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Phil Branigan, *Provocative syntax* (Linguistic Inquiry Monograph **61**). Cambridge, MA: MIT Press, 2011. Pp. x + 176.

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Since the introduction of the Minimalist Program in the early 1990s, the question of what drives (overt) movement and how it is to be implemented technically has been one of the most hotly debated issues in Generative Grammar. While in early Minimalism (Chomsky 1995) overt movement was triggered by strong uninterpretable features, it has become standard since the Agree model proposed in Chomsky (2000) that overt movement is forced by so-called EPP-features that are associated with particular unvalued uninterpretable features. This conception of movement has not gone uncriticized, for both conceptual and empirical reasons. On the one hand, simply placing an EPP-feature on some head does little more than restate the observation that feature valuation is accompanied by overt displacement. On the other hand, since EPP-features instruct heads to create a specifier position for the displaced syntactic object, it is no longer clear how movement that does not target a specifier position, namely head movement and adjunction, should be handled.

It is in this context that Phil Branigan proposes a new theory of movement aiming to provide both a better rationale for displacement and a unified treatment of all types of overt movement. The basic idea is that movement takes place not because a specifier position needs to be filled but because feature valuation always involves external Merge of an element taken from the numeration that needs to be integrated into the phrase marker. The virtues of the new movement model are mainly demonstrated in the domain of Germanic inversion constructions such as verb second and embedded verb second, quotative inversion, locative inversion, and negative inversion. The book is organized as follows. Chapter 1, 'Introduction', sets the stage by briefly sketching the problems surrounding the use of an EPP-feature as the movement-triggering device. Chapter 2, 'Provocation', introduces the operation that is at the heart of movement, namely PROVOCATION. Chapter 3, 'Provocative case studies', provides applications of the

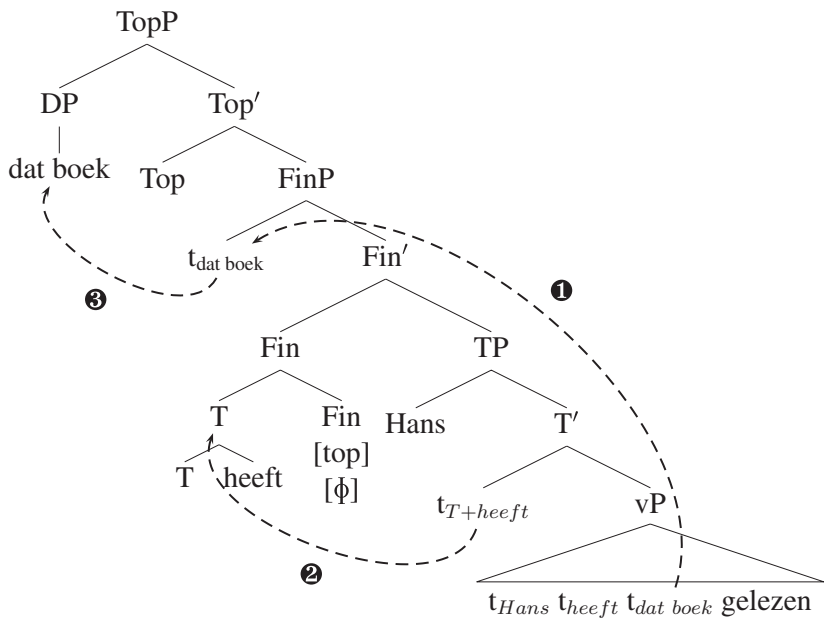
new movement theory to different inversion constructions. Chapter 4, 'Force and provocation', focuses on movement to the left periphery of embedded clauses. Chapter 5, 'Provoking trace deletion', centers on how chain formation works in this model and provides an account of *that*-trace effects. In what follows, I provide a brief summary of the chapters followed by the evaluation of the proposal.

