Introduction: parameters in minimalist theory

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This book represents some of the work carried out in the period 2002–2007 by the group working on the project ‘Null Subjects and the Structure of Parametric Theory’, funded by the Arts and Humanities Research Council, Great Britain (Grant No. APN14458). The group consisted of Theresa Biberauer, Anders Holmberg, Chris Johns, Ian Roberts, Michelle Sheehan and David Willis. The central goal of that project was to investigate and, if possible, refine the notion of parameter of Universal Grammar (UG), as it has been understood in generative theory since roughly 1980, by looking carefully at the phenomena associated with one of the best-known and most widely discussed examples of a parameter: the Null Subject Parameter (NSP). This volume brings together a number of articles focusing on the nature of null subjects in a range of languages; Biberauer (2008b) is a sister volume arising from the same project, which focuses more on parameter theory than on null subjects, while Holmberg (2009) focuses on partial null-subject languages.1

In this Introduction, we would like to set the chapters in context. Accordingly, we first discuss the phenomena from English and various Romance languages which originally motivated the postulation of the NSP. Next, we summarise the main kinds of null-subject system that have been identified in the comparative-syntax literature. We complete Section 1 by summarising the two principal approaches to the analysis of null subjects, whose classical exponents are Rizzi (1986a) and Borer (1986).

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1 Other material, published and unpublished, generated by the project is detailed on the project website (http://people.pwf.cam.ac.uk/mtb23/NSP/Nullsubjectprojecthome.html).
Section 2 focuses on the debates surrounding the classical formulations of the NSP, and in particular the ‘typological’ predictions that were initially made, beginning with Rizzi (1982). Here we consider the systematic cross-linguistic investigation whose results apparently indicate that certain predicted correlations do not hold (Gilligan 1987), and the far-reaching and negative conclusions for parameter theory drawn partly on the basis of this by Newmeyer (2004; 2005). We once again attempt to defend a version of Principles-and-Parameters (P&P) Theory against Newmeyer’s critique (see also Roberts & Holmberg 2005; Newmeyer 2006; Biberauer 2008a).

Section 3 takes up the wider question of the nature of parameters; here we observe certain problems with the original view, which associated parametric variation closely with a rich, domain-specific array of UG principles. This view can no longer be maintained in full in the context of the Minimalist Program, which undertakes to eliminate as many UG principles as possible, and which calls into question the domain-specificity of what principles we are required to postulate. Ongoing comparative work over the past twenty years or so has tended by and large to favour the postulation of a large number of microparameters (see Kayne (2005a) for discussion, and Baker (1996; 2008b) for a different view); this view of parameters is readily compatible with minimalist assumptions, arguably more so than a ‘macroparametric’ approach. We suggest that the proliferation of microparameters is an instance of the familiar tension between descriptive and explanatory adequacy, which at earlier stages in the development of the theory motivated the simplification of rule systems and led to the development of the Principles-and-Parameters approach itself;² as before, what seems to be required is a radical increase in theoretical abstraction. We make some tentative suggestions in this direction in Sections 3.4 and 3.5, developing ideas in Gianollo, Guardiano & Longobardi (2008), Roberts (2007a: 443; 2008: 17; Chapter 1), Roberts & Roussou (2003: chapter 5) and Mobbs (2008). This leads us to briefly propose a hierarchical model of parameter schemata which combines the notion of micro- and macroparameters, and to speculate on the shape of comparative syntax beyond explanatory adequacy.

1 Null subjects: the basics

1.1 The observation

Traditional grammars of many languages, for example Latin, observe that a pronominal subject is marked ‘in the verb’, i.e. by the person–number agreement inflection on a finite verb, and as such is not in need of expression by an

² A similar point is made in Roberts (2001: 90) in relation to parametric accounts of syntactic change.
independent pronoun. The following comment from a well-known traditional grammar of Latin is representative: “Here [in the finite verb, IR/AH] the form contains in itself all the necessary elements . . . the persons being indicated by the endings” (Gildersleeve & Lodge 1895/1997: 144). Jespersen takes up this idea in the following remark:

In many languages the distinction between the three persons is found not only in pronouns, but in verbs as well . . . in Latin . . . Italian, Hebrew, Finnish, etc. In such languages many sentences have no explicit indication of the subject, and *ego amo, tu amas* is at first said only when it is necessary or desirable to lay special stress on the idea ‘I, thou.’ (Jespersen 1924: 213)

This idea has an ancient pedigree, as indicated by the following remark by Apollonius Dyscolus on Ancient Greek:

