Case in GB/Minimalism[*]

Jonathan David Bobaljik and Susi Wurmbrand
University of Connecticut

Case Theory in GB/Minimalism is about the distribution of NPs, not about morphological form per se. In this theory, "abstract case" plays a central role in being one of the driving forces of movement, uniting a variety of transformations (passive, raising, unaccusative, etc.), and in regulating alternations between overt and unpronounced subjects in non-finite clauses. In the original presentation of Case Theory in Chomsky (1980), abstract Case is related to the morphological property *case* via the hypothesis that the formal features that regulate the syntactic distribution of NPs are the same features that are overtly realized as case morphology in some languages.[1] As the theory developed, and in particular after prominent attention was given to quirky case in Icelandic and ergative case systems, the connection between Case (a formal feature underlying syntactic licensing of NPs) and case (the morphological category) became more tenuous, though the connection between the two is still a live topic of inquiry, with views spanning the spectrum of possibilities.

1. CASE THEORY IN GB

1.1 The Case Filter

Case Theory is first proposed in the defining works of the GB framework (Chomsky 1980, 1981) as a solution to the puzzling distribution of lexical (i.e., phonologically overt) NP subjects of infinitival clauses in English, as illustrated in (1). In general, the subject of an infinitive must not be an overt NP ((1a,e)), but this restriction is lifted when the infinitival clause is the complement of a particular class of matrix verbs, such as *believe* (1b), or when the infinitival clause contains the prepositional complementizer *for* (1c,d). Where an overt lexical NP subject is prohibited, the subject of the infinitive is assumed to be the silent pronominal element PRO, the interpretation of which is determined by Control Theory.

(1)   a.   Leo decided [(*Lina/himself) to leave] .
        b.   Leo believed [Lina to be a genius]
        c.   Leo decided [for Lina to leave]
        d.   For Leo to win would be great.
        e.   *Leo to win would be great.

Prior to the advent of Case Theory, this distribution fell under the purview of the *NP-to-VP* filter of Chomsky & Lasnik (1977), given in (2).

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[1] We write "Case" for the abstract theoretical entity in GB and Minimalism, and "case" for the traditional morphosyntactic notion. As discussed below, the two notions were originally held to be directly related, but the relationship has grown more abstract.

(2)   * [$_\alpha$ NP to VP], unless α is adjacent to and in the domain of Verb or *for* ([-N])

The major result of Case Theory is the deduction of (2), itself little more than a summary of the facts in (1), from assumptions that are argued to be independently necessary, along with one new assumption, of far broader generality than the construction-specific filter in (2). This new assumption, the key element of Case Theory is the proposal that all lexical NPs (i.e., NPs other than PRO or NP-trace) require Case, even in Modern English, where the morphological exponence of case is limited to the pronominal system. This proposal (which Chomsky attributes to Jean-Roger Vergnaud) is formalized as the Case Filter, given in one version in (3).[2]

(3)   *NP if NP has phonetic content and has no Case   (Chomsky 1981, 49)

Given the Case Filter, the distribution in (1) may be largely deduced from independently motivated rules of Case assignment. A rather rudimentary statement of Case assignment for English (and similar nominative-accusative languages) is given in (4):

(4)   a.   subject of tensed clause: nominative
        b.   object of verb: accusative
        c.   object of preposition: accusative (or oblique)

The (descriptive) content of (4) is a necessary part of any grammatical description of English and summarizes the observed basic distributional facts for elements that bear overt case inflection. Absent from (4) is any reference to the subject of a non-finite clause. Given the Case Filter, the absence of case assignment rules applying to the subjects of infinitives translates into the exclusion of lexical NPs from this position. In addition, the "unless" clause of (2) begins to make sense when viewed from the perspective of Case. That is to say, verbs and prepositions have the distinctive characteristic of being (accusative) case assigners, and thus the disjunctive environment stipulated in the "unless" clause is none other than the domain of accusative case assignment.[3] What (2) amounts to is that the subject of an infinitive may not be lexical, unless it is in the domain of a case assigner. This proposition is straightforward for the NP following *for* in (1c,d) but requires some additional assumptions for the NP in the infinitival complement of *believe* (1b), to which we now turn.

