

<Review Article>

RADICAL ARGUMENT DROP VIEWED THROUGH *PARAMETRIC VARIATION*

Tomohiro Fujii

Yokohama National University

Parametric Variation: Null Subjects in Minimalist Theory by Theresa Biberauer, Anders Holmberg, Ian Roberts and Michelle Sheehan, Cambridge University Press, Cambridge, 2010, vi+368pp.

Abstract

The present article attempts to summarize the major achievements advanced in *Parametric Variation* by Biberauer, Holmberg, Roberts and Sheehan on the one hand, and to develop some central ideas proposed in the volume to account for a novel generalization about radical argument drop, on the other. The generalization is proposed that every language that allows argument ellipsis allows *pro*. As the generalization itself implies, it is argued that radical argument drop is not a uniform phenomenon. Rather it consists of *pro* and elided arguments.

Keywords: *minimalism, Null Subject Parameter, parametric theory, φ -features, radical argument drop*

1. Introduction

The present article is a review of Biberauer, Holmberg, Roberts and Sheehan's *Parametric Variation*, prepared specifically for the 'Review Article' section of this journal. The authors of the volume under review aim at developing and refining the traditional generative theory of parameters (Chomsky (1981)) so as to answer a number of questions and criticisms that have been raised against the classical theory. They choose as a concrete case of parametric variation null subject or pro-drop phenomena, which have been widely known for well studied syntactic differences between languages like English and French and languages like Italian and Spanish relating to missing subjects of finite clauses. The volume contains one introduction chapter followed by eight body chapters on parameter theory and null subject parameters. The main goal of the present article is to give a concise description of the volume, as regular reviews do, on the one hand, and to critically examine some of the central issues discussed in the book, on the other. To do so, the latter half of the article is devoted to proposing and trying to explain a less often discussed generalization about radical argument drop languages (e.g. Chinese, Japanese, Korean, Malayalam, Turkish, etc.). In so doing, I will make full use of the technology that is proposed for null subject languages in the volume under review.

Although it is unavoidable that some of the review and discussion that follow will be theoretical and technical, it may be useful to begin by asking the broad question: in the study of human language, what virtues does parametric theory have? Here I would like to highlight two at least potentially nice aspects of parametric theory, both of which are discussed in Roberts and Holmberg's Introduction to the volume in relation to Rizzi's (1982, 1986) study of null subjects. The first possible virtue concerns the so-called clustering effects of parameters and the second the concept of the Poverty of the Stimulus (PoS).

Clustering effects make parameter-based descriptions of linguistic variation look both descriptively and explanatorily elegant. Consider the data from Italian below. These data suggest that (i) referential non-expletive subjects can be left unpronounced (1a), (ii) that free inversion, VS order, is possible (1b), (iii) that Comp-trace effects are apparently absent (1c), and (iv) subject-verb agreement inflection is ‘rich’ in this language (1d). Note that the forms shown in (1a-c) are ungrammatical in English, and, in contrast to the paradigm given in (1d), the English verb *drink* has only two forms in present tense: *drink* and *drinks*.

(1) a. Vérra.

will.come.3Sg

‘He will come.’

b. É arrivato Gianni.

is arrived Gianni

‘Gianni has arrived.’

c. Chi hai detto [che ha scritto questo libro]?

who have.2Sg said that has written this book

‘Who did you say wrote this book?’

d. *bevo* ‘I drink’ *beviamo* ‘We drink’

bevi ‘You (Sg) drink’ *bevete* ‘You (Pl) drink’

beve ‘He drinks’ *bevono* ‘They drink’

Note now that, since we are dealing with four, apparently independent properties, one would expect to find $2 \times 2 \times 2 \times 2$ logically possible language types, two of them being the Italian type and the English type. However, it looks, at least initially, like there is no ‘mixed’ language with regard to these four properties. The Rizzi-style classical Null Subject Parameter explains why this is the way the world goes. His influential proposal

(Rizzi (1982, 1986)) was that Spec,TP of the clause in (1a) is occupied by a phonologically null pronoun *pro* and it needs to be licensed by ‘rich’ verbal inflection. The subject positions of (1a, b) and of the *che* clause in (1c) are all occupied by *pro*. The fact that (1c) does not exhibit a Comp-trace effect is no longer surprising because *wh*-extraction does not have to originate in Spec,TP but it may originate from the position of the inverted subject. The explanation successfully excludes a ‘mixed’ language where, say, free inversion is allowed but Comp-trace effects are observed. As Roberts and Holmberg (Introduction: 21-22) mention, some doubt has been cast on the cross-linguistic validity of the clustering effect with the null subject properties. Nevertheless, they show that some core correlations arguably still survive fairly strict typological scrutiny.

The second possible virtue of parametric theory is related to the ‘Poverty of the Stimulus’ argument. Here too, the null subject parameter provides a nice illustration. Recall that English exhibits Comp-trace effects; cf. **Who did you say that wrote this book?* The relevant sentence type is ungrammatical and complex. So it is reasonable to assume that the Primary Linguistic Data are not rich enough to contain evidence that the relevant Comp-gap structure is not possible in the language. Then how can the learner of English (or the relevant dialects of English) come to know that the structure is not allowed in the system that she is learning? Given that all the adult speakers of English uniformly acquire the constraint in question, one may hypothesize an innate UG constraint associated with the Comp-trace filter. This way, one can avoid the possibility of predicting that the Comp-trace constraint is not learned uniformly by English speakers. However, this cannot be the whole story. The superficially same structure is possible in Italian and other languages, as can be seen in (1c). So the question arises as to how the learner of English comes to know that the gap after the complementizer is a trace, not a

pro (Hyams (1986)). This type of question may arise when a grammatical property of a particular language raises a PoS question *and* the property is at least superficially subject to linguistic variation. The Null Subject Parameter, put together with a UG constraint barring the Comp-trace structure, provides us a way out: The possibility of *pro* is ruled out when the parameter is set to the English value based on the Primary Linguistic Data that contain positive, easy-to-observe evidence for English not being a *pro*-language, as Hyams (1986) argues. The importance of this PoS feature of parametric accounts is stressed in Roberts and Holmberg (Introduction), who use it to defend parametric theory against Newmeyer's (2005) criticism of it.

Having seen two fundamental virtues of parametric theory by observing some Italian and English data, let us note which language types are primarily examined in the volume. The coverage, of course, goes beyond the divide between non-null subject languages (non-NSLs) like English and what are called consistent NSLs like Italian. The following scale, adapted from Roberts and Holmberg, indicates a scale as to how liberal a language may be regarding subject or argument drop, from 'strict' to 'liberal.'

- (2) Non-NSLs (e.g. English) > Expletive NSLs (e.g. German) > Partial NSLs (e.g. Finnish) > Consistent NSLs (e.g. Italian) > Radical argument drop languages (e.g. Japanese)

Non-NSLs allow no subject drop. Expletive NSLs like German drop expletive subjects if they drop subjects at all, but do not drop thematic referential subjects like *he*. Consistent NSLs like Italian come after expletive NSLs in the scale because they allow themselves to drop referential subjects in addition to null expletives. Another type of null subject language is called a partial null subject language. Partial NSLs come in between expletive and consistent NSLs. This type of language, in contrast to other language types, allows subject drop in a few, quite limited environments. The scale

ends with radical argument drop languages like Chinese, Japanese, Korean, Turkish and others. These languages even leave non-subject arguments unpronounced quite freely. Various properties and constructions from these five language groups are examined in the present study as well.

The present review is organized as follows: In Section 2, I review the Introduction to the book by Roberts and Holmberg and the eight chapters following it. In their Introduction, Roberts and Holmberg make intriguing and intense discussions of the new, minimalist considerations that they propose to refine the traditional theory. They also integrate and extend some core proposals that are made in the eight main chapters. In that sense, it seems fair to treat especially the latter part of the Introduction as “Chapter 9” of this volume. For this reason, the book review conducted in Section 2 starts with Ch. 1 to Ch. 8 and comes back to the Introduction. In Section 3 I discuss radical argument drop languages in relation to the proposed Pro-drop parameter hierarchy. I then develop some of the technical proposals made in the volume to account for a new generalization that seems to hold for radical argument drop languages. Section 4 concludes the paper.

2. Overview of the Volume

As mentioned above, I review chapters 1-8 in turn and come back to the Introduction at the end of this section. Ch. 1 is Ian Roberts’s “A deletion analysis of null subjects.” This chapter presents important ingredients for some theories and analyses repeatedly referred to in the later chapters. So I would like to review the Roberts chapter in greater detail than later chapters. Roberts’s main question and analytic building blocks can be listed below.