As already noted, Chapter 2, 'Provocation', introduces the operation implementing displacement, namely provocation. As in the standard Agree model, probes bear features that require valuation. Some of them can be valued under Agree while others require displacement. In the latter case, they are PROVOCATIVE. What is novel in the provocative model is that provocation always requires an external match, i.e. valuation by external Merge of an element from the numeration (17). While familiar from the syntax of expletives and *wh*-operators like *why* or scope markers like German *was* 'what' that can be directly merged into the scope position (10f.), valuation by external Merge is crucially also involved in bona fide cases of 'movement' as in *What did John do?* (14). In this concrete example, another instance of *what* is drawn from the numeration and merged into SpecCP. There is simultaneous internal probing and if the probe finds a matching internal goal, feature valuation and chain formation occur, thereby ensuring proper interpretation of all chain links. A-positions provide theta-role and case information while A′-positions provide quantificational properties. Subject to language-specific variation, chain formation may also be felicitous with non-identical goals as in German partial *wh*-movement (31) or classificatory noun incorporation (37f.). Note, though, that an internal goal is not a prerequisite. Derivations also converge without chain formation as long as the externally merged constituent can receive a proper interpretation by itself. Thus, importantly, 'movement' in this framework involves neither literal copying as in Nunes (2004) nor Remerge as in Chomsky (2004) et seq. but rather successive external Merge + chain formation. For simplicity's sake, I will speak of movement and attraction in what follows even though these are actually misnomers. When external Merge takes place, the inherent properties of the copied element will determine where it is merged: phrases will usually be merged as specifiers of heads, heads will be adjoined to heads. More interestingly, the system makes it possible for a head to form a chain with a phrase. Possible examples are clitic *wh*-words in French and Alemannic (19ff.). In some languages, certain provocative probes require more than one external match, e.g. the C-head in multiple *wh*-fronting languages like Bulgarian. Such probes are called AGITATORS (23ff.). A particularly interesting application of agitators is proposed for French where the phi-features of T simultaneously 'attract' the XP subject and the clitic objects (24). The same feature can thus trigger phrasal as well as head movement. Whether something moves as a head or a phrase does not have to be encoded in the probing feature but follows from independent properties: by assumption, phrasal movement is preferred over head movement (32). This means that head movement only becomes possible if phrasal movement is blocked. One such case is when the matching feature is located on the complement of the probe.

Since complement to specifier movement is taken to be unavailable (see e.g. Abels 2003), only head movement is possible in this case (33). As a side-effect, this derives the strict locality of head movement as in all non-local cases phrasal movement will be preferred.

Chapter 3 discusses inversion constructions in Germanic. At the core of inversion are the properties of Fin, a functional head above TP. It has provocative phi-features and can in principle attract either the subject in SpecTP or the verb in T. Given the preference for phrasal movement over head movement, subject-initial clauses will be the default. Inverted orders obtain once an additional movement-triggering feature is inserted on Fin during the derivation (45). These features usually trigger intermediate movement steps and they are relativized to the elements that can be involved in inversion. While inversion is limited to negative elements and *wh*-phrases in English, it can also involve topics in other Germanic languages. Cross-linguistic differences in the features that can be assigned to Fin then derive the variation. Crucially, the inserted feature has to be checked BEFORE the inherent phi-features. As a consequence, when they probe, SpecFinP is already occupied, thus blocking movement of the subject. Instead, the verb is attracted to Fin. In a later step, the A′-moved constituent moves on to a higher functional head, i.e. TopP or FocP. The following tree diagram represents the derivation of object topicalization in Dutch *Dat boek heeft Hans gelezen* 'This book, John has read' (52):

(1)



In Chapter 4, embedded clauses in Germanic languages are addressed. The properties of Fin are again crucial. In the so-called symmetric languages Icelandic

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and Yiddish, Fin has the same properties as in root clauses, leading to inverted order, i.e. systematic embedded V2, when it attracts a non-subject to its specifier and the verb satisfies the phi-features (89ff.). In the other, asymmetric languages (German, Dutch, Frisian, Norwegian, Swedish, Danish), the Fin normally used in embedded clauses is different: it contains the declarative complementizer which for reasons of interpretation must move to Force (66). Crucially, adding features to this head to provoke A′-movement via SpecFinP and thus trigger the inversion structure is not a possibility: Fin would then attract the verb, but after moving to Force, a clash results in the morphology when the complex head should be spelled out as both a complementizer and a finite verb. Consequently, it is always the subject that checks Fin's phi-features while the verb stays in T. Residual embedded V2 in the asymmetric languages is only possible with certain matrix verbs. It is assumed that these select a different Force-head, namely Force*, which does not attract Fin. Rather, the Fin used here is the same as in root clauses leading to the normal inversion pattern as illustrated above (93–98).

Chapter 5 focuses on the interpretation of A′-chains at the interface. It is assumed that the operation REFINE converts chains into structures legible at the LF-interface. Similar to the Preference Principle from Chomsky (1995), top copies are reduced to the operator while the restriction is kept in the bottom copy where a variable is inserted (30f.). Since Refine applies after every instance of chain formation, there will eventually be too many operators in the structure, the intermediate ones creating problems for LF-interpretation. Deletion of intermediate operators is thus necessary, but by the so-called CLAUSE EDGE INTERPRETATION CONVENTION, CEIC (127), this is only possible if they are located external to a force marker. In a sentence with long subject extraction like **Which horse do you think that will win the race?* there will be two relevant intermediate operators in the embedded clause: one in SpecForceP and one in SpecFinP (lower A-'copies' are taken to be innocuous):

(2) $[_{FinP}$ which x do $[_{TP}$ you think $[_{FcP}$ which x that
$[_{FinP}$ which x $[_{Fin}$ Ø] $[_{TP}$ x: horse(x) will win the race]]]]]