The contrast in (1a-b) shows that there is some difference between the class of verbs represented by *decide* and that represented by *believe*. The Case Filter provides an account of this contrast, if what is special about the *believe* class is that they permit Case assignment across a non-finite clause boundary.[4] That the NP in the complement of

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[2] Note that the Case Filter does not ban a phonetically empty element with Case. Thus in early GB implementations, *wh*-trace is taken to be Case-marked, and a moved *wh*-phrase satisfies the Case Filter via its trace. In later implementations, the Case Filter applies to A-chains.

[3] This same property (being Case assigners) accounts for why, in English, only V and P may take NP complements. Adjectives and nouns are not case assigners, and thus are limited to PP and CP complements, requiring *of* where a corresponding verb might take an NP complement (cf. *refuse the offer* vs. *refusal of the offer*). For an alternative approach to complementation asymmetries, within the Minimalist Program but without appeal to Case, see Pesetsky & Torrego 2004.

[4] Proposals in the GB framework for allowing Case assignment across the infinitival clause boundary vary in details, but share the common core that the complement of the *believe* class verbs is (or becomes, after a deletion operation) smaller than the complement of the *decide* class (control verbs). Updating the notation,

believe is indeed receiving Case as if it were the object of *believe* is supported by various diagnostics, for example, the loss of accusative in this position when *believe* is passivized, and the somewhat murky adjacency requirement between *believe* and the NP that is characteristic of objective case assignment in English (see below). The lexical subject of the non-finite complement of *believe* avoids the fate of other infinitival subjects (i.e., limitation to PRO) because in this configuration (which would come to be known as *Exceptional Case Marking* or 'ECM'), it is subject to Case assignment.

In sum, Case Theory constituted a significant advance in deducing the major effects of a rather puzzling, essentially descriptive, filter (the **NP-to-VP* filter), largely from independently motivated elements of the theory (as in (4)) together with a very broad, and not construction-specific assumption, the Case Filter (3).[5]

1.2 Extensions: Case Theory

The main interest in Case Theory in GB and on into Minimalism lies not in the original empirical result, but in the consideration of a variety of intricately connected consequences. The postulation of the Case Filter had ramifications well beyond the distribution of infinitival subjects.

For example, Case could now be seen as one of the driving forces of movement for a variety of constructions. Thus, a unified account of promotion to subject in passive (5), raising (6), and unaccusatives (7), became possible: in each construction, the NP in its original position is not governed by a case assigner, and thus in each configuration, the NP must raise to finite subject position in order to satisfy the Case Filter. The Case Filter thus becomes one of the answers to the perennial question of why movement occurs, in the examples at hand, with reference to why movement to subject position occurs in English.

(5) a.   Lina was kissed *t* (by Leo).
     b.   Kai was believed [*t* to have won the soccer match.]
     c.   The birdcage was found [*t* empty].

(6) a.   Lina seems [*t* to like her brother].
     b.   Lina is likely [*t* to fall asleep].

(7) a.   Jeffrey's bus arrived *t*.
     b.   The tree fell *t*.

Note, though, that a Case-based account of movement in these configurations is largely redundant with another core postulate of GB, namely the *Extended Projection Principle* (Chomsky 1982, 10), which includes the requirement that every finite clause have a subject (compare the *Final-1 Law* in Relational Grammar; see Perlmutter & Postal 1983)

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the proposal in Chomsky (1981) is that infinitival complements are CPs, but that *believe*-type verbs induce a rule of CP-deletion, hence taking IP-complements at the level relevant for the application of the Case Filter. In later work, it is suggested that *believe* selects an IP rather than a CP complement as a lexical property (Chomsky & Lasnik 1995, 112).

[5] Case Theory provides a deduction of the major effects of the **NP-to-VP* filter, but does not have exactly the same empirical coverage. Some effects not subsumed under Case Theory, as well as some empirical problems for the **NP-to-VP* filter, largely having to do with infinitival relatives, are addressed independently in Chomsky (1980), where a more comprehensive analysis of infinitival relatives is proposed.

The question of whether this redundancy can be eliminated has long stood as a research problem in GB/Minimalism.[6]

Another early result of Case Theory, set out by Stowell (1981), regards the "order of complements" problem. As shown in (8), for verbs in English that select for multiple complements, it is generally held that the NP argument must precede all other (PP, CP) arguments, at least in "neutral" clauses (i.e., clauses that are not derived by, for instance, *Heavy NP Shift* or similar operations which are typically associated with a "special" intonation).