- (3) i. The fundamental question: Why should UG allow *pro*?
- ii. The notion of defective goal in analysis of clitic incorporation;

- iii. Null subjects as Ds; and
- iv. Müller's *pro*-generalization and Saito's analysis of Argument Ellipsis in connection with the Pro-drop hierarchy.

(3i) asks why UG should allow *pro* of the Italian type, rather than keeping unavailable that category that might complicate syntax. Roberts's answer is that null subjects are null for the same reason as traces are null. To see how this answer is technically possible, let us examine (3ii). Roberts adopts Nunes's (2004) theory of chain linearization, and applies to Romance cliticization and referential *pro*. Chain Formation and the two conditions on Chain Reduction are the keys. First, suppose that movement creates chains, and chains are subject to an interface condition that excludes a chain with more than one member of it being pronounced; e.g. **Who did you see who?*. Nunes proposes that this is an effect due to the Linear Correspondence Axiom (LCA). The output representations compatible with the LCA are: (i) *who did you see ~~who~~*, and (ii) ~~*who*~~ *did you see who*. The next question is, why is (ii) illegitimate? The theory argues that generally the highest link of the chain is chosen to survive in a reduced chain. (Nunes assumes that an economy condition dictates that a link with "least number of unchecked features" survives; see Roberts (2010: 228 fn. 22) on this matter.) Given the two conditions imposed on Chain Reduction, *who did you see ~~who~~* is predicted to be the only one legitimate output representation obtained from the two-membered chain (*who*, *who*).

How does this theory of chain linearization bear on clitic incorporation and ultimately the emptiness of *pro*? Roberts proposes that the operation Agree gives rise to an effect of chain formation in a certain environment. He then introduces the notion of defective goal.

- (4) a. A probe P and its goal G form a chain if G is a defective goal.

- b. G is a defective goal if and only if G's features count as a proper subset of P's as a result of Valuation (the operation copying the values of features of P or G onto the matching unvalued features of the other.)

Assuming that Romance clitics are bundles of φ -features, Roberts analyzes cliticization (e.g. *Jean la voit* 'Jean her-saw' in French) as in (5). The values of the φ -features of the complement clitic are copied onto the φ -features of the probe ν . This creates a proper subset relation between the features of ν and those of the clitic, which makes the goal defective, giving rise to the chain (ν, φ). Deletion of φ takes place so that the LCA is respected, and the valued φ -features on ν are spelled out as *la*. The effect of clitic incorporation is now derived.

- (5) a. $\nu_{\langle \nu, \text{Person: } _, \text{Number: } _ \rangle} \quad \varphi_{\langle \text{Person: } a, \text{Number: } b \rangle}$
 b. $\nu_{\langle \nu, \text{Person: } a, \text{Number: } b \rangle} \quad \varphi_{\langle \text{Person: } a, \text{Number: } b \rangle}$ (via Agree)
 c. $\nu_{\langle \nu, \text{Person: } a, \text{Number: } b \rangle} \quad \cancel{\varphi_{\langle \text{Person: } a, \text{Number: } b \rangle}}$ (via Chain Reduction)

(Roberts also argues that no incorporation takes place when the probe has an EPP feature. This assumption plays a role when he explains differences between clitics and *pro*. It also makes his theory of null subjects and Holmberg's (Ch. 2 and Ch. 5) slightly differ.)

Now we are finally in a position to see how (4) accounts for the emptiness of null subject *pro* (3iii). As alluded to in the paragraph above, the Roberts chapter also aims at properly distinguishing *pro* from clitics. Following Cardinaletti and Starke (1999), he argues that *pro* is a weak pronoun and clitics are not.¹ To account for this *pro*/clitic distinction as well as *pro*'s emptiness, Roberts suggests that *pro*, being a $D^{\text{min/max}}$, can satisfy the EPP of T while a clitic is a bare φ . The derivation of a null subject sentence then proceeds as follows ("u" stands for "unvalued").

- (6) a. $[\text{TP } T_{\langle T, \text{uD}, \text{u}\varphi \rangle} [\nu\text{P } D_{\langle D, \varphi_{[3\text{SG}]} \rangle} \nu \dots]]$
 b. $[\text{TP } T_{\langle T, D, \varphi_{[3\text{SG}]} \rangle} [\nu\text{P } D_{\langle D, \varphi_{[3\text{SG}]} \rangle} \nu \dots]]$ (via Agree and Chain Reduction)

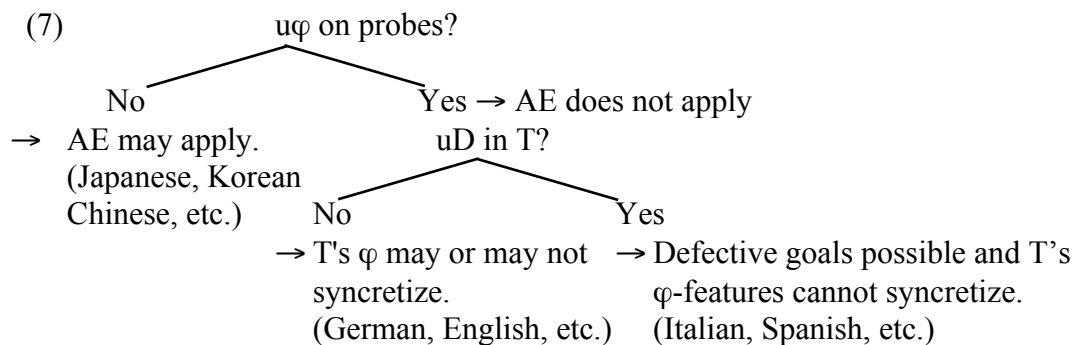
c. [TP D_{<D, φ_{[3SG]>}} T_{<T, D, φ_{[3SG]>}} [_{VP} t v ...]]

Here D is a defective goal since its features are also members of the features of the probe T. Once Agree (T, D^{min/max}) creates Chain (T, D^{min/max}), Chain Reduction applies in a manner in accord with the LCA. The lower link of this chain, i.e., D^{min/max}, gets deleted. Also technically crucial here is the assumption that T has a D-feature. As is clear from the definition of defective goal in (4), D^{min/max} would not be a defective goal if T lacked the D-feature. This means that the presence or absence of this D-feature in T determines whether a language belongs to consistent NSLs or not, as was originally proposed in Holmberg (2005).

Let us turn to (3iv). Roberts takes up quite a few typological issues. Let me mention some of them. First, as just mentioned, he follows Holmberg's idea that when a language lacks uD in T, the language cannot be a consistent NSL. Second, Roberts is also concerned with the generalization that null subjects of the Italian type are allowed only in languages with rich agreement. How can this generalization be captured? Roberts argues that T carries a D-feature in a given language only if T's φ-features are specified, or not impoverished, in that language. Roberts adopts Müller's (2006) analysis of richness of agreement, which I summarize only cursorily. The central notion is syncretism.² The idea is that if the finite T system undergoes syncretism in a language, then T does not have the ability to host null subjects in that language. Müller shows, adopting Distributed Morphology, how his German impoverishment rules explain instances of syncretism found in the language's verbal inflection paradigms. Roberts relates this to the assumption that D being in T is a necessary condition for null subject licensing, arguing that once syncretism applies to the T system, T loses the ability to have a D-feature.

A further typological issue Roberts discusses is how argument drop of the type

observed in languages like Japanese fits with the picture so far. In this type of languages, not only subjects but also objects are allowed to be phonologically empty. Roberts accepts Saito's (2007) account of radical argument-drop. Assuming that null arguments in radical argument-drop languages are derived via Argument Ellipsis (AE), Saito (2007) claims that if probes have φ -features, AE fails. More specifically, Saito, assuming that AE is covert merger of a copy of the antecedent NP into the elided site (Oku (1998), Kim (1999)), proposes a mechanism that makes it impossible for a copy of an antecedent NP to check the $u\varphi$ of the v or T associated with the elided argument. This proposal allows Roberts to propose a Pro-drop hierarchy like (7), where one can explain the differences among radical argument drop, consistent pro-drop and non-pro-drop.³



Ch. 2 by Anders Holmberg, "Null Subject Parameters," is an attempt to understand yet another type of pro drop under the line of thinking entertained in (7). This approach explains how partial NSLs (e.g. Finnish, Marathi, Brazilian Portuguese and Icelandic) can be distinguished from consistent NSLs. The characteristics of partial NSLs are shown below.

- (8) a. Partial NSLs, unlike consistent NSLs, allow a null counterpart of the generic pronoun *one* as the subject of a finite TP (see (9) from Finnish); and
- b. In partial NSLs, finite clauses generally disallow null referential subjects but they do allow null subjects only when embedded.

- (9) Tässä tuolissa istuu mukavasti
 this-IN chair-IN sits comfortably
 ‘One can sit comfortably in this chair.’