Mapping to the interfaces takes place on a phase-by-phase basis (127) and when the complement of the phase-head Force is interpreted, the copy in SpecFinP would need to be deleted. But since it is not external to a force marker – Fin is zero and the proper force marker is *that* – deletion is impossible, leading to a crash of the derivation (130). With long non-subject extraction the problem will not obtain because movement does not go via the embedded SpecFinP so that there will not be any offending intermediate copies. The felicity of long subject extraction from *that*-less clauses like *Which horse do you think will win the race?* is assumed to follow from the fact that such complements are bare FinPs with silent Fin acting as a force marker so that the potentially offending copy in SpecFinP can be deleted (130). The famous alleviation of *that*-trace effects by intervening adverbs as in *Which car did Terry say that just yesterday had won the won the Indy?* (132ff.) obtains because adverbs may

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be directly merged into SpecFinP so that the subject extracts from below, leaving no offending copy in SpecFinP. For languages like Bavarian, Dutch, Norwegian and Finnish Swedish, where subject extraction across the declarative complementizer is licit, it is assumed that 'that' can head FinPs so that the offending copy in SpecFinP can be deleted in accordance with the CEIC (135–138).

So does the monograph achieve its goal to formulate a new, unified and conceptually appealing theory of overt displacement? Providing an answer to this question is somewhat difficult because many ingredients of the provocation model have been proposed in previous work (as the author notes himself): feature valuation by external Merge is proposed in Broekhuis (2008), multiple attraction by a single head in Hiraiwa (2000), checking features assigned during the derivation before inherent features is argued for in Müller (2010), the complementarity of head and phrasal movement as well as driving head and phrasal movement by the same feature is from Pesetsky & Torrego (2001). Finally, the *that*-trace account is very close to Rizzi & Shlonsky (2007). What seems truly novel is (i) the proposal that 'movement' involves successive external Merge + chain formation, (ii) that a feature may attract both a head and a phrase simultaneously, (iii) that features can be inserted onto non-phase heads during the derivation which (unlike the EPP-/edge-features in Chomsky) only attract phrases of a certain type, and (iv) that chains are modified derivationally for the purpose of LF interpretation. Proposals (ii)–(iv) do important work in the book. Proposal (iii) certainly has wider application: the idea that intermediate movement steps need to be triggered by more specific features which refer to the type of movement plays a prominent role in Abels (2012). Proposal (ii) is quite interesting, but it remains to be seen whether further instances next to attraction by Force in embedded clauses and attraction by French T can be motivated. Proposal (iv) seems mainly motivated by the *that*-trace account and is designed in a way so as to make successive-cyclic movement difficult, but it seems to fit relatively naturally into a derivational system. What is rather surprising, though, is that the first proposal, which is certainly the most controversial one, hardly plays any role in the book. The entire discussion is phrased in terms of copying so that the question arises whether there are any empirical or conceptual gains. This is difficult to assess because unfortunately the technical details of provocation are not spelled out in sufficient detail and its potentially far-reaching ramifications remain largely unexplored. For instance, suppose that a *wh*-object is moved. What about the case-features of the XP merged into SpecCP? Perhaps it receives a case-value via chain formation but since the only feature involved at this point is [wh], this is at least not completely obvious. Or consider head movement. Suppose T (containing v and V) is to undergo movement to Fin. This will require external Merge of a complex T-head, but it is unclear how and where this complex head was formed. It seems to suggest that complex heads are formed independently in the workspace; once this is possible, one could replace head 'movement' by first forming the complex head and merging it directly with the complement (e.g. TP) instead of externally merging a head onto another, but again, these intriguing questions

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are not addressed. This is not to imply that the provocation model necessarily encounters difficulties in these areas. Probably, these issues can be dealt with in a straightforward way. But given that a really novel perspective on movement is proposed, one would certainly have expected (and enjoyed) more coverage of its precise properties and potential implications.

Conceptually, there remains the stipulation that some diacritic on unvalued features is necessary after all to trigger overt displacement. The label 'provocative' is thus not much different from 'strong' or 'EPP' (it differs from EPP in that it can also attract heads). Furthermore, the treatment of head movement may still violate the Extension Condition. More importantly, the approach also needs a requirement (not spelled out in the book) that the elements involved in valuation have to be introduced into the phrase marker immediately after feature valuation. This does not follow from anything because in principle elements in the workspace that have already done their work could be merged at a later point (normally, EPP-satisfaction FOLLOWS Merge of the copied element). In other words, the approach seems to require a notion like the checking domain from Chomsky (1995) to ensure that the externally merged elements are merged locally to the probe. Furthermore, since an external match is in principle sufficient for feature valuation, it is not clear how and why matching with an internal element is still enforced. Arguably, there is simultaneous probing into the numeration and into the c-command domain of the probe, but only the former is needed for convergence (in most cases, however, the derivation will be uninterpretable at LF if there is no suitable internal goal). This implies that the component of provocation that probes downward is not identical to Agree without provocative features (where valuation is required for convergence). In other words, while in the standard model (e.g. Chomsky 2000) movement is just a more complex version of Agree, this is not the case in the provocation model, which may be seen as an increase in complexity.