(8)   a.   Maggie donated [$_{NP}$ her allowance] [$_{PP}$ to the charity].
       b.   *Maggie donated [$_{PP}$ to the charity] [$_{NP}$ her allowance].

There is no such ordering effect in the corresponding nominalizations, as shown in (9), suggesting that the restriction is syntactic, rather than semantic, in nature.

(9)   a. $_?$[Maggie's donation [$_{PP}$ of her allowance] [$_{PP}$ to charity]] was nice.
       b. $^?$[Maggie's donation [$_{PP}$ to charity] [$_{PP}$ of her allowance]] was nice.

Similarly, multiple PP complements to a verb may be fairly freely reordered with respect to one another, in contrast to (8), suggesting that the restriction is specifically about NP complements.

(10)   a. $_?$Julia talked [$_{PP}$ to Jillian's father] [$_{PP}$ about Tommy].
        b. $^?$Julia talked [$_{PP}$ about Tommy] [$_{NP}$ to Jillian's father].

As Stowell argues, the particular requirement that NP complements precede all others (in English) can be seen as a special case of the general requirement of Case Adjacency, whereby the direct object of an accusative Case assigner (V or P) must be adjacent to its assigner (abstracting away from parentheticals and the like).[7] Deriving the order of complements from Case Theory meant that these ordering restrictions could be eliminated from the phrase-structure rules, an important step in the move towards a generalized X'-Theory, now standard in GB/Minimalism.

The above paragraphs illustrate the way in which Case Theory, originally suggested as an alternative to some very construction-specific filters regarding infinitives, could be neatly applied to a wide range of phenomena, allowing for increased generality of the rules at each step.

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[6] Fukui & Speas (1986) propose to reduce the EPP to Case Theory, by assuming that nominative case assignment must be established in overt syntax, by movement (rather than government or Agree). This idea (sometimes called the Inverse Case Filter) has been advocated within the Minimalist Program, see Bošković (2002) and especially Epstein & Seely 2006. It is not clear that this involves a genuine reduction, inasmuch as the empirical scope of the EPP and classic Case Theory are not identical. The core of Case Theory is held to be universal, while the obligatory NP-movement to subject position seen in English is a matter of parametric variation (cf. Chomsky 1981, 27-28, and for more detailed recent arguments that the EPP is parameterized within Germanic, see Wurmbrand 2006 and references therein, especially Haider 1993, 2006). An opposing direction for the elimination of the redundancy, represented within GB/Minimalism by Marantz 1991 and others subsequently, is that the EPP be retained as a language-particular property, and Case Theory be abandoned. See the discussion in section 2, below.

[7] Stowell also considers the strong tendency for finite sentential complements (CPs) to extrapose, for which he introduces the Case Resistance Principle, and the assumption that CPs may not bear Case.

1.3 Government

Although (4) suffices as a good first pass at a description of Case assignment rules, the articulation of the details proved to be an important area of inquiry, largely because grammatical functions (subject, object) have been taken in GB and related frameworks to be derivative, structurally defined notions (see Chomsky 1965). From this perspective, an adequate characterization of the domain of objective case assignment seemed to require reference to two notions, namely c-command and adjacency. In formalizing the domain of Case assignment to capture the results discussed above, Chomsky (1980, 25) defines the notion of *government*. The original formulation is given here:

(11)   α is *governed* by β if α is c-commanded by β and no major category or major category boundary appears between α and β.

The proper definition of government, and in particular, the formulation of what it means for a category to "appear" (or later to "intervene") between α and β was one of the most significant technical questions of the 1980s (see Aoun & Sportiche 1983, Chomsky 1981, 1986, Lasnik & Saito 1984, 1992 and Rizzi 1990 for a sample of important works). In Chomsky (1980), the definition was intended to subsume linear adjacency as well as structural intervention, though in most later work the adjacency condition on government, and hence on Case assignment, was held to be derivable from other properties of the theory (see, among others, Johnson 1991). Within the GB framework, the government relation, motivated originally for Case, was proposed to be a key notion at work in some way or another in a variety of modules of the theory; a derivative notion, *proper government*, playing a central role in subject-object asymmetries in extraction and related topics for example (see Chomsky 1986, and work cited there, especially Huang 1982). Stepping back from the details of a rather extensive literature, there is nevertheless a sense in which Case assignment remained at the core of the notion of government, providing the observable instances of the phenomenon from which the operational notion is to be generalized. If an NP in some configuration is clearly dependent on a particular element (V or P) for case, then that configuration must constitute a configuration of government, and that can be used heuristically to set parameters on the bounds of the definition.

