), violating the Head Movement
Constraint (Adger 2000), violating islands (McCloskey 1999), lowering rather than
raising (Embick & Noyer 2001),[2] or not feeding A-bar movement (Chomsky 2001 on
Th/Ex). A Postsyntactic account of OS is Holmberg (1999); on that account, OS
violates the Extension Condition, which Holmberg assumes is valid for syntactic
movement. Another is Chomsky (2001).[3]

Both of the accounts presented in this volume are highly original and neither
fits neatly into the familiar range of Syntactic and Postsyntactic analyses. Erteschik-
Shir promotes a new extreme of phonologizing syntax, proposing that OS and other
apparently syntactic phenomena should be handled Postsyntactically, though I suggest
that in the end she accomplishes this by syntacticizing phonology. Pesetsky and Fox,
for their part, propose that a phonological property (linear order) constrains syntax in
a way not explored before. I point out some empirical challenges for their proposal.

2. Erteschik-Shir

Erteschik-Shir (henceforth ES) hopes to develop what she calls "a purely
phonological account of object shift." This might lead one to expect that phonological
features such as foot structure or the presence of onsets would be visible to syntax, but
instead ES's account relies on what most accounts would take to be syntactic, rather
than phonological features. For example, where previous accounts have assumed that
pronouns are syntactically special, stipulating a syntactic [+pronoun] feature, ES
assumes that pronouns are prosodically special, essentially introducing a [+pronoun]
feature in the phonology. The only surface phonetic manifestation of such features, I
believe, is in determining word order. However, since these features do not interact
with syntax, in ES's system, she achieves a separation of syntax and phonology that is

highly original. Syntax proper, on her account, builds base structures on which phonology operates to linearize constituents.

A central tool in ES's account of OS is Åfarli's (1997) multi-dimensional analysis of adverbs, whereby adverbial adjuncts to an XP may linearize to the left or right of XP, or between the specifier of XP and its head. The linearization process for adjuncts is called 'bending.'

ES assumes that adverbs adjoin to VP (§2.3). Linearization of an adverb to the peripheries of VP would put it in the positions indicated in (1), where the actually ungrammatical linearizations are marked with stars (I illustrate throughout with Norwegian, unless otherwise noted).

(1)   a.   Han så [$_{VP}$ (aldri) t$_V$ [$_{SC}$ analysen   løse oppgaven]   (*aldri)]
             he   saw   never   the.analysis solve the.assignment never
             'He (never) saw the analysis solve the assignment'
    b.   Han så [$_{VP}$ (*aldri) t$_V$ [$_{SC}$ den løse oppgaven]   (*aldri)]
             he   saw   never   it   solve the.assignment never
             'He saw (*never) it solve the assignment'

The badness of the rightmost positions in (1a–b) is characterized by ES by a rule that an adverb must linearize "in the 'earliest' position in which it is licensed" (§2.3). As long as the adverb cannot bend upwards to precede the finite verb, this gets the facts in (1a).

The badness of the VP-initial position in (1b) leads to two additional assumptions—that the pronoun must incorporate prosodically, and that the adverb cannot host it (§2.4). But no evidence is presented that these properties are phonological; adverbs do not have audibly distinctive phonology (cf. Nilsen's 2003: 96 minimal pair *Han har det fortsatt* 'He has it still$_{Adv}$' vs. *Han har fortsatt det* 'He has continued$_V$ it'). ES suggests a distinction between weak and strong adverbs (§2.2), but all adverbs are crossed by OS, if they are between the finite verb and its trace, not just the ones which cannot be VP-final.

Furthermore, the pronoun is phonologically indistinguishable from a definite article, which cannot undergo OS. Consider the ambiguous string in (2a), disambiguated by OS in (2b) or its failure to apply in (2c).

(2)   a.   Han så   den løse   oppgaven.
             he   saw it/the solve/loose the.assignment
             'He saw it solve the assignment' or 'He saw the loose assignment'
    b.   Han så den aldri løse oppgaven.
             he   saw it never solve the.assignment
             'He never saw it solve the assignment'
    c.   Han så   aldri den løse oppgaven.
             he   saw never the loose the.assignment
             'He never saw the loose assignment'

Thus, it seems that on ES's account, special diacritics have to be assigned to pronouns indicating that they must incorporate, and special diacritics have to be associated with adverbs indicating that they are not hosts for prosodic incorporation; these diacritics are not realized phonologically at the surface, so the relationship of word order rules to phonology is abstract.

