NULL AND LEXICAL SUBJECTS OF GERUNDS

YUKI ISHIHARA

Tokyo Institute of Technology


This review article examines Pires’s (2006) analysis of gerunds in English. The distribution of clausal gerunds with/without overt subjects as well as that of TP-defective gerunds is investigated to see how well Pires’s Case-theoretic account is empirically motivated. We also examine the properties of the subjects of gerunds in adjunct positions, since Pires, following Hornstein, argues that they involve obligatory control. It is shown that some adjuncts, especially those that precede main clauses, have properties of nonobligatory control.*

Keywords: syntax, clause structure, gerunds, obligatory control

1. Introduction

What kind of structure does a clause have? What rules or principles regulate clause structure building? What distinguishes finite clauses from nonfinite clauses? Why are some subjects of nonfinite clauses unpronounced, while others are pronounced? How are null subjects interpreted? These are some of the central issues in linguistic theory, and various proposals have been made regarding them since the introduction of generative grammar in accordance with changes in theoretical frameworks. Pires’s (2006) book, The Minimalist Syntax of Defective Domains: Gerunds and Infinitives, is another attempt to address these issues. Focusing on gerunds in English

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The main objective of this review article is to examine closely Pires’s analysis of English gerunds. Gerunds are known to display properties of both nominals and clauses, and they fall just in the middle of Ross’s (1973) “Nouniness Squish”: that > for to > Q > Acc ing > Poss ing > Action Nominal > Derived Nominal > Noun. Within gerunds, Acc ing (gerunds with an accusative case-marked subject) acts more like a clause than Poss ing (gerunds with a possessive case-marked subject), which is more noun-like. Every analysis of gerunds has to account for their complex properties, and Pires offers his account, claiming that Acc ing gerunds are TPs with a Case feature. Moreover, Pires’s study sheds light on the control properties of PRO subjects of gerunds, which have not been explored as much as those of infinitives. He identifies the environments in which obligatory control (henceforth OC) is permitted, and provides an account for them based on Hornstein’s (1999, 2001, 2003) movement theory of control. The book under review makes an important contribution to our understanding of control as well as of gerunds.

In the book, Pires focuses on two types of gerunds. He uses the term “clausal gerunds” to refer to gerunds the subject of which can be either PRO or a lexical DP marked with accusative or nominative case, as exemplified in (1a). And he calls gerunds that occur as complements of such verbs as start, finish, continue, try and avoid as “TP-defective gerunds,” which do not allow lexical subjects as shown in (1b).

(1) a. I prefer [PRO/Peter/him reading a book].
   b. Bill avoided/try [PRO/*Peter/*him talking to his boss].


This review article is organized as follows. In Section 2, we will overview the last two chapters briefly. In Section 3, a summary of Pires’s analysis of clausal gerunds and TP-defective gerunds will be provided, which
will be examined critically in Section 4. Hornstein’s movement theory of control will be reviewed as well, especially with respect to adjunct control. Section 5 concludes the article.

2. Portuguese Infinitives

In Chapter 3, Pires looks into Portuguese, which has infinitives inflected for person and number (2b), in addition to non-inflected infinitives (2a).

(2) a. [Os pais do Paulo]k lamentam PRO* j/k chegar [The parents of-the Paulo]k regret PRO* j/k arrive-INF late. ‘[Paulo’s parents]k regret PRO* j/k to arrive late.’

b. [Os nossos pais] lamentam pro j chegarmos tarde. [The our parents] regret pro j arrive-INF-1PL late. ‘Our parents regret our arriving late.’