The nominative [subject] is implicitly present in [finite] verbs, and it is definite (i.e. has definite reference) in the first and second persons, but indefinite in the third because of the unlimited number of possible referents. (*On Syntax*, Book 1, §17; Householder 1981: 25)

What is being alluded to here is that, since a pronominal subject can be expressed ‘in the verb’ in languages such as Greek and Latin, there is no general requirement to pronounce the subject separately as a nominative pronoun. The initial observation behind the NSP, in all its formulations, has to do with this second point: an overt pronominal subject is not required in finite clauses, and, when such a pronoun does not appear, there is no nominal element which overtly realises the subject function in the clause. This fact may reflect a trivial feature of morphology, person-marking on the verb, but the possibility of not expressing the nominal bearing the subject function is of obvious importance for syntax.

The first generative study of these matters was Perlmutter (1971). Perlmutter (pp. 100ff.) distinguished languages with the surface filter in (1), which he called Type A languages, from those lacking it, Type B languages:

(1) Any sentence other than an Imperative in which there is an S that does not contain a subject in surface structure is ungrammatical.

(Perlmutter’s (9), p. 100)

Perlmutter relates the presence of the surface filter in (1) to the possibility of null subjects and of wh-movement of the subject from a finite embedded clause across a complementiser (this observation has since become known as ‘Perlmutter’s generalisation’), to the presence of obligatory expletives in the relevant kind of impersonal constructions, and to the existence of an arbitrary subject pronoun as a true subject (as opposed, for example, to an arbitrary subject clitic pronoun which surfaces as part of the object clitic cluster). French and English are examples of Type A languages, while “Spanish, Italian, Serbo-Croatian, Arabic, Hebrew, Warlpiri and Basque” (Perlmutter 1971: 115), as well as
numerous others are Type B languages. This ‘typological distinction’, as Perl-  
mutter referred to it, is not, however, connected to the nature of agreement 
inflection in the Type B languages in Perlmutter’s treatment. With this excep-


tion, and with the important omission of any discussion of ‘free inversion’ (see 
below), Perlmutter’s discussion identifies the NSP in all but name.3

As Perlmutter pointed out, the basic fact motivating the postulation of this 
parameter is that certain languages require finite clauses to overtly express a 
definite, referential, pronominal subject, while others do not. The contrast is 
illustrated by the following Italian and English examples:

(2) a. Parla italiano.
   b. *Speaks English.

Spanish and Greek, among many other languages, pattern like Italian, while, 
as Perlmutter pointed out, French appears to pattern like English ((3c) is 
ungrammatical as a declarative, although it would be a well-formed imperative):  

(3) a. Habla español.
   b. Mila ellinika.
   c. *Parle français.

Thus Italian, Spanish and Greek are null-subject languages, while English 
and French are non-null-subject languages.

The NSP relates, as stated above, to finite, discourse-neutral clauses, and 
canonically involves the interpretation of the null subject as a definite, referen-
tial pronoun. Many non-null-subject languages, including English, allow null 
subjects under other conditions. For example, both English and French exten-
sively allow or require the subject of non-finite clauses to be null:4

(4) a. [(Him) smoking] bothers me.
   b. John expects [(Mary) to leave soon].
   c. Jean a essayé [de – partir].
   John has tried [– to leave].

Such subjects have somewhat different properties from the null subjects of 
(2) and (3), in that in (4b,c) the empty subject of the infinitive must be 
coreferent with the subject of the main clause (this is subject control) and

3 One might also observe, with hindsight, that the surface filter in (1) is very close to the original 
formulation of the Extended Projection Principle put forward in Chomsky (1982: 10), i.e. the 
requirement that every clause must have a subject. For Perlmutter, (1) is parametrised 
(although, again, this terminology postdates his insights); see Section 1.3 on proposals that the 
NSP involves parametrising the requirement for a structural subject.

4 Examples of this type do not fall under Perlmutter’s surface filter in (1) since it was generally 
assumed that such infinitives were VPs (resulting from raising in (4b) where Mary is present, 
and Equi-NP Deletion where it is not, and in (4c), combined with tree-pruning in the sense 
of Ross (1967: chapter 3)). In cases like (4a), the S-node of the gerund is pruned when the 
subject is not present.
that in (4a) must be arbitrary. Accordingly, they have generally been analysed in a different way from those of (2) and (3).  