1.4 Summary: Case Theory in GB

In sum, Case Theory, comprising at its core the Case Filter and a description of Case assignment, such as (4), stood very close to the core of the GB framework, with tangible results that moved the theory forward, and new questions that it opened up. Ultimately the results of Case Theory would be dependent on successful articulation of the theory of Case assignment. The explorations of locality, couched in terms of *government*, constituted one aspect of the careful formalization of (4). Another area of exploration considered the implications of cross-linguistic variation in Case assignment rules (see below).

Although the notion *government* and the various attendant notions provided a greater technical precision, the basic rules of Case assignment in (4) left open a variety of questions, which would later serve as the impetus for a body of work at the transition from GB to Minimalism. Among the topics which received significant attention were asymmetries between nominative and accusative (or other) cases, including (i) accusative was assigned by a lexical head (V or P), but nominative was assigned by a functional head (finite Infl); (ii) accusative was assigned under c-command (head-complement), where nominative was assigned under m-command (head-specifier), and (iii) accusative

assignment was subject, in English, to an adjacency condition (as noted above), while nominative assignment was not (cf. *They probably won't win*, where the auxiliary is assumed to be in Infl). In addition, an unresolved question was why finiteness should matter for the assignment of nominative case by Infl.

2. HOW ABSTRACT IS ABSTRACT CASE?

Given the explicit nature of the emerging theory, the ramifications of variation in Case assignment properties (as discussed in detail throughout this volume) would have predictable consequences for observable phenomena, and to some degree this was exploited with successful results. For example, Chomsky (1981, 122-123), discussing the work of Burzio (1981), suggests that Italian has a rule of nominative Case assignment to the post-verbal position, where English lacks such a rule. Under a Case-Theoretic approach to movement in passive, as sketched above, this difference in Case entails that Italian lacks obligatory NP-movement to the preverbal subject position in the counterparts to the English examples in (5).

On the other hand, the foundations of GB Case Theory were taken head on in a landmark paper on Icelandic Zaenen, Maling and Thráinsson (1985, ZMT). That paper demonstrated that the original solution to the puzzle in (1) was inadequate, and that the traditional notion of Case, even allowing for an "abstract" Case (in the sense of case lacking morphological realization), was not the driving force in the distribution of NPs, neither in the control/ECM alternation nor in the promotion to subject position in passive, raising and unaccusatives. Space limitations do not permit a thorough review of this work here, but they key point can be made with reference to a few examples.

Icelandic is a language with overt morphological case distinctions. Transitive constructions involving a nominative-accusative array work exactly like their English counterparts—i.e., all the key distributional properties that are held to be the purview of Case Theory (including ECM, the ban on lexical subjects of infinitives etc.) are robustly attested in Icelandic as well. In contrast to English, however, Icelandic also has what has become known as *quirky case* subjects, that is, subjects which are marked with a case other than nominative. One such example is given in (12a). The verb *hjálpa* 'help' governs lexical dative case on the object (cf. (12b)) and this case is hence retained in the passive. Importantly, the dative in (12a) must be seen as the subject of the sentence, a fact for which ZMT provide ample and convincing evidence, building on earlier work such as Andrews (1976) and Thráinsson (1979). (On this score, Icelandic contrasts minimally with German, which has superficially similar examples, but in which the datives are not subjects). If it is assumed that 'subjecthood' is a structural property associated with a particular syntactic position (e.g., the specifier of IP), one must conclude that the dative argument moves to this position. This, then, however, is in conflict with a theory which aims at deriving movement to subject position from the Case Filter. Since the dative arguments receive (lexical) case, they should automatically satisfy the Case Filter in (3), and hence there would be no need for them to move to receive Case.