Of course, the prosodic structure built on the DP in (2c) might be assumed to allow or even force the determiner to incorporate prosodically to the right at some abstract level, and there might be some reason that this cannot happen in (1b)/(2b).

But note that ES has to assume that linearization rules violate syntactic constituency. In order to get the actual order in (2b) the adverb must bend in between the small clause subject and predicate.[4] ES provides no reason that an adverb should not be able to bend in between a determiner and an adjective.

Again, an abstract prosodic structure could be postulated that would make a DP an inviolable domain, but just as with the special marking of adverbs as non-hosts, this would seem to be a relabeling of traditionally syntactic properties as abstractly phonological.

Given the freedom of adverb bending in ES's system, there are many unattested positions in which we might incorrectly expect to see adverbs. The constraint that only the earliest (i.e. leftmost) possible position is acceptable does important work in ruling out most of the unattested options, but it is not clear how the constraint actually operates. For example, in extending her analysis to Negative Movement (§2.3), ES discusses the Danish examples in (3a–b).

(3)   a.   *   Jeg gav   Else ingenting.
                   I   gave Else nothing
        b.   *   Jeg gav   ingenting Else.
                   I   gave nothing   Else
        c.   *   Jeg gav   ingen Else -ting.
                   I   gave no   Else thing

ES's suggestion is that *ingen* is an adverb, and *-ting* is a bound morpheme. (3a) is ruled out because the adverb *ingen* has been bent into VP after the indirect object, violating the 'earliest possible' rule. But (3b) is bad as well—according to ES, because of a processing constraint blocking the reordering of arguments—as is (3c), presumably because *-ting* is a bound morpheme. It seems that the 'earliest possible' condition should pick out (3a), which should therefore be grammatical. I return to this construction in the next section.

There is a heavy empirical burden on the bending mechanism, but it is not explicated fully enough to evaluate. ES assumes that the rather rigid order of multiple adverbs is determined by their attachment sites (§2.4). This would easily get the right order when adverbs are to the left of VP, but when they are anywhere else it is unclear why the same left-right order should be preserved (see Nilsen 1997 for a critique of Åfarli's multi-dimensional analysis).

The fact that the mechanisms are not made fully explicit does not mean that they cannot be made to work, but I suspect that when they are fleshed out, they will look more like syntax than like phonology. However, this may be because I have the wrong preconceptions about what syntax looks like; daringly, ES extends her notion of phonological movement even to classic syntactician's staples like Topicalization.

ES suggests that V2 is derived by the interaction of two phonological processes, one moving the verb to the left edge, and the other moving a topical element X to the left edge. To account for the impossibility of applying these rules in the wrong order (yielding *VXSO), ES suggests a 'processing constraint' that prevents elements with phi-features from coming between V and S (§2.1); but the order is blocked even if X has no phi-features (e.g. *Så da jeg han* 'saw then I him'). On the impossibility of topicalizing the subject itself, followed by verb fronting

(yielding *VS(Adv)O, e.g. *Så jeg (da) han 'saw I (then) him)') ES seems to invoke a requirement that the verb be in second position (§2.1); but surely this cannot be a phonological constraint on the verb itself, which is not second in V1 or in embedded clauses.

Quite generally, the characteristics of topicalization seem to be more syntactic than phonological. For example, the non-restrictive relative clause in (4a) can be moved along with the object to the initial position, even though it defines a separate prosodic phrase; it cannot be stranded, as shown in (4b), unless it is extraposed; and it can only be extraposed, as shown in (4c), if it is attached at the level of the highest DP—thus the relative clause in (4a) ambiguously modifies 'a picture' or 'the child,' whereas that in (4c) can only modify 'a picture.'