The initial observation, then, is that some languages allow a definite pronominal subject of a finite clause to remain unexpressed as a nominal bearing the subject function, while others do not. Traditional grammars of languages such as Latin and Greek relate this to the fact that personal endings on the verb distinguish person and number, thereby making a subject pronoun redundant. Languages which allow null subjects are very common: most of the older Indo-European languages fall into this category, as do most of the Modern Romance languages (with the exception of some varieties of French and some varieties of Rhaeto-Romansch; see Roberts (Chapter 8)), the Celtic languages, with certain restrictions in the case of Modern Irish (see McCloskey & Hale (1984), and, for arguments that Colloquial Welsh is not a null-subject language, Tallerman (1987)), West and South Slavic, but probably not East Slavic (these appear to be ‘partial’ null-subject languages in the sense of Section 1.2.4 below and Holmberg & Sheehan (Chapter 3)). Indeed, it seems that languages which allow null subjects are significantly more widespread than those which do not (Gilligan 1987, cited in Newmeyer 2005: 85). According to the Haspelmath, Dryer, Gil & Comrie’s (2005) World Atlas of Language Structures, of 674 languages for which data is available, subject pronouns can be omitted in 409, and cannot be omitted in 77 (the remainder form various kinds of mixed categories involving clitics, displaced pronouns, etc.; see Map 101 ‘Expression of Pronominal Subjects’). So null-subject languages, of one kind or another, are considerably more common than non-null-subject languages.

1.2 Types of null-subject systems

Since Rizzi’s early work on null subjects, it has been observed that there are different types of null-subject language. Rizzi (1982: 143) proposed that the NSP be divided into two subcases, one applying to languages in which the

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5 Both English and French also allow null subjects in special discourse environments or registers. Haegeman (2000: 130) gives the following examples from what she calls “written abbreviated registers” (“written registers in which pressures of economy seem to overrule the ‘core’ grammar” (p. 132), including diaries, short notes and some kinds of colloquial speech):

(i) a. – cried yesterday morning. (Plath 1983: 288)
   b. Elle est alsacienne. – paraît intelligente. (Léautaud 1988: 48)
   She is Alsatian. Seems intelligent.

Such null subjects, in addition to being restricted to certain types of discourse and/or register, have special properties which distinguish them from the canonical null subjects of (2) and (3) (see Haegeman (2000: 138–41) for details). See also Holmberg (Chapter 2, Section 2).

We will leave these cases aside here.
unexpressed pronoun can only be an expletive, and one applying to languages where it is able to be referential. Huang (1984) observed that many East Asian languages show a much more liberal option of non-expression of pronominal elements, and that this could not be related to person agreement, since that kind of inflection is generally absent in these languages. More recently, the existence of ‘partial’ null-subject languages has been observed: languages in which the pronominal subject may remain unexpressed under restricted conditions determined by both the morphological and the syntactic context. We now briefly describe each of these types of null-subject language one by one.

1.2.1 Consistent null-subject languages These languages have been the most discussed and analysed among the various types of null-subject languages and have, mainly for historical reasons, often been taken to be the only kind of null-subject language. In consistent null-subject languages, all persons in all tenses can feature an unexpressed pronoun. These languages characteristically show ‘rich’ agreement inflection, i.e. distinct personal endings on the verb, generally in all tenses. The Italian, Greek and Turkish forms in (5) illustrate:

\[(5)\]

a. **Italian**
   
   bevo ‘I drink’ (etc.)
   
   bevi
   
   beve
   
   beviamo
   
   bevete
   
   bevono

b. **Greek**
   
   pino ‘I drink’ (etc.)
   
   pinis
   
   pini
   
   pinume
   
   pinete
   
   pinun

c. **Turkish**
   
   içiyorum ‘I drink’ (etc.)
   
   içiyorsum
   
   içiyor
   
   içiyoruz
   
   içiyorsunuz
   
   içiyorlar

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6 There are sometimes limited exceptions to this generalisation. In Italian, for example, the 2SG pronoun *tu* must appear when the verb is in the subjunctive. In the present subjunctive, the singular forms of the verb are not distinct: *che (io) parli, che tu parli, che (lui/lei) parli* (*that I/you/he/she speak*).

7 But see Öztürk (2001; 2008) for the view that Turkish is a ‘discourse pro-drop’ language in the sense of Section 1.2.3 below. This paradigm is from Csató & Johansen (1998: 214).
The Romance null-subject languages and Modern Greek are the paradigm examples of this kind of language, and have been much discussed and exemplified in the literature. These languages also illustrate the properties originally proposed to form a cluster determined by the positive value of the NSP, which we will turn to in Section 2 below.