(12) a. Þeim / honum   var   hjálpað.
          them / him.DAT   was.SG helped
          'They/He were/was helped.' (ZMT, 99, 96)

      b. Ég   hjálpaði   honum.
          I.NOM   helped   him.DAT
          'I helped them.' [ZMT 98]

The point can also be made with the control versus ECM distinction, the distributional puzzle at the historical core of Case Theory. In Icelandic, as in English, the subject of an infinitive must not be an overt NP, except when the infinital clause is the complement of an ECM verb, such as *telja* 'believe'. However, this distinction cross-cuts case distinctions. A quirky subject shows exactly the same alternation between PRO and lexical NP as other subjects, but the quirky subject clearly does not depend on *believe* for its (overt) case—the dative on the NP *þeim* 'them' in (13b) is assigned by the verb 'help', not by *tel* 'believe' (which assigns accusative).

(13) a   Ég   vonast til   [að   PRO   verða   hjálpað].
          I.NOM   hope for   to   be   helped
          'I hoped to be helped.'   (ZMT, 109)

      b   Ég   tel   þeim   hafa   verið hjálpað í   prófinu
          I.NOM believe them.DAT   to.have been   helped in exam.the
          'I believe them to have been helped on the exam.'   (ZMT, 107)

The work of ZMT shows that Case, for the purposes of the Case Filter, cannot be equated with the morphological case that is realized on NPs (even allowing for zero-realization, as on English nouns). ZMT thus argue for the abandonment of Case Theory (a direction pursued in the GB/MP framework by Marantz 1991 and others), and suggested that the relevant licensing theory be formulated directly in terms of GFs (they thus took their paper as support for LFG). Others within the GB framework (Cowper 1988, Freidin & Sprouse 1991) took the ZMT results as instead showing that the Case Filter was correct, but referred to an even more abstract notion of Case than envisioned in *Chomsky (1980,1981)*, one which may align with the morphologically visible case system in the basic patterns, but need not do so in all instances. Thus in Icelandic, "abstract nominative" (the Case of finite subjects) could be realized as morphological nominative (the basic realization), accusative, dative, or genitive, and similarly, "abstract accusative" (the Case of objects, including ECM objects) could also be realized by any of the four morphological cases. Largely missing from the debate, so far as we know, are concerted attempts to show that these two perspectives are distinct in substance, and that the postulation of "abstract nominative", for example, is distinct from the postulation of "subject" as a grammatical primitive. Steps towards untangling these views have appeared only quite recently (see in particular Legate 2005, and for an opposing view Bobaljik, to appear).

3. CASE THEORY IN THE MINIMALIST PROGRAM

The early 1990s marked a transition from GB to Minimalism as the declared framework of choice for many generative syntacticians. A good deal of confusion seems to have arisen around nomenclature. Throughout the Minimalist writings, Chomsky has been at pains to stress that Minimalism is a *program*, not a theory or theoretical framework. That is, in contrast to formal approaches to this point, which have focused on providing explicit characterizations of grammar (universal and particular) at increasing levels of abstraction and generalization, Minimalism has been proposed as a set of rough guidelines about the types of questions that may advance linguistic inquiry into the domain of asking why UG is the way it is. Despite the new focus underlying the Minimalist Program, the sizeable majority of work cast as Minimalist is characterized by a renewed focus on uniformity and theoretical parsimony, but the goal on the horizon in most of this work is still (as in GB) an explicit specification of the principles and parameters of UG, in other words, the limits of what it means to be a "possible

language". We turn now to a brief outline of where Case Theory fits within Minimalism in practice, the next phase of the Principles and Parameters framework, and then examine where Case Theory fits in the (currently programmatic) discussion of what is known as the *Strong Minimalist Thesis*.

3.1 Minimalism in practice

For Minimalism in practice, the major questions of Case Theory revolve around the differences between nominative and accusative case assignment identified above (section 1.4), and thus, the possibility of developing a uniform theory of nominative and accusative case assignment.

This has proven to be a productive domain of inquiry, with a variety of proposals for a unified theory of Case assignment on offer. One perspective (exemplified prominently by Chomsky 1991) proposes to assimilate accusative Case assignment to the same type of structural configuration as nominative, namely m-command, or in more current terms a spec(ifier)-head relation (see Koopman 2006 for a recent defense, and Wurmbrand 2006 for empirical problems in generalizing spec-head even in the limited domain of nominative subjects in Germanic). At the other end stands the proposal that all case assignment, including nominative to the subject, should be characterized by a government relation, that is, c-command and locality (see Chomsky 2000, where the relationship is termed Agree). The door to this possibility is opened by assuming that all subjects in Spec,IP are moved there from lower positions, a proposal originally suggested by Ken Hale (class lectures) and Koopman & Sportiche (1991). Note that the Agree perspective, while unifying the mechanisms involved in structural Case assignment, shifts the burden of the motivation for movement in examples like (5)-(7) away from Case Theory, to the EPP or an extension thereof.