In summary, then, the book has a somewhat hybrid character. On the one hand, it contains a radical proposal that raises numerous highly stimulating questions, but, unfortunately, they go largely unaddressed. On the other hand, the monograph includes a meticulous study of inversion in Germanic languages involving a somewhat eclectic but certainly ingenious combination of partly previous and partly new minimalist machinery.

A few more critical remarks on some of the technical devices are also in order. First, as already pointed out in Putnam (2011), the postulation of phi-features on Fin (in addition to those on T) seems a bit spurious as they never surface except in the case of complementizer agreement (where one would normally posit an additional phi-probe on Force). Since they can attract both the subject and the finite verb, they elegantly derive the inversion patterns, but at the same time they somewhat have the flavor of an 'inversion feature' (basically like *u*T in Pesetsky & Torrego 2001). Additionally, since the verb and the subject have already been involved in feature valuation, questions arise with respect to the ACTIVITY CONDITION. Second, the account of *that*-trace effects only works if

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vP-phases do not play a role in the mapping to LF; the author argues that some vP-phases can be voided by means of extraposition of complement clauses (145) while those in single clauses are unproblematic because copies in SpecvP are A-related (Phil Branigan, p.c.). Unfortunately, this is not worked out in much detail so that it is difficult to evaluate the merits of the proposal. Otherwise, long non-subject movement would leave offending copies in SpecvP which cannot be deleted given the CEIC, thereby crashing the derivation. Furthermore, relating felicitous subject extraction across an overt complementizer (as in Bavarian) to the absence of a ForceP-layer is a rather brute-force solution in the absence of independent evidence for structural differences. Related to this is that the notion of force marker, which is crucial for deletion of intermediate operators and thus the alleviation of *that*-trace effects, loses much of its content in the discussion because not only overt complementizers in Force or Fin but also silent Fin and even the finite verb in Fin can count as force markers (146). The treatment of complementizers generally raises questions in that the overt form is only loosely related to its feature content. To give an example, Dutch *dat* 'that' can spell-out either Force or Fin+Force, or just Fin. Given an expanded left periphery, one of the crucial diagnostics for determining the topological position of an element, namely the complementizer, thereby threatens to get lost.

Concerning the presentation, I have already mentioned that the treatment of the precise workings of provocation in Chapter 2 remains rather implicit. Chapter 3, by contrast, is quite straightforward, while Chapter 4, and to a lesser extent Chapter 5, are fairly challenging. To some degree, this is surely due to the complexity of the data (which in some areas is rather recalcitrant); and the author is certainly to be commended for covering such a large range of interrelated phenomena and subtle cross-linguistic differences. But the difficulties also arise because the technical assumptions are not always presented in sufficient detail. Sometimes, like the role of vP-phases, they are just mentioned in passing,; sometimes, as in the case of complementizers, they seem to change during the presentation, making the analysis seem contradictory. In quite a few instances, the presentation raises pressing questions that are not addressed until 25 pages later (without indicating at the point where the questions may arise where to look for the answer). To give an example, on page 68 it is stated that embedded V2 in Dutch occurs because Fin does not move to Force although it normally does, but the reader has to read on until page 93 to find out that this is due to a different force marker employed in this context. While interpolating the technical details oneself is always enriching, I found the extent to which this is necessary in this part of the book to be at the upper limit. An overview at the end with all the final assumptions and the major factors accounting for the cross-linguistic differences would have been immensely helpful, because even after reading these parts several times one can still get confused quite easily. Related to this is that the references to other parts of the text are generally too imprecise; the author often refers to entire sections or even chapters without making clear what exactly he has in mind. Finally, the representations of syntactic structures are somewhat

reader-unfriendly; when several elements undergo movement, their traces usually fail to be distinguished by indices. These shortcomings in presentation are quite deplorable because they detract attention from the big picture and might lead to a somewhat negative evaluation of the proposal which, I believe, does work in the end once the necessary details are interpolated.

Despite these reservations, this is a very interesting and thought-provoking monograph, both because of some of the technical innovations and because of the wealth of empirical detail covered. It will thus make a valuable read for any generative syntactician interested in the factors underlying overt movement and especially the intricate patterns found in the left periphery of Germanic languages.

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The co-editors of this volume, Dunstan Brown, Marina Chumakina & Greville Corbett, are members of the Surrey Morphology Group at the University