One further property that we can mention here is that, as pointed out by Jespersen in the quotation above, overt subject pronouns are generally allowed in finite clauses in null-subject languages, although they tend to have what we may loosely call an emphatic interpretation (this is indicated by putting the English pronoun in capitals in the translations below). Thus, alongside (2a) and (3a,b) we have:

(6)  
   a. Lui parla italiano.  
        HE speaks Italian.  
   b. Él habla español.  
        HE speaks Spanish.  
   c. Aftos mila ellinika.  
        HE speaks Greek.

This aspect of the interpretation of overt pronominal subjects in null-subject languages emerges slightly more clearly in (7). Here the overt pronoun in the adverbial clause does not allow the interpretation in which it corresponds to the subject of the main clause (see Vanelli, Renzi & Benincà (1986), Samek-Lodovici (1996), and Frascarelli (2007) for discussion):

(7)  
   a. Il professore ha parlato dopo che (lui) è arrivato.  
        The professor has spoken after that (he) is arrived.  
   b. Io Maria jelase afou (afti) idhe ton Yianni.  
        The Mary laughed after (she) saw the Yiannis.  
        ‘Mary laughed after she saw Yiannis.’

In other words, the overt pronoun of the adjunct does not show the same ambiguity as its English and French counterparts in (8). Instead, it strongly prefers the interpretation which is disjoint from ‘the professor’, while the English and French pronouns are, out of context, ambiguous between this interpretation and the one where they correspond to ‘the professor’:

(8)  
   a. The professor spoke after he arrived.  
   b. Le professeur a parlé après qu’il est arrivé.  
        (=8a)

These interpretative differences involving the use of an overt pronoun appear to be related to the fact that subject pronouns may be unexpressed, i.e. to the positive value of the NSP.

For the moment, we take the two diagnostic features of a consistent null-subject language to be: (i) the possibility of leaving the definite subject
pronoun unexpressed in any person–number combination in any tense; and
(ii) the rich agreement inflection on the verb. We will suggest other properties
as we proceed.

1.2.2 Expletive null subjects Some languages apparently allow expletive
null subjects, but not referential ones. German is one such language, as are
some varieties of Dutch and Afrikaans, and a range of creoles (Nicolis (2005;
2008) mentions Cape Verdean, Berbice Dutch, Kriyol, Mauritian, Papiamentu
and Saramaccan; Roberts (2007a: 413) adds Haitian and Jamaican). In (9a)
the expletive pronoun es cannot be expressed, while in (9b) the same pronoun
in the same syntactic position, only now with a referential interpretation, must
be expressed (examples from Cardinaletti 1990: 5–6):

(9) a. Gestern wurde (*es) getanzt.
   ‘Yesterday was (it) danced.’
   Yesterday was (it) danced.
   ‘Yesterday it was closed.’

Owing to this restriction on their null subjects, languages of this type are not
regarded as ‘full’ null-subject languages. Rizzi (1982: 143) identifies what he
called two “related but autonomous parameters”: one concerns whether an
unexpressed pronoun is allowed at all, and the other whether referential
pronouns are allowed to be unexpressed. In languages like English, both
parameters are negative, while in Italian both are positive. In German and
the creoles just mentioned, the first is positive and the second negative. Hence
German allows non-referential null subjects, as in (9a), but not referential ones.
According to Rizzi, the fourth logical option is impossible (“if an inflection
cannot be pronominal, it cannot be referential either”; p. 143). There is thus an
implicational relation between the presence of referential null subjects and the
presence of expletive null subjects (see Holmberg (Chapter 2; this point is
discussed in some detail in Roberts (2007b: 31–38)). For an alternative analysis
of the German facts illustrated in (9), and related phenomena elsewhere in
Germanic, see Biberauer (Chapter 4), and the references given there.

Expletive null-subject languages (sometimes called ‘semi-pro-drop lan-
guages’), then, are distinguished from consistent null-subject languages in
that non-dummy pronouns cannot be left unexpressed.

1.2.3 ‘Discourse pro-drop’ (also called ‘radical pro-drop’) A good number
of languages which are otherwise typologically and genetically distinct
(Chinese, Japanese, Korean, Thai, Vietnamese and others) allow null subjects
quite freely, but seem to be entirely without agreement marking of any kind.
The case of Chinese is discussed in Huang (1984). Chinese allows both subjects and objects to remain unexpressed and have a definite pronominal interpretation, as illustrated in (10):

(10) a. – kanjian ta le
(he) see he ASP
b. Ta kanjian – le.
He see (him) ASP
‘He saw him.’