(European Portuguese: Pires (2006: 93))

He demonstrates that only non-inflected infinitives have properties of OC in Portuguese. For example, in (2a), with a non-inflected infinitive, the controller has to be *os pais do Paulo, which locally c-commands PRO, whereas in (2b), with an inflected infinitive, the embedded subject can be interpreted as first person plural, even though nossos does not c-command it. Then he provides an account for them, employing Hornstein’s movement analysis of OC, according to which OC structures are derived by A-movement just like raising structures; a controller DP raises up to a θ-position of a matrix clause, leaving behind its copy (trace), which is just what PRO amounts to be. The θ-criterion is weakened so as to allow the controller DP to pick up multiple θ-roles in the course of derivation. In this analysis, the control structure of non-inflected infinitives is derived as follows. First, the controller DP is merged in the embedded infinitive where it is assigned a θ-role. Then it moves up to the Spec position of the embedded TP to check the EPP feature of T. Since a non-inflected infinitive is headed by a defective T, which does not have a complete φ-set, the DP in its Spec cannot have its Case feature checked. Thus, the DP has to move, receiving another θ-role on the way, to the Spec position of the matrix TP, where it gets its Case feature checked. In contrast, the T head of inflected infinitives carries a complete φ-set, so it has an ability to check the nominative Case feature. Hence, pro or a lexical DP can appear in the Spec of TP of the inflected infinitives. As the φ-features of the inflected infinitives are
morphologically realized, Portuguese data support Pires’s analysis, which attributes the (im)possibility of OC to the composition of φ-features on the head of the infinitives. It is worth noting here that Pires need not take Hornstein’s approach to control in his analysis of Portuguese infinitives, for various alternatives are available to capture the correlation between φ-features of T and its ability to license PRO or a lexical DP/pro. We will take a closer look at Hornstein’s theory when we consider Pires’s analysis of gerunds where it plays a crucial part.

In Chapter 4, Pires takes up two syntactic changes in Portuguese: the rise of inflected infinitives in Old Portuguese and the ongoing loss of inflected infinitives in contemporary Colloquial Brazilian Portuguese. Based on Lightfoot’s (1999) cue-based model of acquisition, he argues from the point of view of learnability that the inflected infinitives in Old Portuguese developed, not from uninflected infinitives, but from imperfect subjunctives of late Latin, which were available in the primary linguistic data at that time. As for the loss of inflection in Colloquial Brazilian Portuguese infinitives, Pires observes that the non-inflected infinitival T in the language does not license pro, but that it licenses a lexical DP as its subject. This indicates that the morphological loss in Colloquial Brazilian Portuguese did not turn the inflected infinitives into the ordinary kind of non-inflected infinitives observed in European Portuguese and Standard Brazilian Portuguese, which disallow both pro and lexical subjects in non-ECM (Exceptional Case Marking) contexts. A cue-based account for this peculiar property of non-inflected infinitives in Colloquial Brazilian Portuguese is proposed, and its relation to other syntactic properties of the language is explored.

3. Pires’s Analysis of Gerunds in English

3.1. Against Null Case Analysis of PRO

Chomsky and Lasnik (1993) argue that the distribution of PRO should be dealt with not by binding theory but by Case theory. According to their proposal, PRO bears null Case, which should be checked by the T head of a nonfinite clause. Martin (2001), based on Stowell (1982), develops this idea, claiming that control infinitives are [+tense] in contrast to raising and ECM infinitives, which are [−tense], and that [+tense] checks Case whereas [−tense] does not.

Pires presents empirical evidence from English and Portuguese against Martin’s analysis, showing that the occurrence of PRO does not necessarily
coincide with the presence of [+tense]. For example, TP-defective gerunds are [−tense], but they license PRO.

(3) a. Maryj worried yesterday about [Paul/him/PROj coming to dinner tomorrow].
   b. *Billj avoided/ tried yesterday [PROj coming to dinner tomorrow]. (Pires (2006: 8))

The clausal gerund in (3a) has a property of [+tense] and licenses PRO, bearing out Martin’s prediction. In contrast, the TP-defective gerund in (3b) is [−tense], because it cannot license a temporal specification distinct from the matrix clause. Nevertheless it hosts a PRO subject, realizing “control without tense,” contrary to what Martin’s analysis predicts. Clauseal gerunds as exemplified in (3a) present an additional problem for the null Case analysis, since they allow both PRO and a lexical DP as their subject, even though there is no distinction regarding tense between clausal gerunds with a PRO subject and those with a lexical subject. Since the null Case analysis fails to capture the distribution of PRO fully, Pires turns to Hornstein’s movement theory of control, which does not rely on the tense property of clauses.