An additional line of investigation on the theme of a uniform case assigning (or 'case-checking', a distinction we set aside here) mechanism concerns the functional versus lexical difference in the case assigners. Mahajan (1989), Déprez (1989), Chomsky (1991), Johnson (1991) and others postulate VP-external functional projections responsible for Case on objects, leading to a uniform proposal that Case is assigned by functional heads. One striking piece of empirical evidence for this comes from Long Passive (and Long Unaccusative) in German, Spanish, Japanese and other languages. Relevant examples are given in (14) and (15)—embedded clauses are used to avid the additional complications posed by Verb Second. The key point to observe is that it is the voice distinctions on the embedding verb (in this case *versuchen* 'try') that determine the possibility of a nominative/accusative case alternation on the object of the embedded verb. The alternation is passive-like, but it is the voice marking associated with the higher verb only that determines the case properties in the lower domain. See Wurmbrand (2001) for extended discussion and additional references.

(14)   weil   er den/*der Traktor   versucht hat   [t_{OBJ}   zu reparieren]
         since he the.ACC/*NOM tractor   tried   has   [t_{OBJ}   to repair]
         'since he tried to repair the tractor'

(15) a. weil   der Traktor   zu reparieren   versucht wurde
         since the.NOM tractor   to repair   tried   was
         'since they tried to repair the tractor'

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    b.   weil   die Traktoren   zu reparieren   versucht wurden
        since   the tractors (NOM) to repair   tried   were
        'since they tried to repair the tractors'

Though there has been a veritable explosion of proposals, it seems clear that some reduction of the differences in (11) is a real possibility, within the GB/MP frameworks.

3.2 Programmatic Minimalism

In addition to the technical innovations that characterize Minimalism in practice, a small minority of Minimalist work poses questions that go beyond specification of the principles and parameters of UG, and toy with the key Minimalist question: how close does language come to "optimal design", where "optimal design" is to be understood as having no properties other than those dictated by the need for the language module to interface with two other cognitive systems: conceptual-intensional system and the motor-articulatory system. The *Strongest Minimalist Thesis* (SMT, Chomsky 2001, 1) is the conjecture that language approaches optimality in this very particular sense. Case, in particular Abstract Case, should leap to the foreground in such a line of inquiry, in the form of the question in (16).

(16)   Why should there be Abstract Case at all?

At first blush, Abstract Case seems problematic for the *SMT*, in the sense that there is no obvious interface pressure for its existence. To the extent that there is any temptation to toy with functionalist explanations, such as the *identifying* and *distinguishing* functions of case recognized by Mallinson & Blake (1981), Comrie (1989) and others, these seem ill-suited to the core examples of Abstract Case at work in languages such as English where Case is not marked.

One speculation (see, e.g., Chomsky 2004) is that abstract Case features, now generalized as part of a system of uninterpretable formal features, lie at the heart of the linguistic coding of what Chomsky refers to as the "duality of semantics" (Chomsky 2004, 7), one side being thematic relations/argument structure, and the other being information structure and scopal relations. Under the most recent conception, Case features allow for the proper working of the Probe-Goal system, a feature-checking mechanism that is in a loose sense the descendent of licensing under government. Another speculation (see Pesetsky & Torrego 2001) is that what we call Case is in fact the NP analogue of tense in the verbal system. As pointed out above, at the time of writing, that aspect of the Minimalist Program which focuses on the SMT and questions at a similar level is, according to Chomsky, a research program, still in its infancy. We believe it is fair to say that the jury is still out as to whether this perspective will yield new insights in this unexplored terrain, in large part due to a paucity of evidence concerning the properties of the interfaces.

4. TOPICS IN CASE THEORY WITHIN GB/MINIMALISM

In closing, we note briefly three additional topics that have received prominent attention from the perspective of Case Theory within GB and/or Minimalism. In some sense, each of these topics constitutes an add-on to the core Case Theory, in that the proposals cited have had less influence on the direction Case Theory has taken than the topics considered above.