Both pronouns can be dropped under the appropriate discourse conditions. It has been suggested since the earliest studies (Huang 1984; Rizzi 1986a) that the total absence of agreement marking may play a role in facilitating the very liberal availability of null subjects in these languages. Recently, three specific hypotheses have been put forward in this connection. First, Tomioka (2003: 336) proposed the “Discourse Pro-Drop Generalisation” (see Jayaseelan (1999) for a similar idea):

All languages which allow discourse pro-drop allow (robust) bare NP arguments … Null pronouns in Discourse Pro-Drop languages are simply the result of N0-Deletion/ NP-Ellipsis without determiner stranding.

This idea expresses a relation between discourse pro-drop and the availability of bare NP arguments (i.e. the grammaticality of a sentence such as (I) saw cat, thereby relating discourse pro-drop in an interesting way to Chierchia’s (1998) Nominal Mapping Parameter). It also relates discourse pro-drop to ellipsis, as does Saito (2007) (see below and the discussion in Roberts (Chapter 1)).

A different proposal is made by Neeleman & Szendrői (2007; 2008). These authors treat fully specified nominals as KPs (since they inherently contain a syntactic position for Case) and posit an operation of context-free KP-deletion. In languages with fusional pronoun morphology, this context-free operation is blocked by the principle of disjunctive ordering (the Elsewhere Condition of Kiparsky (1973)), which states that a more specific operation blocks a more general one in the case where both structural descriptions are met. They further adopt a ‘realisational’ approach to the insertion of pronouns into positions created by the syntax; for example, the English pronoun him is the realisation, or ‘spell-out’, of the feature complex [KP +pronoun, –anaphor,

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8 Chierchia (1998) formulated the Nominal Mapping Parameter, which distinguishes languages in which bare nouns are able to function as arguments from those in which they are not (more technically, can NP map directly into type \(<e>\)). If yes, then the language has generalised bare arguments (allows bare singulars and plurals), has a generalised classifier system and lacks plural morphology. Chierchia proposes that Chinese has the positive value for this parameter, while English has the negative value. See Ramchand & Svenonius (2008) for a different view.
3rd person, Singular, Masculine, Accusative]. The general ‘radical pro-drop’ rule is the context-free zero-realisation rule (11):

(11) \[
\text{[KP} +\text{pronoun, –anaphor]} \rightarrow \emptyset
\]

The Elsewhere Condition will always block this realisation of pronouns in English, since, given their fusional nature, English pronouns always have more complex spell-out rules whose structural descriptions properly include that of (11). But this is not true in every language: in some languages, e.g. Japanese, regular, agglutinating case-markers are added to the pronominal root (watasi-ga ‘I’; watasi-o ‘me’, etc.). Japanese thus has separate spell-out rules for the Case (K) morpheme and for the pronoun, which is a category distinct from KP (probably NP). And here is the central idea of their analysis: because of the non-fusional make-up of pronominal KPs, neither the radical pro-drop realisation of KP nor the specific rules for NP and K are in an ‘elsewhere’ relation. Hence Japanese pronominal KPs are optionally allowed a zero realisation. The analysis leads to the following generalisation: fusional pronouns block radical pro-drop. Neeleman & Szendrői’s analysis entails a clear implicational relation between non-fusional pronoun morphology and discourse pro-drop, which they show holds across a very wide range of languages.

The third analysis of discourse pro-drop put forward recently is due to Saito (2007). Saito suggests that a single covert grammatical mechanism allows for radical pro-drop and argument ellipsis. This mechanism involves covert copying of elements into argument positions from a set of discourse-given entities. Understood pronouns may be included in this set, along with antecedents for the recovery of elided arguments. The precondition for this covert operation is, effectively, the lack of surface agreement triggers. Hence arguments are not required to be overtly present in order to trigger surface agreement on verbs and other categories. Thus the relation between radical pro-drop and absence of agreement marking is established (see also Kuroda 1988). This analysis of discourse pro-drop is discussed in more detail in Roberts (Chapter 1); see also Section 3.4 below.

Whatever the correct analysis, the characteristics of discourse pro-drop languages which distinguish them from consistent null-subject languages are: (i) general possibility of non-expression/ellipsis of nominal arguments in various functions in addition to the subject; and (ii) lack of person-agreement marking on verbs.

1.2.4 Partial null-subject languages The existence of partial null-subject languages as a separate type of null-subject language has been more difficult to establish. However, Holmberg (2005: 548–50), Holmberg and Sheehan (Chapter 3), Holmberg, Nayudu & Sheehan (2009) and Holmberg (Chapters 2