(4)   a.   Et bilde av barnet, som Ragnhild syntes var pent, tok jeg på festen.
                 a picture of the.child as Ragnhild thought was pretty took I at the.party
                 'I took a picture of the child, which Ragnhild thought was pretty, at the
party' (*which* = picture or child)
        b. *   Et bilde av barnet tok jeg, som Ragnhild syntes var pent, på festen.
                 a picture of the.child took I as Ragnhild thought was pretty at the.party
        c.   Et bilde av barnet tok jeg på festen, som Ragnhild syntes var pent.
                 a picture of the.child took I at the.party as Ragnhild thought was pretty
                 'I took a picture of the child at the party, which Ragnhild thought was
pretty' (*which* = picture)

Of course, an abstract prosodic domain could be postulated to mimic the ban on extraction from an embedded DP, but again this would simply make abstract phonology emulate syntax, without phonetic expression.

Thus, it seems to me that to the extent that ES's account handles word order variation, it can do so only by making reference to the kinds of features and categories that we know from syntax; once the account is fully fleshed out, it may not look so radical after all.

3. Pesetsky & Fox
Pesetsky & Fox's paper (henceforth P&F) is quite different in its approach to the PF side of syntax. The intriguing proposal is that the linear order of VP-internal material is fixed at an early point in the derivation and cannot be undone by later movements. Holmberg's Generalization facts fall out because the relative order of V and O matters in a way that the relative order of adverbs and V and of adverbs and O doesn't. The account is straightforwardly Syntactic in the terms sketched in §1 here, but the introduction of Order Preservation as a constraint on syntax represents a novel conception of a way that syntax can make reference to a property with phonologically audible output. This approach needs to be tested on a much wider range of data, but here I simply point out a couple of problems for the specifics of the account of the Scandinavian facts.

P&F include only VP-internal material from the initial Spell-Out domain, excluding the subject and auxiliaries. However, OS also fails to cross auxiliaries, as noted by Holmberg (this volume). To include auxiliaries in the first Spell-Out domain, without also counting the subject,would run counter to the assumption, standard since Koopman and Sportiche (1991), that the subject originates in a projection associated with the verb from which it receives its thematic role.

However, it is not completely clear that the subject should be excluded; OS is quite generally prevented from crossing the subject (cf. Nilsen 1997), apart from a restricted class of exceptions known as 'long object shift' (cf. Josefsson 1992). For most speakers, the only possible orders are those in (5) (cf. Nilsen 2003: 113; as indicated, the first pronoun following the adverb must be focused).

(5)   a.   Vanligvis gir   ikke HAN meg   den.
        b.   Vanligvis gir   han   ikke   MEG den.
        c.   Vanligvis gir   han meg   ikke   DEN.
        d.   Vanligvis gir   han meg den ikke.
             usually   gives he   me   it   not   he   me   it
             'Usually he doesn't give me it'

All alternatives are excluded, for most speakers (again setting aside the long-OS construction). P&F might invoke Relativized Minimality to rule out objects crossing the subject, but this will also rule out *IO<DO (cf. Josefsson 2003), so the real empirical burden of the novel part of P&F's proposal is the relative ordering of the verb to the internal arguments.

However, S<V is arguably just as strong as V<O preservation, in the Middle Field. In Icelandic, Swedish, and Norwegian, the subject can appear in any of several positions relative to adverbs (Sigurðsson 1990, Holmberg 1993, Nilsen 1997).[5]

(6)   a.   Sånt roter   gutten sannsynligvis   vanligvis   bort.
        b.   Sånt roter   sannsynligvis gutten vanligvis   bort.
        c.   Sånt roter   sannsynligvis   vanligvis gutten bort.
             such messes the.boy   probably   the.boy   usually   the.boy   away
             'Stuff like that, the boy probably usually loses'

The low position requires a certain degree of focus (the necessary degree varies across the Scandinavian languages, cf. Svenonius 2002a). The pattern in (6) is also found in Northern Norwegian dialects, which have in addition optional short verb movement in many kinds of embedded clauses (Bentzen 2003); this movement crosses only lower adverbs, and not higher ones ((7) is Northern Norwegian, from Bentzen 2003: 581).