For the moment, let us focus on property (8a). (I will return to (8b) right below and when reviewing Holmberg and Sheehan (Ch.3).) Holmberg’s analysis of the differences between consistent and partial NSLs is summarized as follows:

- (10)i. How to derive referential *pro* in consistent NSLs: As is the case with Roberts (Ch. 1), T in consistent NSLs is assumed to have an unvalued D-feature. For Holmberg, however, referential null subjects are φ Ps, not Ds (cf. (3iii)). Holmberg’s derivation of null subject sentences proceeds as follows. φ P is introduced as the subject. T and φ P form a chain under Agree and Chain Reduction applies.
- ii. How to derive the definiteness of *pro* in consistent NSLs: The definiteness interpretation of ‘consistent’ *pro* comes from a (sometimes null) aboutness topic. The topic values uD in T “definite” and also checks the EPP of T: [_{TP} (Null) Topic T_{<D[def], *_[3Sg]>} [_{VP} φ P_{<[3Sg]>} ...]]. Cf. Roberts’s derivation in (6).
- iii. How to derive null generic subjects (see (9)) and exclude definite *pro* in partial NSLs: Partial NSLs are assumed to lack D in T. There is nothing wrong with Agree taking place in: [_{TP} T_{<[]>} [_{VP} φ P_{<[3Sg]>} ...]]. The lack of D implies absence of definiteness with null subjects, and hence only an indefinite (synonymous with “generic” here) meaning is obtained.
- iv. How to exclude null generic subjects in consistent NSLs: Consistent NSLs do not have null generic subjects (p. 93 and p. 124). Consistent NSLs have an unvalued D in T. When no aboutness topic is introduced in a derivation ((10ii)), uD is left unvalued, which causes the derivation to crash. The only

way to value uD “generic/indefinite” in consistent NSLs in this context is to have it checked by an overt generic DP.

Thus it is concluded that partial NSLs fall under the ‘No’ value of the ‘uD in T’ parameter together with German and English in (7) above.

The second half of Ch. 2 is devoted to developing the Pro-drop hierarchy by examining some other parameters relevant to the languages contained in the parameter tree in question. Here I mention three issues that he deals with. First, Holmberg mentions Icelandic. The language is a partial NSL because it allows null *one* but it disallows controlled null subjects, unlike Finnish and other NSLs (see (8b)). He proposes what he calls a ‘brute force’ solution: the claim is that if a language lacks D in T, it may or may not have a ‘PF EPP’ feature. The PF EPP feature dictates that T (or C, depending on the head the feature is located in) must have an overt specifier. The theory predicts that in Icelandic null generic subject constructions, Spec,TP is filled by overt material (p. 115). This ‘PF EPP in T’ parameter comes below the ‘No’ branch of the ‘uD in T’ parameter.

A second issue is also raised by a property of Icelandic. Unlike Mainland Scandinavian languages, Icelandic allows oblique subject and stylistic fronting constructions. So a configuration like “Me-Dat were given money.PL” presented in English vocabulary is possible. Holmberg takes this property of Icelandic to suggest that the language allows EPP satisfaction independently from φ -checking. So whether a language’s EPP is φ -dependent or not is parameterized. It should be noted that the φ -dependence of T’s EPP is an orthogonal parameter with respect to ‘uD in T’ or ‘PF EPP in T’ in the sense that it is not in any implication relation with these parameters. Thus, the EPP in consistent NSLs may or may not be φ -dependent, and the same is true with Finnish type partial NSLs and Icelandic type partial NSLs.

Finally, Holmberg discusses the richness of agreement in light of partial NSLs. As noted in (3iv), Roberts (Ch. 1) relates rich agreement to ‘D in T’ in such a way that if a language has D in T, then that language’s inflection paradigms do not allow syncretism. Holmberg points out that while French, German, Icelandic, Marathi and Brazilian Portuguese have some amount of syncretism, Finnish has no syncretism at all. That shows that the implication relation between the two properties cannot be bidirectional, as formulated by Roberts.

Let me turn to Ch. 3, Anders Holmberg and Michelle Sheehan’s “Control into finite clauses in partial null-subject languages.” As noted in (8b), in partial NS languages, finite clauses may have referential null subjects only when embedded. The construction is closely examined by Holmberg and Sheehan. Partial NSLs that allow embedded null subjects exhibit restrictions on how these null subjects can be interpreted. The interpretive restrictions are somewhat similar to those found with O(bligatorily) C(ontrolled) PRO. OC PRO requires a unique, nearby and c-commanding antecedent. Such a restriction is not found with pronouns; e.g. *John₁ thinks Bill₂ decided PRO_{2/*1} to leave* vs. *John₁ thinks Bill₂ decided that he_{1/2} should leave*. The following Finnish example (their (24b)) shows how Finnish referential null subjects are OC PRO-like; ADE is an abbreviation for adessive case. The most deeply embedded subject, when it is null, cannot take the highest subject as its antecedent across the intervening next higher subject. (The second highest subject ‘children’ cannot antecede this lowest subject due to feature mismatch. The predicate associated with *pro* is specified as 3Sg.)

- (11) Jari sanoo [että lapset uskovat [että *(hän) kavi
 Jari says that children believe that he visited-3Sg
 tohtorilla]].
 doctor-ADE

‘Jari says that the children believe that he went to see a doctor.’

The embedded null subject, nevertheless, should not be identified with OC PRO, as Holmberg and Sheehan show. The following Finnish example (their (26b)) illustrates one remarkable difference between embedded null subjects of this type and OC PRO. In the Finnish construction, the actual antecedent can be more than one clause away from the null subject. This is generally not possible with OC PRO: **John thought it was expected [to shave himself]*.

- (12) Marja sanoo että on varmaa että (hän) saa ensi vuona
Marja says that is certain that she gets next year
ylennyksen.
promotion

‘Marja says that it’s certain that she will get a promotion next year.’

The grammaticality of (12) makes one wonder what condition explains the effect found in (11). Holmberg and Sheehan convincingly show that what matters is not a *locality* restriction but a restriction of the *minimality* kind and propose mechanisms that explain how φ Ps are licensed in this designated position and why they have to be bound in the manner they are. The chapter also lays out data concerning types of matrix predicates found with this null subject construction and data concerning cases where the null subject is embedded within islands.

Ch. 4, Theresa Biberauer’s “Semi null-subject languages, expletives and expletive *pro* reconsidered,” is the only chapter in the volume that focuses on expletive NSLs (see (2)). It mainly concerns the claim that German, Icelandic, Dutch and Afrikaans have phonologically null expletives, which was made in Rizzi (1986). The question that Biberauer correctly asks is how much evidence we might have for the expletive *pro* that may be assumed in the analysis of an example like (13) (=German; Biberauer’s (10a))?

- (13)... daß *pro* dem Mann das Buch geschenkt wurde.
 that the.Dat man the.Nom book presented became
 ‘... that the book was given to the man (as a present).’

Biberauer conducts an in-depth examination of data pertaining to overt expletive and impersonal/subject-less constructions and concludes that these data can be reanalyzed without positing a null expletive. She maintains that in these languages, Spec,TP can be filled by non-expletive phrases like *vP* and can sometimes even fail to be projected. This conclusion is based on various observations about Germanic expletive systems. Some of the central observations are shown below:

- (14)i. Overt expletives are classified into two groups in terms of their semantic/thematic function: true expletives and argumental expletives. The former appear in existential/presentational and impersonal passive constructions and the latter in weather-predicate and extraposition constructions. Icelandic weather-*it*, though, exhibits ‘true expletive’ behavior.
- ii. Overt argumental expletives, unlike overt true expletives, are introduced *vP*-internally. They are visible even when the V2 requirement is met by another phrase, as in “Today rained it” in German. (Examples here are presented in English vocabulary throughout.)
- iii. True expletives are present in matrix Spec,CP in Icelandic and German, which is due to the V2 requirement. Schematically: [_{CP} Expl [_C finite verb] ...].
- iv. A number of German and Icelandic (often nominative-in-situ) constructions that lack an overt expletive can be analyzed as its Spec,TP being filled by *vP*; a German impersonal passive is analyzed as follows: “... that [_{TP} [_{vP} [_{VP} to the man a book presented] [_v became]] T *t*_{vP}].”
- v. Optionality of overt true expletives is attested in Dutch and Afrikaans

impersonals, as in “... that (there) danced was.”

- vi. Dutch and Afrikaans, however, do not always behave the same. The optionality mentioned above is limited to impersonals in Afrikaans. *daar* is obligatory in existentials/presentationals while Dutch *er* is optional in the latter constructions as well.
- vii. Another difference between Dutch *er* and *daar* lies in their ability to affect the interpretation of the co-occurring indefinites in the configuration: “there has someone an apple eaten.” *daar* always forces an indefinite to be interpreted “weakly,” like English *there*, in such a configuration. Dutch *er*, by contrast, is compatible with the specific reading of the indefinite associate.
- viii. It is sometimes hard to determine whether *er* is used as an expletive or a locative adverbial in Dutch. This uncertainty does not arise in , another difference between the two languages.