3.2. Clausal Gerunds

3.2.1. The Structure of Clausal Gerunds

Clausal gerunds and clauses behave alike in many respects. For instance, gerundive verbs take a DP complement just like transitive verbs. Unlike Poss ing gerunds, they permit a sentential adverb (4a). Their complement can be wh-extracted in contrast to the impossibility of complement extraction out of Poss ing gerunds (4b). In addition, they allow an expletive subject, which Poss ing gerunds do not (4c).

(4) a. Mary(*’s) probably being responsible for the accident was considered by the DA.
   b. What did everyone imagine Fred(*’s) singing?
   c. You may count on there(*’s) being a lot of trouble tonight. (Pires (2006: 18))

However, clausal gerunds do not seem to be CPs, since they never host a complementizer.

(5) Mark prefers [(*that) Mary traveling with him]. (Pires (2006: 26))

1 Pires’s argument against null Case analysis is developed in the Introduction and subsequent three chapters.
In order to capture these sentential behaviors, Pires claims that clausal gerunds are TPs.

On the other hand, clausal gerunds are like DPs in occurring in Case positions and not in Caseless positions.

(6)  
   a. Mary talked about [John moving out]/[(that) John moved out]/John to move out].
   b. *It was preferred [Frank reading this novel].
   c. [Frank reading this novel] was preferred.
   d. It was tragic [*?Paul losing the elections/that Paul lost the elections].  
      ((a, c, d): Pires (2006: 21))

Clausal gerunds, unlike clauses, can occur as an object of a preposition (6a). They are not allowed as a complement of a passive verb (6b), though they can undergo passivization (6c). Moreover, they cannot be it-extrapolated, in contrast to clauses (6d). Pires proposes to account for this distributional property of clausal gerunds by assigning to them a Case feature that needs to be valued in the course of derivation, rather than positing a DP layer for them as proposed by Abney (1987) and Milsark (1988). To represent the differences and the similarities between clausal gerunds and Poss ing gerunds/DPs clearly, he assumes, following Reuland (1983), that Case can be borne by categories other than DPs, and proposes that clausal gerunds are TPs whose head carries a Case feature.

3.2.2. Control Properties of Clausal Gerunds

Pires applies Hornstein’s diagnostics of OC to clausal gerunds, and demonstrates that clausal gerunds in complement or adjunct position show properties of OC, in contrast to those in subject position, which display properties of nonobligatory control (henceforth NOC). Firstly, OC PRO must have a local, c-commanding antecedent as in (7a–c). In contrast, NOC PRO can occur without an antecedent (8a). When it occurs with an antecedent, the antecedent can be a non-local DP (8b) or a non-c-commanding DP (8c). (Examples (7)–(12) are taken/adapted from Pires (2006: 33–37).)

(7)  
   a. Paul thinks that [John’s mother] favored PRO shaving herself/*himself.

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2 Pires states in several footnotes that the main points of his analysis are amenable to the DP analysis of clausal gerunds, if the same structure can be posited for both clausal gerunds with a lexical subject and those with a PRO subject.
b. Paul thinks that [Peter’s girlfriend] worried about PRO hurting herself/*himself.

c. Peter thought [Bill’s sister] left without PRO having shaved herself/*himself.

(8) a. It was believed that PRO shaving was important.

b. John thinks that it is believed that PRO shaving himself is important.

c. Clinton’s campaign believes that PRO keeping his sex life under control is necessary for electoral success.

Next, OC PRO permits only a sloppy reading under ellipsis (9a, b), whereas NOC PRO allows a strict reading in addition to a sloppy reading (9c).

(9) a. John hates PRO losing and Bill does too.

b. John left the party after kissing Mary and Bill did too.

c. John thinks that PRO getting his resume in order is crucial and Bill does too.