(7)   a.   Ho kan ha   nøkkelen, med mindre ho rote   vanligvis   bort   sånt.
             she can have the.key   with less   she messes usually   away   such
             'She can have the key, unless she usually loses things like that'
        b. *   Ho kan ha   nøkkelen, med mindre ho rote   sannsynligvis bort sånt.
             she can have the.key   with less   she messes probably   away such

Bentzen demonstrates that this is not embedded V2; topicalization is impossible in clauses introduced by 'unless,' and high adverbs, if present, precede the short-moved verb. Bentzen has pointed out (personal communication) that short verb movement never combines with the low subject position ((8) is Northern Norwegian, provided by Kristine Bentzen).

(8) a. ... med mindre ho Ida   vanligvis   rote   bort sånt
    b. ... med mindre   vanligvis ho Ida rote   bort sånt
    c. ... med mindre ho Ida rote vanligvis   bort sånt
    d. * ... med mindre   rote   vanligvis ho Ida   bort sånt
          with less   she Ida messes usually she Ida messes away such
          'unless Ida always loses things like that'

(8a) is the standard order, for all Mainland Scandinavian; (8b) is possible with focus on the subject, with much dialectal variation. (8c) is peculiar to those dialects with verb movement in embedded clauses, including Icelandic and Northern Norwegian; but (8d) is systematically impossible.

So, arguably, the order that should be respected is not just V<O, or V<IO<DO, but S<V<O, and S<V<IO<DO. The problem is that if anything becomes a topic, even something that does not originate within VP, then the verb precedes the subject, which is why P&F leave the subject out of the first Spell-Out domain.

There are several ways that P&F could preserve the heart of their analysis while including the subject in the first Spell-Out domain, it seems to me. Lacking the space to develop such a proposal, I turn to the case of Quantifier Movement (QM) in Icelandic.

P&F propose an intriguing account of certain QM patterns by appealing to a sort of 'Inverse Holmberg Effect.' Here, the fact that a quantified expression has crossed the verb within VP means that the verb cannot cross it again to undergo V2. However, it seems the analysis cannot deal with the basic data from a subcase of QM, namely Negative Movement (NM) (Christensen 1986, 1988, 1995, Rögnvaldsson 1987, Jónsson 1996, Svenonius 2000).

NM is obligatory, that is, a negatively quantified argument must move out of VP, in all Scandinavian languages (except for narrow scope negation, cf. Svenonius 2002b). In contexts where NM is blocked, negatively quantified arguments in VP are ungrammatical; this can be seen in the example in (3a) above, from Danish, in which it is difficult to OS a full DP indirect object. When the indirect object is a pronoun, it undergoes OS, permitting NM of the direct object, and *Jeg gav henne ingenting* 'I gave her nothing' is grammatical in Danish.

In Icelandic, to demonstrate the same fact requires an adverb, to show when the IO has undergone OS, as in (9) (based on Rögnvaldsson 1987 and Jónsson 1996), where I include VP brackets in the gloss to indicate the structural positions of the arguments.

(9) a. * Jón sagði   (hreinlega) ekkert   Maríu.
    b.   Jón sagði Maríu (hreinlega) ekkert.
    c. * Jón sagði   hreinlega   Maríu ekkert.
          Jon told Maria simply   nothing [$_{VP}$ t$_V$ Maria nothing]
          'Jon (simply) told Maria nothing'

As Rögnvaldsson (1987) demonstrates, NM adjoins to the highest VP shell. This means that sentences with negatively quantified objects have the structures sketched in (10) before verb movement, showing the structures with and without an auxiliary but omitting the IO, which is optional with *segja* 'say, tell.'

(10) a.   ... ekkert [$_{VP}$ sagði t$_{DP}$]
              nothing   said

b.   ... ekkert [$_{VP}$ hefur [$_{VP}$ sagt t$_{DP}$]]
          nothing   has   said

After verb movement from (10a), the order V<O will be reinstated, whereas in (10b), the surface order will be Aux<O<V. The odd fact that P&F want to account for is that in (10b), NM may cross an unmoved indirect object, if present (cf. P&F's (36a)), whereas in (10a) it may not, as illustrated in (9a) (cf. P&F's (38)).