On the theoretical side, Biberauer attempts to derive a wide range of observations including those listed above from the ways in which T’s feature specifications vary from grammar to grammar. The approach taken here is to hypothesize that pied-piping options of movement and their non-pied-piping counterparts interact: (i) whether T probes Spec,*v*P or *v*; (ii) whether the probed Spec,*v*P (=DP) moves to Spec,TP or the entire *v*P moves to Spec,TP by pied-piping; (iii) whether, if *v* is probed by T, the *v* undergoes head-movement or the entire *v*P moves to Spec,TP by pied-piping; (iv) whether an element can move to Spec,TP without being the target or containing the target of probing; and (v) whether the ‘fill Spec,TP’ requirement is optional or not: see also Richards and Biberauer (2005). These parameters are useful to capture sometimes subtle but real similarities and differences among those Germanic and Romance languages.

Ch. 5, Anders Holmberg's "The null generic subject pronoun in Finnish: a case of incorporation in T," provides a detailed description and analysis of the null generic subject in Finnish. The phenomenon is already discussed in (9) above. The main goal of this chapter is to diagnose the derivations of null generic pronoun sentences with various tests. Consider (15). (The generic interpretation available here is inclusive, as Holmberg notes: The speaker utters the sentence based on his or her own experience; cf. *They/People can sit comfortably.*)

- (15) *(Tässä) istuu mukavasti.
 here stis comfortably
 'One can sit comfortably here.'

As can be recognized from this example, null generic subjects cannot satisfy the EPP. The generic construction requires a locative element or an overt expletive in subject position and if none of these is present, the sentence becomes ungrammatical. This situation might lead one to conclude that null generic subjects are not present in syntactic structure (and thereby the EPP must be satisfied by some other element) and that the 3Sg form of the predicate of the construction is due to default agreement. Holmberg, however, shows that it is not the case: the null generic subject is not only able to license anaphora and control PRO, but also is able to trigger agreement on the predicate and receive structural and inherent cases. Holmberg demonstrates that the null generic subject co-occurs with an accusative object in simple nominative-accusative transitive clauses and appears with a nominative object in quirky or expletive subject constructions like "1Sg-Gen should buy car-Nom" and "there bought-Pass car-Nom" (annotated in English vocabulary). If the null generic subject were not syntactically projected, one would have to say something special about why case assignment to and agreement with the subject apparently work in a regular manner in these cases.

The remaining question is why null generic subjects cannot satisfy the EPP in Finnish. Holmberg holds that the null generic pronoun is incorporated to T, and incorporation, being a species of head movement, cannot satisfy the EPP as it is a ‘Fill the Spec’ requirement; see also (5) and the comment below it.

Ch. 6 is Michelle Sheehan’s “‘Free’ inversion in Romance and the Null Subject Parameter.” Sheehan examines various VS orders in Spanish, Italian and European Portuguese, taking into consideration information structure. The importance of controlling for this variable can be recognized by looking at the following Spanish example (adapted from her (43) and (44)).

- (16)a. Quién te regaló la botella de vino? ‘Who gave you the bottle of wine?’
 b. Qué pasó? ‘What happened?’
 c. Me regaló la botella de vino María.
 Cl-me gave the bottle of wine Maria
 ‘Maria gave me the bottle of wine.’

VOS, unlike SVO, is a marked word order in Spanish, because, as Sheehan shows, (16c) is fine when uttered as an answer to (16a) (narrow focus context) while it is not when uttered as an answer to (16b) (wide focus context). The empirically rich discussion that Sheehan presents in this chapter includes those listed below:

- (17)i. In Italian and European Portuguese (EP) intransitive sentences, both VS order and SV order are possible in wide focus contexts, but the VS order is possible only if it can be analyzed as in: $[_{TP} (\text{Null}) \text{locative} [T V] S t_V t_{Loc}]$. It is argued that these (null) non-subjects can satisfy the EPP. In Spanish, Spec,TP can be filled with any XP, not limited to locatives selected by predicates. Thus, Spanish generates VS sentences that Italian and EP do not.
- ii. In Italian, the VOS pattern is infelicitous in wide focus contexts and possible in

narrow subject focus contexts (e.g. (16a)), whereas the VSO pattern is ungrammatical. The former pattern in Italian is analyzed as involving VP-fronting as in: $[[_{VP} VO] S t_{VP}]$.

- iii. In Spanish, the XVSO pattern is possible in wide focus contexts while the pattern becomes ungrammatical if the fronted X element is not present; e.g. “*(Yesterday) won Juan the lottery” (= Sheehan’s (30), annotated in English vocabulary here). Facts like this are taken to show that non-argumental X elements can satisfy the EPP in Spanish. It is proposed that discourse-related features like Foc in the CP domain are inherited to T with the EPP feature in Spanish, not in the other two languages.
- iv. As for the Spanish V(O)S pattern, Sheehan proposes that it is derived via lower copy pronunciation followed by subject movement to Spec,TP for prosodic reasons. The derivation of the pattern also involves scrambling of O. Thus the derivation proceeds as in: $[_{TP} S [_{T} v-V] [_{VP} O [_{VP} S \bar{v}-V \Theta]]]$. This way, the lower copy subject successfully receives focal stress.
- v. In EP transitives, the post verbal subject construction requires an element being topicalized in narrow focus contexts. Sheehan proposes that (i) in EP, Top° in the CP domain triggers verb movement, (ii) its Spec must be filled (due to its EPP property), and (iii) the relevant feature is never passed onto TP domain.

One standard view of NSLs has been that V’s φ -features can satisfy the EPP by moving to T in null subject clauses (Alexiadou and Anagnostopoulou (1998)). The proposed analysis of inversions argues that the standard view is not necessarily warranted.

In Ch. 7, “Subjects, Tense and verb-movement”, Theresa Biberauer and Ian Roberts investigate the parametric relationship between rich agreement and V-to-T movement. The major claim here is that V-to-T movement takes place in a language with rich tense

inflection. For example, English finite verbs only distinguish between present and past, and verbs do not move to T. By contrast, French finite verbs have more tense paradigms, such as subjunctive, future, conditional and imperfect forms. They undergo movement to T. In addition to this basic difference between Romance and Continental Germanic, there are two empirical domains that the authors try to cover. First, they examine the diachronic change of the English auxiliary/verbal morphology system. The history of English that they take to be a fact is roughly as follows: Old English was a V2 language and lacked V-to-T. Then subject-initial V2 was reanalyzed as V-to-T, due to which the language lost V2 and became a V-to-T language. After that, modal auxiliaries and *do*, which were main verbs before, became functional elements such as T (note that the language only had aspectual auxiliaries like *have* and *be* before this stage). At this point of development, English is the same as French in that it had V-to-T but it is different from French in that it has *do*. Interestingly, the distribution of *do* at that time was not governed by *do*-support as in Modern English; *Or if there were, it not belongs to you* (1600, a Shakespeare example that they cite from Battistella and Lobeck's paper). The Modern English '*do*-support' system with null finite T did not emerge until the seventeenth century, after contracted negative auxiliaries like *don't* were developed. (Their proposal that Modern English negative auxiliaries are analyzed as lexical items plays a crucial role here.) The historical change described above is nicely accommodated by the format of auxiliary systems that Biberauer and Roberts propose. In addition to the history of English, this chapter also deals with Icelandic and V-initial languages including Celtic. Their analysis is developed in terms of whether C's φ -features and EPP are inherited onto T.

Ch. 8 is Roberts's "Varieties of French and the Null Subject Parameter." Roberts extends the deletion theory of null subjects proposed in Roberts (Ch. 1) to varieties of

French. Confirming that French is different from Italian in that it is a non-NSL at the TP level, he argues that the language is a consistent NSL at the CP level. Here is what it means to say French is a CP-level null subject language. Roberts points out that in subject-clitic inversion exemplified by (18), the enclitic, *il* in this example, cannot be the result of incorporation in the theory he adopts, since incorporated elements must be left-adjoined in the theory.

- (18) A-t-il vu Marie
 has-3Sg seen Mary
 ‘Has he seen Mary?’