(9a) can be interpreted only as describing a situation in which Bill hates for himself to lose, and not a situation in which Bill hates John losing. Similarly, in (9b) a strict reading is unavailable: it cannot mean that Bill left the party after John kissed Mary. In contrast, (9c) allows both a strict reading and a sloppy reading: what Bill considers important can be John’s preparation of a resume as well as his own preparation of a resume.

In addition, split antecedents are not permitted with OC (10a, b), in contrast to NOC (10c).

(10) a. *Bill knew that Mary hated PRO hurting themselves/each other.

b. *Peter talked to Susan without PRO confusing themselves/each other.

c. John told Mary that PRO washing themselves/each other would be fun.

Another diagnostics of OC PRO is that it only has a _de se_ interpretation (11a), in contrast to NOC PRO, which allows non-_de se_ interpretation with respect to the matrix subject (11b).

(11) a. The unfortunate liked PRO getting a medal.

b. The unfortunate believes that PRO getting a medal would be boring.

(11a) cannot be true in a situation in which the unfortunate, having lost his memory of getting a medal, read about it and was happy about that person getting a medal without recognizing that person as himself. On the other
hand, (11b) can be true even if the unfortunate does not recognize himself as a medal receiver.

Finally, there is a difference in interpretation between OC (12a, b) and NOC (12c) concerning only NP. (12a) can be paraphrased as “only Churchill remembers himself giving the BST speech,” but not as “only Churchill remembers that he gave the BST speech,” for PRO is construed as only Churchill, and not as Churchill. On the other hand, PRO in (12c) need not be interpreted as only George Bush.

(12) a. Only Churchill remembers PRO giving the BST speech.
   b. Only Churchill was congratulated after PRO giving the BST speech.
   c. Only George Bush remembers that PRO winning the Second World War was crucial.

These are the pieces of evidence Pires offers to argue that the PRO subject of clausal gerunds in the adjunct position or the object position of V or P is OC PRO, whereas the null subject of clausal gerunds in the subject position is NOC PRO.

A caveat is in order here. Hornstein’s set of diagnostics of OC differs from the one proposed by Williams (1980), who claims that lexical DPs cannot appear in the position of OC PRO. The fact that the PRO subject of clausal gerunds alternates with a lexical DP in subcategorized positions makes them outside the purview of OC under Williams’s diagnostics, though absolute clauses are considered to involve OC just like secondary predicates in his analysis. Whether Pires’s classification of data is valid or not is an empirical issue, depending on which properties are taken to be criterial to OC, and how well the syntactic behaviors of PRO subjects of clausal gerunds can be accounted for.

3.2.3. Derivations of Clausal Gerunds

Pires makes two assumptions concerning clausal gerunds. First, as we have seen in Section 3.2.1, the distribution of clausal gerunds is attributed to the assumption that their Tense head carries an uninterpretable Case feature that needs to be valued. Second, a condition on feature valuation is proposed (Pires 2006: 41, (52ii)): “A probe cannot value an uninterpretable/unvalued feature of its goal while the probe itself has an uninterpretable/unvalued feature of the same kind.” With these two assumptions in mind, let us see how Pires accounts for the derivation of clausal gerunds with a PRO subject, making use of Chomsky’s (2000, 2001) mechanism of feature checking/valuation and Hornstein’s movement theory of control.
The derivation proceeds bottom-up. First a VP headed by *swimming* merges with $v$, forming $v'$. Then *John*, carrying interpretable $\varphi$-features and an uninterpretable/unvalued Case feature, merges with $v'$, and receives an external $\theta$-role. Next the AGR head of the clausal gerund, which is $\varphi$-defective and bears an uninterpretable Case feature, enters the derivation. *John* establishes a Match/Agree relation with AGR, values the $\varphi$-set of AGR by Agree and moves to [Spec, TP1] to satisfy the EPP. Here, Pires makes an additional stipulation: the valuation of the $\varphi$-set of AGR by a DP eliminates its defectiveness. This occurs only with gerunds, because $\varphi$-defective heads of infinitives must remain defective throughout derivation, disallowing lexical subjects without the aid of the complementizer *for* or ECM verbs. Pires also assumes that the valued uninterpretable features do not need to be deleted before the end of the strong phase, so the valued $\varphi$-features of AGR remain until the derivation reaches the matrix vP. Though the AGR of the clausal gerund turns $\varphi$-complete thanks to Agree, *John* cannot have its Case feature valued by it within TP1 due to the condition on feature valuation we have seen above. The probe, the AGR head of the clausal gerund, still carries an uninterpretable Case feature, so it cannot value the Case feature of the subject DP. After the matrix verb, *prefer*, merges with and assigns a propositional $\theta$-role to TP1, the matrix $v$ enters the derivation, attracts *John* to its Spec position and assigns an experiencer $\theta$-role to it. The verb, *prefer*, adjoins to $v$ as well. Then the matrix $v$ Matches/Agrees with the embedded AGR of the clausal gerund in $\varphi$-features and values the uninterpretable Case feature of AGR. Lastly, *John* moves up to [Spec, TP2] to check/value its own uninterpretable Case feature and the EPP and $\varphi$-features on the matrix T.