4.1 Null Case

The ECM/control distinction (1a-b) at the historical heart of Case Theory received renewed attention in the early Minimalist period. The original analysis relied on three stipulations: (i) a selectional difference for the infinitival complements of ECM (IP) vs. control (CP) verbs, (ii) the absence of a Case assignment rule to the subject position of infinitives (see (4)), and (iii) exempting the NP PRO from the Case Filter. One strand of inquiry asked whether these stipulations might not be derivable, at least in part. The major investigation in this area centred on Stowell's (1982) observation (developed in more detail in Pesetsky 1992) that control infinitives are typically future irrealis infinitives, whereas ECM infinitives are typically propositional infinitives.[8] Building on this observation, Chomsky & Lasnik (1995), Bošković (1996, 1997), Martin (1996, 2001) proposed an amendment to (4) whereby the subjects of "tensed" infinitives (those with a future irrealis interpretation) do assign Case to their subject position, but the Case assigned is a special "Null Case" that only PRO (but not lexical NPs) may bear. Under this view, the Case Filter could thus be taken to regulate all NPs including PRO, an (apparent) reduction in the stipulations needed to account for the difference. The Null Case approach has proven controversial within the MP, though (see Landau 2000, Baltin & Barrett 2002, Hornstein 2003, Cecchetto 2004, Wurmbrand 2005, To appear, for a variety of empirical and theoretical challenges). One of the most serious problems raised for the Null Case view is that the presence vs. absence of "infinitival tense"—the predictor of Null Case—has itself not been shown to be predictable on independent grounds, leaving Null Case as possibly simply a notational variant of the earlier account.

Another challenge for Case Theoretic treatments of the ECM/Control distinction, (problematic for both the Null Case view and the original Case Theoretic analysis in section 1) comes from languages in which the subject of (non-ECM) infinitives receives a detectable morphological case (not Null Case). Once again, Icelandic has played an important role in the discussion since morphological case on PRO is detectable via elements that show agreement in case with the subject position (see Sigurðsson 1991). A different aspect of this problem (noted already in Chomsky 1981, 140, n. 25) is posed by languages that allow overt, case-marked subjects of non-finite, non ECM clauses, such as accusative subjects in Latin and Greek.

4.2 Ergativity and Case Typology

Within GB (and to a lesser degree in Minimalism), Case Theory was dependent upon rules of Case assignment, which were held to be a point of cross-linguistic variation (see section 2). Perhaps the most striking aspect of cross-linguistic variation in (morphological) case lies in the existence of alignments other than nominative-accusative, including ergative (and split-ergative) systems (Bickel and Nichols, this volume). Ergativity received a treatment early in the GB period in Marantz 1981, with a variety of subsequent proposals in both the GB and Minimalism frameworks, (see Butt 2006, chapter 6, for a survey and Johns, Massam & Ndayiragije 2006 for a collection of recent views).

Perhaps the most important question of this literature (still unresolved) is whether ergativity is a syntactic or morphological phenomenon, in other words, whether the

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[8] As shown in Pesetsky (1992), the picture is, in fact, far more complex. However, we abstract away from various complications here.

different morphological case patterns are correlated with any syntactic differences. This was a particularly important question in the early GB period, when (structural) Case was equated with (morphological) case. In that framework, since the rules of case assignment in an ergative system are different from those in a nominative-accusative system, this morphological difference should have repercussions, via Case Theory, for the syntax. For example, in an ergative system, (by definition) the case assigned to an intransitive subject is the same as that assigned to the object (not the subject) of a transitive clause. Within GB and Minimalism, subject and object Cases are distinct in many syntactic ways. One such difference is that the subject case, but not the object case, was held to be tied to the finiteness of the clause (but see Sigurðsson 1991). In a Case-Theoretic approach to ergativity, this difference might be expected to play out as a restriction whereby only transitive subjects are obligatorily suppressed in infinitives, but where intransitive subjects pattern with objects in being freely expressed, even in infinitives. Bobaljik (1993), developing ideas from Levin & Massam (1984), explores a pattern of agreement in Inuit languages that may be described in these terms. The relevance of ergativity to Case Theory becomes less obvious, though, with the post-ZMT recognition of a more abstract relation between Structural Case (the abstract, syntactic licensing) and morphological case. Like quirky case, this further level of abstraction leaves open the possibility that ergativity is best described as a morphological phenomenon, lying squarely outside the domain of Case Theory, and masking a (more) uniform syntax. We note as well that more extensive investigation of a variety of languages with ergative case and/or agreement systems suggests that ergativity is not a uniform phenomenon, and that there is considerable syntactic variation among languages with ergative case systems, and hence the questions just raised must be asked not for ergativity as a phenomenon, but for individual languages or groups thereof.