For this reason, Roberts reanalyzes this enclitic to be an inflectional ending of an interrogative C in the variety of French that allows the construction, proposing that C does not pass its φ -features onto T and attracts finite verbs in this environment. This proposal is shown to account for otherwise unexpected facts of this construction; e.g., there is no 1Sg form in the majority of verbs. If *je* is a pronoun rather than an inflectional ending, the marginality of sentences like *arrive-je?* ‘understand-I’ would hardly be expected. Thus, (18) is analyzed as involving the C with an inflectional ending licensing an unpronounced subject. In the terms presented in (4), the interrogative C probes the subject as a defective goal. Note that this interrogative conjugation is, as is expected, regarded as ‘rich’ in terms of Müller’s *pro*-generalization, the criterion of richness of agreement that Roberts (Ch. 1) adopts. Roberts also extends the idea of C-licensed null subjects to other dialects and sociolects of French to show that a NSL can be a null subject language at the TP-level, the CP-level, or both TP- and CP-level.

Having reviewed Ch. 1 through Ch. 8, this section ends with a brief review of “Introduction: parameters in minimalist theory” by Roberts and Holmberg. The

Introduction chapter introduces the basics of pro-drop phenomena first and then discusses some criticisms of or alternatives to the classical Null Subject Parameter and the theory of variation in the Principles & Parameters framework. Roberts and Holmberg deal with questions like the following: whether the correlations that Rizzi originally put forward are not invalidated when the cross-linguistic database is expanded; whether the Greenbergian approach is not superior to the Chomskian approach to linguistic universals; whether linguistic variation cannot be deduced from efficiency principles that govern sentence processing; whether language-particular differences should not be captured by different language-particular rules without invoking parameters; and so on. They show that the basic insight of the classical theory can be defended against these criticisms.

In the last part of the Introduction, however, Roberts and Holmberg point out that parametric theory is faced with a real problem: it suffers from a tension between description and explanation. They remark that “parameters are very powerful formal devices that makes possible, for the first time ever, the precise, theory-internal descriptions of cross-linguistic relations” but “if over-exploited, and especially in the absence of any general restrictions on their form and functioning, these devices become mere facilitators of taxonomies” (p. 32). Roberts and Holmberg maintain that the minimalist theory of parameters overcomes this problem and makes it possible to achieve interesting consequences.

Their main claim is that parameters, which are expressed in terms of formal features possessed by functional heads (the Borer-Chomsky Conjecture (BCC)), form a hierarchy, an example of which is the Pro-drop hierarchy seen in (7). They first argue that the BCC, when implemented in this way, helps to restrict the general form of parameters in the following way: parameters can be stated in terms of formal features

combined with formal properties of the system (e.g. “Agree,” “Have an EPP feature” and so on), using the ‘Yes/No’ format. Thus the Null Subject Parameter conforms to this general form, being stated as “Is an unvalued D-feature in finite T?”

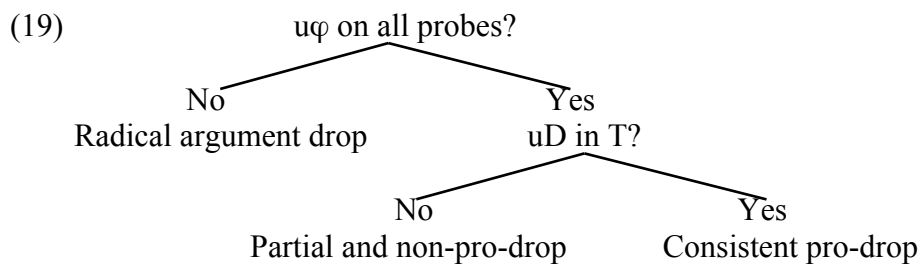
It has been noted that the BCC is consonant with microparameters, like the Null Subject Parameter, which are useful in accounting for syntactic differences observed across closely related languages. In contrast, macroparameters like the Head Parameter (‘head-initial’ or ‘head-final’) are sometimes considered quite hard to reduce to the type of parameter setting that only affects a certain formal feature of a certain functional head. Interestingly, however, Roberts and Holmberg develop the BCC to accommodate macroparameters. They propose looking at macroparameters as sets of assembled microparameters. The Head Parameter, for example, is reanalyzed as a collection of parameters which asks “Does {*v*, T, C, P, ... etc.} have an EPP-feature that attracts its complement to its specifier?,” and the Polysynthesis Parameter as a collection of microparameters concerning agreement/clitics like the Null Subject Parameter, which asks “Is an unvalued D-feature in {C, T, *v*, ... etc.}?”⁴ Note that, according to Roberts and Holmberg, there is one important non-language-specific consideration that makes possible all this microparameterization of macroparameters. That is a markedness consideration. Roberts and Holmberg maintain that if learners assign a value to a head H, then they will assign the same value to comparable heads. Tying this convention to the EPP-based analysis of ordering of heads and their complements, the theory successfully captures the macroparametric effect of the Head Parameter: in this theory, strictly head-final languages like Japanese and strictly head-initial languages like Welsh are regarded as relatively unmarked while ‘mixed’ languages like German and Chinese relatively marked. Importantly, principles like the markedness convention do not have to be UG primitives, as Roberts and Holmberg argue in connection with the ‘third factor’

in the sense of Chomsky (2005), and can be general computational principles governing the way in which input data are processed; see also Boeckx (2011) and Gallego (2011) for discussion of the status of parameters within minimalism. This way, Roberts and Holmberg successfully show us how it is possible to apply minimalist thinking to comparative syntax and the theory thereof.

3. Another Consequence of the ‘ $u\phi$ on the Probes’ Parameter

3.1. The ‘ $u\phi$ on the Probes’ Parameter and Radical Argument Drop

Having reviewed the chapters of the volume, I would like to discuss one consequence of the highest ‘ $u\phi$ on the probes’ parameter of the Pro-drop parameter hierarchy. A version of the Pro-drop hierarchy is given below.



As proposed in Roberts and Holmberg (Introduction), Roberts (Ch. 1), and Holmberg (Ch. 2, Ch. 5), the highest parameter of the hierarchy is concerned with how to distinguish between radical argument drop languages and the other types of languages (see the part of the review of Ch. 1 given in the paragraph surrounding (7)). In this section, I propose a generalization that seems to hold within the radical argument drop languages and provide an account for it. The key observation is that there seem to be two kinds of null argument in radical argument drop languages: one is the kind of null argument that undergoes Argument Ellipsis (AE) while the other is the kind of argument whose interpretive behavior looks similar to that of the traditional *pro* in consistent NSLs. I then hypothesize, based on the small sample of radical argument drop languages and

therefore very tentatively, that if a language allows AE, it allows *pro* as well. I finally consider how this tentative hypothesis can be made to follow from the type of theory proposed in this volume.

Before proceeding, it is worth noting that the discussion that follows will leave open one of the most crucial questions concerning the empirical basis of the highest parameter in (19). Namely, is it the case that radical argument drop always implies lack of agreement? Holmberg (Ch. 2: 122-123) correctly addresses this question and points out that it apparently does not, e.g. in Tamil, citing Jayaseelan (1999). Furthermore, as reported in Simpson et al. (2013), although Bangla and Hindi are radical argument drop languages, they seem to allow subject and object drop irrespectively of whether arguments agree with verbs. Thus, Holmberg (Ch. 2) considers the possibility that (un)availability of articles is the key to the parametric cut, and aptly points out that this cannot be a sufficient condition for radical argument drop: Finnish, as he notes, lacks articles but disallows radical argument drop. Apparently the true nature of the highest parameter needs to be investigated further.⁵ I nevertheless continue to assume that the highest parameter is a parameter concerning φ -features for at least two reasons. First, the ‘ $u\varphi$ on the probes’ parameter seems to *derive* the parametric cut most straightforwardly. Second, another potential factor that might be responsible for the highest parameter appears to be related to φ : the availability of bare nouns implies radical argument drop (see Tomioka (1998, 2003), Simpson et al. (2013)). When this factor is more fully considered, the issue may look again like a matter of φ , i.e. the presence or absence of obligatory number morphology on nouns (Bošković (2012)); see footnote 10 as well. For these reasons, I assume that it is too hasty to drop the anti-agreement characterization of radical argument drop.⁶

3.2. Radical Argument Drop and Argument Ellipsis

What are diagnostic properties that distinguish radical argument drop from pro drop in consistent NSLs? I consider two here.

- (20) a. Objects as well as subjects may be left unpronounced.
b. When certain conditions are met, unpronounced arguments may behave as if they were full noun phrases, not just definite pronouns.

Let me examine these two one by one. (20a) is already noted above. Argument drop in radical argument drop languages is different from that in consistent NSLs in that the former allow object drop as well as subject drop (Huang (1984)). In the Japanese examples below, (21a) and (21b), a null object and a null subject, respectively, refer back to *Yoko*, which appears in the previous sentences.