Pires argues that this is the only possible derivation for (13a). For example, the derivation in (14b) does not converge.

(14) a. *prefers [John swimming].
   b. [TP2 $\left[\begin{array}{c} T' \\ vP \\ \text{John} \\ \text{v prefers [VP prefers [TP1 $\left[\begin{array}{c} T' \\ \text{AGR} \\ \text{vP John swimming}]\right]\right]\right]\right]$]]]]]]

If the matrix $v$ (*prefer + $v$) valued the Case feature of the AGR head of the

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3 Pires represents a head of clausal gerunds as AGR in his schemata for expository purposes.
clausal gerund while John is still in [Spec, TP1], the AGR would be able to value the Case feature of John in turn, because the condition on feature valuation would not be violated. Once John had its Case feature checked in [Spec, TP1], however, it would not be able to move up to the matrix clause to receive the experiencer θ-role and to check the EPP feature of the matrix T due to the last resort nature of movement, and the derivation would not converge. Thus, the derivation depicted in (13b) in which John moves out of TP1 before the Case feature of the head of the clausal gerund gets valued is the only possibility.

As for clausal gerunds with a lexical subject, their derivation proceeds differently because of an additional DP in the numeration.

(15) a. Sue prefers [John swimming].

 b. [TP2 Sue [VP Sue [VP prefers [TP1 John [T AGR [VP John swimming]]]]]]]

Again the clausal gerund is formed in a bottom-up fashion. The head of the gerund, AGR, Agrees/Matches with John, and has its φ-set valued by it. Then John moves to [Spec, TP1] for an EPP reason. It cannot have its Case feature valued yet, because of the condition on feature valuation, according to which the AGR head of a clausal gerund can value the Case feature of its subject DP only after its own Case feature has been valued. After the matrix verb, prefer, merges with and assigns a propositional θ-role to TP1, the matrix v enters the derivation. This time, however, John does not move up to its Spec position, because another DP, Sue, is available in the numeration to pick up the experiencer θ-role. The matrix v Matches/Agrees with the embedded AGR of the clausal gerund in φ-features and the uninterpretable Case feature of AGR is valued. Now that the condition on feature valuation is satisfied, the AGR in turn values the Case feature of DP in [Spec, TP1], with which the Agree/Match relation has already been established. Finally, Sue is merged in the Spec position of the matrix vP, receives the external θ-role, and raises up to [Spec, TP2] to check its Case feature as well as the EPP and φ-features on the matrix T. The derivations of (13a) and (15a) do not compete, because their numerations are different.

With regard to Case-marking of the lexical subject of clausal gerunds, Pires argues against ECM analysis (cf. Johnson (1988)), since the clausal gerunds do not occur with typical ECM verbs such as believe (17a). Their subject does not undergo passivization (17b), but the clausal gerund as a whole does (17c), contrary to ECM infinitives (16b, c).

(16) a. Mary believes John to be smart.

 b. John is believed to be smart.
c. *John to be smart is believed by Mary.

    b. *John is preferred swimming in the morning.\(^4\)  

\[^4\text{((a, b): Pires (2006: 38))}\]

((a, b): Pires (2006: 38))

Similarly, the clausal gerunds do not occur as a complement of a raising predicate (18a), and their subject cannot be raised (18b), though the entire clausal gerund can (18c).