4.3 Case, agreement and beyond

A final important topic that has been explored within GB and Minimalism concerns the relationship of Case and case to other features of the grammatical system. The position taken by Chomsky in the Minimalist writings is that case and agreement are instantiations of the same fundamental grammatical relationship, representing head versus dependent marking of that relation (although what the precise relationship is has shifted over the course of the Minimalist period).[9] Here, as above, Icelandic evidence has played a prominent role, since in Icelandic agreement is indeed intricately connected to (morphological case): only nominative NPs may govern agreement on the finite predicate, and they do so regardless of grammatical function: nominative objects trigger agreement, while non-nominative subjects do not (see Sigurðsson 1996; for evidence that it is case and not grammatical function that determines agreement controller in a variety of languages, see Falk 1997 and Bobaljik, to appear). The Icelandic evidence is somewhat of a two-edged sword, though, since it is precisely the non-nominative subjects that have the distribution attributed, in GB, to abstract nominative structural Case, while the nominative objects were (implicitly, at least) treated as bearing abstract accusative.

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[9] Inasmuch as the relationship between (structural) Case and (morphological) case is transparent, this view would be simply incorrect in light of the many well-attested "mismatches" between case and agreement Such mismatches include the type of ergative split in Warlpiri or Chukchi in which ergative-absolutive case marking occurs alongside subject-object (nominative-accusative) alignments in agreement (see Dixon 1994), and also more intricate mismatches such as Basque Ergative Displacement (Laka 1993, Hualde & Ortiz de Urbina 2003), and the Chukchi Spurious Antipassive (Spencer 2000, Hale 2002, Bobaljik & Branigan 2006). See Legate (2005) for one attempt to defend the canonical Minimalist view in light of such apparent counter-evidence.

For recent perspectives on nominative objects and review of the current literature, see Hiraiwa (2005) and Nomura (2005).[10]

The trajectory exemplified by the focus on the abstract features underlying case and agreement is arguably carried a step further in Chomsky's later Minimalist writings. For example, Chomsky (2000) signals a shift in emphasis, if not in substance, to a more broad category of "uninterpretable features". In many ways, the latest position advocated by Chomsky has come ever closer to the position forwarded by Marantz 1991, a position which maintains, from GB's Case Theory/Case Filter, a component of formal licensing for NPs, not deducible from semantic or phonological (i.e. "interface" requirements), but for which case plays little role, beyond the observation that case and agreement are among the possible morphological signals of this formal licensing. We close with a passage from Chomsky (2000) setting out this view.[11]

> According to this conception, agreement (hence movement) is driven by uninterpretable features of the probe, which must be deleted for legibility… With this shift in perspective, structural Case is demoted in significance. The Case Filter still functions indirectly in the manner of Vergnaud's original proposal, to determine the distribution of noun phrases. But what matters primarily are the probes, including ϕ-features [person, number, gender –B&W] of T, v. That reverses much of the recent history of inquiry into these topics and also brings out more clearly the question of why Case exists at all. The question arises still more sharply if matching is just identity, so that Case can never be attracted; operations are not induced by Case-checking requirements. (Chomsky 2000: 127).

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[10] As in many domains, subtle differences in the use of key terms (abstract, inherent, lexical, structural, and quirky) among authors have contributed to the complexity of the debate.

[11] Although we focus on Chomsky's writings as the canonical instantiation of Minimalism, it is well worth noting, as Chomsky does, that there a variety of current, mutually incompatible, theoretical proposals in the Minimalist literature that share certain core assumptions. With regards to Case Theory, Legate (2005) and Bošković (to appear) maintain a view of Case more in line with later GB proposals than suggested in the passage from Chomsky.

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