- (21)a. *Yooko_i-wa doko desuka? Hiroshi-ga ____i zutto matteimasu.*
Yoko-Top where is.Q Hiroshi-Nom long time is.waiting
'Do you know where Yoko is? Hiroshi has been waiting for her a long time.'
- b. *Yooko_i-wa doko desuka? ____i Hiroshi-o zutto mataseteimasu.*
Yoko-Top where is.Q Hiroshi-Acc long time is.having.wait
'Do you know where Yoko is? She has had Hiroshi wait for a long time.'

(20b) also distinguishes radical argument drop from consistent pro drop, as recent studies show (see below for references).⁷ Recall that thematic null subjects in consistent NSLs are always understood on a par with definite pronouns. 'Radically dropped' arguments, in contrast, allow various non-pronominal interpretations. Let us call the relevant interpretations *non-referential interpretations* for the sake of exposition.⁸ Let us quickly consider Japanese data. In (22), the *b*-sentence, which contains a null argument, allows a sloppy identity interpretation of the same sort that the *a*-sentence containing 'self's daughter' has. The *c*-sentence, involving the overt NP 'her,' only has

a strict identity interpretation.

- (22) Hiroshi-wa jibun-no musume-o rippani sodateta. Yooko-wa
Hiroshi-Top self-Gen daughter-Acc well raised Yoko-Top
{a. jibun-no musume-o, b. ____, c. kanojo-o} rippani
self-Gen daughter-Acc her-Acc well
sodate-rare-nakat-ta.
raise-can-not-Past
'Hiroshi raised self's daughter well. Yoko couldn't raise {a. self daughter, b.
____, c. her} well.

Moreover, (23) shows that a null argument can be understood as an indefinite noun phrase. It is not necessary for the same three detectives to visit Hiroshi and Yoko in order for (23a, b) to be true, respectively; cf. (23c), where the same detectives must visit Yoko.

- (23) 3-nin-no keiji-ga Hiroshi-no ie-ni kita.
3-Cl-Gen detective-Nom Hiroshi's house-to came
{a. 3-nin-no keiji-ga, b. ____, c. Sono 3-nin-no keiji-ga}
3-Cl-Gen detective-Nom that 3 detective-Nom
Yooko-no ie-ni-mo kita.
Yoko's house-to-also came
'Three detectives came to Hiroshi's house. {a. Three detectives, b. ____, c. The
three detectives} came to Yoko's house, too.'

As has sometimes been noted (Oku (1998), Tomioka (1998, 2003), Takahashi (2008b), Simpson et al. (2013)), these non-referential interpretations are impossible or not readily available with regular overt pronouns like those in English or null subjects in consistent NSLs. Furthermore, as Holmberg (Ch. 2: 106) notes, even in partial NSLs, where null

subjects could behave like generic *one*, null subjects do not allow for the interpretation that a noun phrase like *someone* has.⁹ Then it would seem that what is happening in the examples above is not pronoun drop but something else. (That is why I have been referring to the language type under discussion as radical argument drop, rather than radical pro drop.) It has been standard practice to assume the process called Argument Ellipsis (AE) to capture the property as noted in (20b) (Oku (1998), Kim (1999), Saito (2007), Neeleman and Szendrői (2007: 684), Takahashi (2008a, b, 2012, 2013), Takita (2011)).

Given the current situation described so far, we may ask: Does the radical pronoun drop phenomenon exist independently of the radical argument drop phenomenon in radical argument drop languages? I turn to this question in the next section. The question will be answered positively.

3.3. AE → Radical Pronoun Drop?

Below I argue that radical argument drop languages allow *pro* as well as arguments elided by AE. Moreover, I propose a generalization dubbed the AE/*pro* Generalization. Here by *pro* I mean a null argument that is interpreted pronominally or that cannot have non-referential interpretations.

(24) AE/*pro* Generalization: If a language allows AE, then it allows *pro*.

As demonstrated in (22) and (23), Japanese allows null subjects and objects to have non-referential interpretations. As recent studies show (see below for prominent references), however, some radical argument drop languages are not so liberal as Japanese. The following examples are from Malayalam (Simpson et al. (2013)).

(25)a. madhavan maash epozhum raNTu kuTTikaL-e pukkartt-um.
 madhavan teacher often two child-ACC praise-UM

‘Professor Madhavan often praises two students.’

b. ravi mash-um epozhum ___ pukkartt-um.

ravi teacher-UM often praise-UM

‘Professor Ravi also often praises (two students).’

(26)a. muunu pujari-maar anilin-e kanu-waan vann-u.

three priest-P anil-ACC see-INF come-PST

‘Three priests came to see Anil.’

b. raviy-e kaanaan-um vann-u

ravi-ACC see-UM come-PST

‘(They) came to see Ravi, too.’

As noted in Takahashi (2013) and Simpson et al. (2013), Malayalam null objects may support a non-referential interpretation but null subjects do not or at least do not as easily as null objects do. (26b) lacks the interpretation: “three priests came to see Ravi, too.” This fact suggests that the pronominal null argument *pro* exists independently of elided arguments in the grammar of Malayalam. In fact, Bangla, Hindi (Simpson et al. (2013)), Turkish (Şener and Takahashi (2010)) and possibly Chinese (see the references given in footnote 8) are reported to allow *pro* in addition to null arguments generated via AE. Then, do Japanese and Korean, where AE is wide spread, have pronoun drop? I will consider three phenomena in Japanese, and argue that it allows *pro*. First, Japanese null arguments may have a bound variable use and an e-type pronoun use (Kurafuji (1999), Tomioka (2003)).

(27) san-nin-no keiji-ga [{a. __, b. jibun-wa, c. san-nin-no keiji-ga}

3-Cl-Gen detective-Nom self-Top three detective-Nom

Hiroshi-no ie-ni iku bekida]-to omotteiru.

Hiroshi-Gen house-to go should-C think

‘There are three detectives₁ who think that {a. they₁, b. they₁, c. three detectives*₁} should visit Hiroshi’s house.’

- (28) Dareka kita-ra, kono kagi-o {a. __, b. sono hito-ni, c. dareka-ni}
 someone came-if this key-Acc that person-Dat someone-Dat
 watashite kudasai.
 give please

‘If someone_i comes, please give this key to {a. the person who comes_i, b. the person who comes_i, c. someone*_i}.’

(27a) is a case in which a null argument behaves as a bound variable, while (28a) (modeled on one of Tomioka’s (2003) examples) is a case in which a null argument is understood as a definite description “the person who comes.” The crucial point here is that the *a*-sentence cannot be understood in the same way as the *c*-sentence is. If AE is the only way to derive null arguments in Japanese, then it is not immediately clear why (27a) and (28a) cannot be understood on a par with (27c) and (28c), respectively. A comparable quantificational interpretation of a null subject is fine in (23). (It is perhaps possible to construct the same type of argument based on the availability of a deictic use of null arguments; see also Saito (2007), who asks whether such a deictic use can be accommodated by AE.)

Second, it has sometimes been argued that some kind of parallelism is required for AE, as expected if it is an instance of ellipsis since VP-ellipsis is subject to such a parallelism condition. If AE obeys a parallelism condition, and if we find a null argument where the relevant parallelism condition is not met, then that null argument should be an instance of a null pronoun. Several empirical arguments along these lines can be found in the literature. The reader is referred to Otani and Whitman (1991), Neeleman and Szendrői (2007), Takahashi (2008b, 2012), among others; see also Hoji

(1998), Tomioka (1998) for critical discussion of these arguments.

A third potential argument for *pro* being available in Japanese has to do with the interpretive mechanism that Holmberg (Ch. 2) adopts for consistent null subjects (see (10ii) above). I first review the data from Italian given in (29) (Holmberg (Ch. 2: p.96), based on Grimshaw and Samek-Lodovici's (1998) observation). In (29ci), the null subject \emptyset is fine when the sentence follows (29b), but not when it follows sentence (29a). Roughly put, \emptyset in (29c) can refer back to *Gianni* in the subject position in (29b) but it cannot when the same name appears in a non-subject position, as in (29c). Holmberg maintains that the aboutness topic for (29c) is shared by (29b) but not by (29c). Strikingly, when overt pronouns replace \emptyset as in (29cii, iii), the effect immediately goes away.

(29)a. Questa mattina, la mostra è stata visitata di Gianni.
 this morning the exhibition was visited by Gianni
 'This morning, the exhibition was visited by Gianni.'

b. Questa mattina, Gianni ha visitato la mostra.
 this morning Gianni visited the exhibition
 'This morning, Gianni visited the exhibition.'

c. Più tardi {i. \emptyset , ii. egli, iii. lui} ha visitato l'università.
 later he he visited the university
 'Later {i. \emptyset , ii. he (more literary), iii. he (more colloquial)} visited the university.'

The very similar behavior of null subjects with respect to overt subjects is attested in Japanese. The following data are modeled on examples by Kameyama (1985).