(18) a. *It appears John liking Mary.
    b. *John appears liking Mary.
    c. [(John) talking to Mary] seems impossible.  \(^{(\text{Pires (2006: 38))}}\)

Under Pires's analysis, clausal gerunds need to have their Case valued, so it is clear that they cannot occur as a complement of raising verbs which do not value Case (18a). As for the ECM environment (17a), if the subject of a clausal gerund were to be exceptionally Case-marked by the matrix verb, the head of the clausal gerund, AGR, would be left without its Case feature valued, which would lead the derivation to crash. If the clausal gerunds bear a Case feature, as Pires proposes, it follows that the whole clausal gerund can undergo passivization (17c) or raising (18c) just like ordinary DPs. After the clausal gerund moves to the matrix subject position, its head, AGR, with its Case feature valued by the matrix T, values the Case feature of its subject DP, based on the Match/Agree relation between them established in the course of derivation. On the other hand, infinitival T cannot be assigned Case, and it cannot value the Case of a DP in its Spec (16c). The fact that the subject of clausal gerunds cannot undergo passivization (17b) or raising (18b) is also due to the uninterpretable Case feature which fails to be valued. If the subject of the clausal gerund has its Case feature valued by the matrix T, which is the only Case-valuing head in the structure, the Case feature of the AGR head of the clausal gerund would be left without being valued, and the derivation fails to converge. Thus Pires's analysis based on Case feature valuation successfully accounts for the syntactic properties of clausal gerunds.

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\[^4\text{Battistella (1983: 2) observes that (i) is possible.}\]

(i) John was imagined leaving.
3.3. TP-Defective Gerunds and Perception Verb Complements

Pires proposes a different treatment for gerunds that occur as complements of such verbs as *try, avoid, start* and *finish*, because their syntactic properties differ from those of clausal gerunds.

(19) a. *Bill avoided/tryed yesterday [PRO j coming to dinner tomorrow]. (=(3b))
c. Bill avoided/tryed [PRO i/*Peter/*him talking to his boss]. (=(1b))
d. *Mary avoided [there being too many people in the party]. (Pires (2006: 72))

First, as was observed in Section 3.1 and repeated here as (19a), these gerunds do not carry a tense property of their own distinct from the matrix clause. Second, a perfective auxiliary is not permitted in them (19b), while it is allowed in clausal gerunds. Third, they do not allow a lexical subject (19c, d).

As for control, these gerunds show OC properties.

(20) a. *Paul i thinks that Mary tried PRO i shaving himself.
b. *Bill i knew that Mary j hated PRO i+j hurting themselves/each other.
c. John tried PRO i leaving early and Bill did too. (=Bill leaving early) (Pires (2006: 83))

As shown in (20a), the PRO subject should be controlled locally by a c-commanding antecedent. Control by split antecedents is not possible (20b), and only a sloppy reading is available under ellipsis (20c).

In order to account for these properties, Pires considers two hypotheses about their structure without choosing between them. A strong hypothesis is that the TP-defective gerunds lack TP projection altogether as in (21a), so that they cannot have a tense of their own and the auxiliary *have* cannot appear in them. On the other hand, a weak hypothesis is to consider that the TP-defective gerunds project a defective TP whose head lacks an ability of valuing Case and does not allow a temporal specification distinct from the matrix clause, as in (21b).

(21) a. [CP [TP Mary [vP Mary [vP tried [vP Mary [vP calling [DP her friends]]]]]]]

b. [CP [TP Mary [vP Mary [vP tried [TP Mary [vP Mary [vP calling [DP her friends]]]]]]]] (Pires (2006: 83))

In (21a), there is no head that can value a Case feature of *Mary* within the embedded vP, so *Mary* has to move up to the Spec position of the matrix
TP to have its Case feature valued. In (21b), the defective T head of the gerund does not have a full set of \( \varphi \)-features to value the Case feature of *Mary* in its Spec position. Again *Mary* has to raise to the matrix TP for Case feature valuation.