P&F assume that what is wrong with (9a) is that verb movement disrupts the first Spell-Out domain's DO<V<IO, but then they have to assume that (10a) is also impossible, since there, verb movement would disrupt DO<V. However, (10a) is a good structure, since NM is obligatory and yet *Jón sagði ekkert* 'Jon said nothing' is grammatical. P&F would have to deny that NM even occurs in clauses with a simple verb, complicating the account of NM and leaving unexplained data like that in (9).

Jónsson (1996) showed that NM in (10b) is A-bar movement. In Svenonius (2000), I demonstrated that NM in (10a) shows the characteristics of A-movement, including failure to strand prepositions (pseudopassives are impossible in Icelandic) and failure to license parasitic gaps. I argued that the failure to cross the indirect object was another A-movement characteristic (under Relativized Minimality), explained if adjunction to the VP headed by a theta-assigning lexical V, as in (10a), is A-movement, whereas adjunction to the VP headed by a non-theta-assigning, functional auxiliary verb, as in (10b), is A-bar movement.

The account in Svenonius (2000), then, allows a simple and general characterization of obligatory NM, whereas it seems to me that the P&F account does not.

4. Conclusion

Both of these papers make important contributions to our thinking about the syntax-phonology interface, in ways that I think reach far beyond the specifics of their accounts of OS and NM.

ES's account suggests that we have been thinking about displacement phenomena in fundamentally the wrong way. My challenges for the approach focus on the ways in which the rules proposed do not refer to actual phonology, but some abstract phonological representation that does not necessarily have phonetic significance independently of the way it affects word order. This might be an acceptable result, but there is a lot of work to be done to show that such an account can be made to bear fruit.

P&F's account suggests that Order Preservation is an important part of grammar, and promises to explain a whole range of edge effects. Edge phenomena have been observed in many domains (see Svenonius 2004 for some), and it will be interesting to see if the P&F model can be extended to them. My challenges for the account suggest to me that Order Preservation might be a violable constraint, perhaps making it even more similar to William's (2003) notion of Shape Conservation.

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Notes

[1] The non-movement account of scrambling in Neeleman and Reinhart (1998) is essentially Syntactic in these terms, though their analysis of English case assignment makes crucial reference to prosodic structure and so is Postsyntactic.

[2] The assumptions of Bobaljik (1995, 2002) are very similar to those of Embick & Noyer (2001), but I place them in these different groups because Bobaljik's focus is on OS, which he assumes to be a syntactic movement, facilitating the adjacency of morphologically related heads, while Embick & Noyer's focus is on morphological merger, the lowering of affixal material from one head to another.

[3] This is partly obscured by the fact that Chomsky (2001) uses the abbreviation OS only for the first, syntactic step of a two-stage movement. On his account, the object first moves to the EPP position of $v*$; if it does not, then it is assigned a feature Int' which is incompatible with an unfocused definite object. This is a Syntactic step in my terms because phonology is invoked only in the statement of the rule assigning Int', which refers to the "phonological border of $v*$P" (p. 35). The identification of the

"phonological border" is sensitive not to details of phonological structure but only to whether there is phonological material to the left of the object or not; a moved verb is invisible at the border of $v*P$, leaving the object to get the feature Int', whereas an unmoved verb harmlessly absorbs Int', preventing the object from shifting. The second step of object shift in Chomsky's account is called Disl[ocation] (p. 30), and takes the object across adverbs. Chomsky does not Disl in detail, but suggests that it is a phonological rule like Th/Ex. Since the two steps together are OS in my terms, and since the second one has properties crucially distinguishing it from syntactic movement, Chomsky's account is Postsyntactic in my terms.

[4] Here ES departs from Åfarli's (1997) assumptions about adverb placement. Åfarli argues that adverbs adjoin to AgrP, assuming that Icelandic full DP objects move to SpecAgrP, and that weak pronouns in Scandinavian more generally undergo clitic movement.

[5] I use these adverbs to keep the data minimally different from Bentzen's original examples in (7); however, the example is awkward with these two adverbs in a row, much like the effect in English when two -ly adverbs succeed each other. See Nilsen (2003) for many more examples, including some taken from natural contexts.