(30)A: Rosa-wa dare-o matteiru-nodesuka. 'Who is Rosa waiting for?'
 Rosa-Top who-Acc waiting-*noda*.Polite.Q

B: Rosa-wa Mari-o matteiru-nodesu. ‘Rosa is waiting for Mari.’

Rosa-Top who-Acc waiting-*noda*.Polite

(31)A: Dare-ga Rosa-o matteiru-nodesuka. ‘Who is waiting for Rosa?’

who-Nom Rosa-Acc waiting-*noda*.Polite.Q

B: Mari-ga Rosa-o matteiru-nodesu. ‘Mari is waiting for Rosa.’

Mari-Nom Rosa-Acc waiting-*noda*.Polite

(32)B: {a. \emptyset , b. Mari-wa} Rosa-ni yuushoku-ni shootaisareta-nodesu.

Mari-Top Rosa-Dat dinner-Dat was.invited-*noda*.Polite

‘{a. \emptyset , b. Mari} is invited to dinner by Rosa.’

(32a) contains a null subject, which is intended to refer back to *Mari*. The sentence is a natural continuation of B’s utterance in (31), but it clearly becomes odd when it is taken as a continuation of (30B). Interestingly enough, the oddness disappears if the subject of (32) is actually pronounced as in (32b). The set of Japanese data under consideration is at least similar to its Italian counterpart in that (i) the null subject naturally refers to the subject NP in the preceding sentence, but not to a non-subject, and (ii) the difficulty of establishing the referential dependency with a null subject goes away when an overt subject is used. This parallel between ‘consistent’ and ‘radical’ null subjects arguably constitutes initial support for the claim that the same *pro* can be used in consistent NSLs and radical argument drop languages, though further comparative investigations are required.

To recap, we have seen three phenomena that might support the existence of two types of null arguments in radical argument drop languages: the one obtained through AE and the one comparable to *pro* in consistent NSLs. Thus, although we only consider the data from a small number of languages, the AE/*pro* Generalization would seem to hold for these all radical argument drop languages. If the generalization is correct at all, what

kind of explanation is possible? I turn to this question in the next section. My explanation appeals to the chain reduction analysis of *pro* and the ‘ φ on probes’ parameter.

3.4. Explaining the AE/*pro* Generalization

There are three components of the explanation that I am proposing. First, recall that under the Pro-drop hierarchy mentioned in (19), AE is possible only in a language that lacks φ -features on probes. Extending the hypothesis further, let us assume that in these languages, φ -features on nominals (or goals) are not morphosyntactic features if their lexical semantics is active.¹⁰ Next, I propose, as a second component of the explanation of the generalization, that in the languages lacking φ -features, functional heads like T and *v* may have a nominal feature (D, or N if it is desirable to assume that D is unavailable in radical argument drop languages). Given the tight connection between richness of agreement and the ‘D in T’ parameter proposed in Roberts (Ch. 1) (see (3iv)), I entertain the possibility that if φ -features are not available in a language, D-features can rather freely be assigned to probes in the language. (In fact, as already mentioned in footnote 4, an assumption like this is made by Roberts and Holmberg (Introduction) in order to instantiate a Kayne-style derivation of OV order of the Japanese type.) Third, I assume with Roberts (Ch. 1) that null pronouns are of the category D and with Holmberg (Ch. 2: 97) that Case-assigning features are encoded in probes as well as goals. Given this set of assumptions, the structure of a simple transitive sentence in radical pro drop languages looks something like (33).

(33) [TP T<T, uD, NOM> [VP D₁<D, uCase> v<v, uD, ACC> [VP V D₂<D, uCase>]]]

Now note that the subject’s and the object’s features are a proper subset of T’s and *v*’s features, respectively. So Agree (T, D₁) gives rise to Chain (T, D₁) while Agree (*v*, D₂)

Chain (v, D_2). Then Chain Reduction applies to each chain to derive a null subject and a null object. This way, we derive the AE/*pro* Generalization from the lack of φ -features on probes and goals in radical argument drop languages, making recourse to the chain reduction analysis of *pro*.

Summarizing, I have argued that radical argument drop consists of elided arguments and *pro*. Subsequently, I have put forward the AE/*pro* Generalization, which says that if a language allows AE, it allows *pro*, too. Finally, I provide one possible account of the generalization, developing some central ideas proposed in the volume.

4. Conclusion

In the present paper I have reviewed *Parametric Variation* by Biberauer, Holmberg, Roberts, and Sheehan, and attempted to explain the AE/*pro* Generalization using a certain set of proposals developed there. The attempt made above hopefully will help to further demonstrate that the achievements presented in the volume have such high generality that they will quickly allow researchers to look at their own data from a fresh perspective, and that will hopefully confirm that the implications of the Null Subject Parameter indeed go beyond Romance and Germanic syntax.

References

- Adger, David and Daniel Harbour (2008) "Why Phi?," *Phi Theory: Phi-Features across Modules and Interfaces*, ed. by Daniel Harbour, David Adger and Susana Béjar, 1-34, Oxford University Press, Oxford.
- Alexiaodou, Artemis and Elena Anagnostopoulou (1998) "Parameterizing Agr: Word Order, V-Movement and EPP-Checking," *Natural Language and Linguistic Theory* 16, 491-539.

- Biberauer, Theresa (2003) *Verb Second (V2) in Afrikaans: A Minimalist Investigation of Word-Order Variation*, Doctoral dissertation, University of Cambridge.
- Boeckx, Cedric (2011) "Approaching Parameters from Below," *The Biolinguistic Enterprise: New Perspectives on the Evolution and Nature of the Human Language Faculty*, ed. by Anna Maria Di Sciullo and Cedric Boeckx, 205-221, Oxford University Press, Oxford.
- Bošković, Željko (2012) "On NPs and Clauses," *Discourse and Grammar: From Sentence Types to Lexical Categories*, ed. by Günther Grewendorf and Thomas E. Zimmermann, 179-242, Mouton de Gruyter, Berlin.
- Cardinaletti, Anna and Michal Starke (1999) "The Typology of Structural Deficiency: A Case Study of the Three Classes of Pronouns," *Clitics in the Languages of Europe*, ed. by Henk van Riemsdijk, 185-234, Mouton de Gruyter, Berlin.
- Cheng, Hsu-Te Johnny (2012) "On the Non-Elidability of Phases," *Online Proceedings of GLOW in Asia Workshop for Young Scholars 2011*, 44-58.
- Chomsky, Noam (1981) *Lectures on Government and Binding*, Foris, Dordrecht.
- Chomsky, Noam (2005) "Three Factors in Language Design," *Linguistic Inquiry* 36, 1-22.
- Corbett, Greville G. (2012) *Features*, Cambridge University Press, Cambridge.
- Gallego, Ángel (2011) "Parameters," *The Oxford Handbook of Linguistic Minimalism*, ed. by Cedric Boeckx, 523-550, Oxford University Press, Oxford.
- Goldberg, Lotus (2005) *Verb-Stranding VP Ellipsis: A Cross-Linguistic Study*, Doctoral dissertation, McGill University.
- Grimshaw, Jane and Vieri Samek-Lodovici (1998) "Optimal Subjects and Subject Universals," *Is the Best Good Enough? Optimality and Competition in Syntax*, ed. by Pilar Barbosa, Danny Fox, Paul Hagstrom, Martha McGinnis and David

- Pesetsky, 193-219, MIT Press, Cambridge, MA.
- Hoji, Hajime (1998) "Null Object and Sloppy Identity in Japanese," *Linguistic Inquiry* 29, 127-152.
- Holmberg Anders (2005) "Is There a Little *Pro*? Evidence from Finnish," *Linguistic Inquiry* 36, 533-564.
- Huang, C.-T. James (1984) "On the Distribution and Reference of Empty Pronouns," *Linguistic Inquiry* 15, 531-574.
- Huang, C.-T. James (1991) "Remarks on the Status of the Null Object," *Principles and Parameters in Comparative Grammar*, ed. by Robert Freidin, 56-76, MIT Press, Cambridge, MA.
- Hyams, Nina (1986) *Language Acquisition and the Theory of Parameters*, D. Reidel, Dordrecht.
- Jayaseelan, K.A. (1999) "Empty Pronouns in Dravidian," *Parametric Studies in Malayalam Syntax*, K.A. Jayaseelan, 14-25, Allied Publishers, New Delhi.
- Kameyama, Megumi (1985) *Zero Anaphora: The Case of Japanese*, Doctoral dissertation, Stanford University.
- Kayne, Richard S. (1994) *The Antisymmetry of Syntax*, MIT Press, Cambridge, MA.
- Kayne, Richard S. (2003) "Antisymmetry and Japanese," *English Linguistics* 20, 1-40.
[Reprinted in *Movement and Silence*, Richard S. Kayne, 2005, 215-240, Oxford University Press, Oxford.]
- Kim, Soowon (1999) "Sloppy/Strict Identity, Empty Objects, and NP Ellipsis," *Journal of East Asian Linguistics* 8, 255-284.
- Koopman, Hilda (2005) "Korean (and Japanese) Morphology from a Syntactic Perspective," *Linguistic Inquiry* 36, 601-633.
- Kurafuji, Takeo (1999) *Japanese Pronouns in Dynamic Semantics: The Null/Overt*

- Contrast*, Doctoral dissertation, Rutgers University.
- Müller, Gereon (2006) “Pro-drop and Impoverishment,” *Form, Structure and Grammar: A Festschrift Presented to Günther Grewendorf on the Occasion of His 60th Birthday*, ed. by Patrick Brandt and Eric Fuss, 98-115, Akademie-Verlag, Berlin.
- Neeleman, Ad and Kriszta Szendrői (2007) “Radical Pro Drop and the Morphology of Pronouns,” *Linguistic Inquiry* 38, 671-714.
- Newmeyer, Frederick (2005) *Possible And Probable Languages: A Generative Perspective on Linguistic Typology*, Oxford University Press, Oxford.
- Nunes, Jairo (2004) *Linearization of Chains and Sideward Movement*, MIT Press, Cambridge, MA.
- Oku, Satoshi (1998) *A Theory of Selection and Reconstruction in the Minimalist Perspective*, Doctoral dissertation, University of Connecticut, Storrs.
- Otaki, Koichi (2012) “Argument Ellipsis Arising from Non-fusional Case Morphology,” *Online Proceedings of GLOW in Asia Workshop for Young Scholars 2011*, 247-261.
- Otani, Kazuyo and John Whitman (1991) “V-raising and VP-ellipsis,” *Linguistic Inquiry* 22, 345-358.
- Phimsawat, On-Usa (2011) *The Syntax of Pro-drop in Thai*, Doctoral dissertation, Newcastle University.
- Richards, Marc and Theresa Biberauer (2005) “Explaining Expl,” *The Function of Function Words and Functional Categories*, ed. by Marcel den Dikken and Christina Tortora, 115-154, John Benjamins, Amsterdam.
- Rizzi, Luigi (1982) *Issues in Italian Syntax*, Foris, Dordrecht.
- Rizzi, Luigi (1986) “Null Objects in Italian and the Theory of *pro*,” *Linguistic Inquiry* 17, 501-557.

- Roberts, Ian (2010) *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*, MIT Press, Cambridge, MA.
- Saito, Mamoru (2007) “Notes on East Asian Argument Ellipsis,” *Language Research* 43, 203-227.
- Şener, Serkan and Daiko Takahashi (2010) “Argument Ellipsis in Japanese and Turkish,” *Proceedings of the 6th Workshop on Altaic Formal Linguistics*, 325-339.
- Simpson, Andrew, Arunima Choudhury and Mythili Menon (2013) “Argument Ellipsis and the Licensing of Covert Nominal in Bangla, Hindi and Malayalam,” *Lingua* 134, 103-128.
- Takahashi, Daiko (2008a) “Noun Phrase Ellipsis,” *The Oxford Handbook of Japanese Linguistics*, ed. by Shigeru Miyagawa and Mamoru Saito, 394-422, Oxford University Press, Oxford.
- Takahashi, Daiko (2008b) “Quantificational Null Objects and Argument Ellipsis,” *Linguistic Inquiry* 39, 307-326.
- Takahashi, Daiko (2012) “A Note on Parallelism for Elliptic Arguments,” *Proceedings of the 6th Formal Approaches to Japanese Linguistics*, 203-214.
- Takahashi, Daiko (2013) “Argument Ellipsis in Japanese and Malayalam,” *Nanzan Linguistics* 9, 173-192.
- Takita, Kensuke (2011) “An Argument for Argument Ellipsis from *-Sika* NPIs,” *NELS* 39, 771-784.
- Tomioka, Satoshi (1998) “The Laziest Pronouns,” *Japanese and Korean Linguistics* 7, 515-531.
- Tomioka, Satoshi (2003) “The Semantics of Null Arguments in Japanese and Its Cross-linguistic Implications,” *The Interfaces: Deriving and Interpreting Omitted Structures*, ed. by Kerstin Schwabe and Susanne Winkler, 321-339, John

Benjamins, Amsterdam.

Faculty of Environment and Information Sciences

Yokohama National University

Tokiwadai, Hodogaya, Yokohama

Kanagawa 240-8501

e-mail: fujii@ynu.ac.jp

FOOTNOTES

*I am very grateful to anonymous referees, who gave me insightful and helpful comments on an earlier version of the paper, as well as Shin'ya Iwasaki, a member of the ELSJ Secretariat, who helped me to find stylistic and editorial errors on the manuscript. I also would like to thank Anders Holmberg for his valuable written comments on an earlier version. All errors are my own.

¹ Here it suffices to note that personal pronouns are classified into three classes in the following way (Cardinaletti and Starke (1999)): (i) strong pronouns, which behave on a par with full DPs, (ii) clitics, which are morphosyntactically deficient (e.g., they cannot be modified by a particle like *even*), and (iii) weak pronouns, which are also deficient but are not so restricted in distribution as clitics (e.g., weak pronouns do not have to be adjacent to a verb but clitics do).

² Syncretism is the use of a single form for different combinations of feature values. Take the present tense forms of the verb *kick*. The 1Sg and 2Pl are represented by *kick*. In fact, five forms including 2Sg, 1Pl and 3Pl in total syncretize. Note also that no syncretism is found in the Italian paradigm in (1d).

³ This treatment of languages like Chinese, Japanese and Korean in context of the Null Subject Parameter is already found in Rizzi (1986: 545-46). Rizzi, attributing the idea in question in part to Mamoru Saito, remarks that "Universal Grammar offers the option of using φ -features, and some grammatical systems take it, whereas others do not. If this is correct, it is natural to assume that [the conditions on the distribution of referential *pro*] operate only in grammars that take the option of using ϕ -features."

⁴ This take on the Head Parameter is based on a Kaynean analysis of complement-head orders, a simplified version of which is given in (i); see Kayne (1994, 2003), Koopman (2005).

(i) [CP [TP [_{vP} VP $v_{[+EPP]}$ t_{VP}] T_[+EPP] t_{vP}] C_[+EPP] t_{TP}]

As for the driving force of complement movement of the relevant sort, Roberts and Holmberg (Introduction: p. 40) suggest, following Biberauer (2003), that movement of VP is an instance of pied-piping that is driven by the +EPP nominal feature on v attracting the object (see their diagram cited in (ii) below).

(ii) [_{vP} [_{VP} (V) O] v -V (VP)]

⁵ See Neeleman and Szendrői (2007) for yet another perspective; see also Otaki (2012).

⁶ I cannot afford to discuss an often mentioned dispute about Japanese and Korean honorific ‘agreement’ here. See Adger and Harbour (2008), Corbett (2012: Ch. 5) for overviews of the dispute and relevant references.

⁷ When examining null object structures, we have to make sure, on top of how these diagnostic tests go, that a given null object-like structure is not the result of verb-stranding VP ellipsis. In languages like Hebrew, a raised V is stranded under VP-ellipsis. According to Goldberg (2005), such verb-standing ellipsis is not possible when the verb in the antecedent clause and the verb in the target clause are different. Null object-like structures are still possible under such verb mismatches in Japanese, as shown in (i). Hence, there exist null object structures in Japanese.

(i) Yoko-wa dareka-o hihanshita-ga, Hiroshi-wa (dareka-o) hometa.
Yoko-Top someone-Acc criticized-though Hiroshi-Top s.o.-Acc praised
‘While Yoko criticized someone, Hiroshi praised someone.’

⁸ For different views about relevant data, see Otani and Whitman (1991), Hoji (1998), Oku (1998), Tomioka (1998, 2003), Kurafuji (1999), Saito (2007), Takahashi (2008a, b, 2012, 2013), Takita (2011), among many others. It has been reported that non-referential interpretations are available in Korean (Kim (1999), Tomioka (2003)), Malayalam (Takahashi (2013), Simpson et al. (2013)), Hindi and Bangla (Simpson et al.

(2013)), Turkish (Şener and Takahashi (2010)) and Chinese (Cheng (2012), Tomioka (2003); see also Huang (1991), Takahashi (2008a), Simpson et al. (2013)).

⁹ See Phimsawat (2011), who examines in great detail impersonal/generic constructions in Thai, a radical argument drop language, and compares them with the counterparts in other languages.

¹⁰ How can we diagnose whether φ -features on nominals are morphosyntactic or not? It is worth pointing out that all the radical argument drop languages mentioned in the text lack obligatory number morphology on NPs (Bošković (2012)).