Pires (2006: 85) notes that TP-defective gerunds show some similarity with clausal gerunds.

(22) a. *John was tried swimming.*
   b. *John was preferred swimming.*

Just as the subject of clausal gerunds cannot be passivized (22b), the subject of TP-defective gerunds cannot occur as a subject of a passive sentence (22a). In order to account for this, he assumes that a head of TP-defective gerunds, in parallel with the head of clausal gerunds, has a Case feature that needs to be valued. (22a) is ruled out because the gerundive head fails to have its Case feature valued. Unlike the head of the clausal gerunds, however, the head of the TP-defective gerunds does not have an ability to Case-value its subject after it has its own Case feature valued. This is why TP-defective gerunds cannot host lexical subjects, according to his analysis.

Pires (2006: 87–88) also considers complements of perception verbs, and states that they should be analyzed as bare vPs. Like TP-defective gerunds, they do not allow a perfective auxiliary (23a) or an expletive subject (23b), and they lack independent tense specification (23c). However, they differ from TP-defective gerunds in always requiring a lexical subject and not allowing a null subject as in (23d). Moreover, their subject can be passivized, as (23e) indicates.

(23) a. *I heard Francis having talked to Sylvia.*
   b. *Bill saw there being many people at the party.*
   c. *This morning Francis will see Bill leaving tonight.*
   d. *I heard PRO talking on the phone.*

5 As an anonymous reviewer pointed out to me, it has been observed by a number of authors that an expletive and an idiom chunk can sometimes follow perception verbs. See Section 4.4 for discussion.

(i) I saw it raining yesterday.  \( \text{(Akmajian (1977: 456))} \)
(ii) I saw there rising over the meadow a blue haze.  \( \text{(Felser (1999: 60))} \)
(iii) We noticed allowances being made for the very young.  \( \text{(Declerck (1982: 12))} \)

Regarding the expletive *there*, Felser (1999: 73) notes that it is permitted in participial perception verb complements only “if it functions as the subject of a raising predicate, if the matrix clause defines an irrealis context, or if the complement is a ‘presentational’ clause.”
(23d, e) could be attributed to ECM, but Pires (2006: 89) observes that voice transparency does not hold with them.

(24) a. I heard/saw the doctor examining Paul.
    b. I heard/saw Paul being examined by the doctor.

Thus he proposes that object control is involved, and that their head, $v$, cannot value a Case feature of its subject on a par with the head of TP-defective gerunds.

4. Discussion

4.1. Feature Composition of the Head of Gerunds

In Section 3.1, we have seen Pires’s arguments against null Case analysis of PRO, but it should be pointed out that Hornstein’s theory does not explain what Martin tries to account for. His theory predicts that PRO is only allowed in Caseless positions, because the DPs cannot A-move from Case positions due to the principle of Last Resort. It successfully rules out PRO from the object position of verbs and prepositions, as well as from ECM positions, but it has nothing to say about why some verbs have an ability to check Case of the embedded infinitival subject, while others only permit control. Martin tries to link licensing of PRO to the tense property of complement clauses, but Hornstein just assumes that each verb is specified for its Case property.

Pires does not address the issue of selection, but it seems that he has to have recourse to c-selection properties including a Case valuing ability of heads. For example, it seems necessary to specify that prefer takes a TP whose head is defective in $\phi$-features, bears a Case feature that needs to be valued, and has an ability to value a Case feature of its subject after its own Case feature is valued. Avoid, on the other hand, either takes a vP whose head bears a Case feature that needs to be valued (the strong hypothesis), or a TP whose head is defective in $\phi$-features and tense features, bears a Case feature that needs to be valued, and lacks an ability to value a Case feature even if its own Case feature is valued (the weak hypothesis). See takes a

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6 An expletive or an idiom chunk occurring after perception verbs cannot be passivized, as observed by Declerck (1982: 13). See Section 4.4 for discussion.

(i) *It was seen raining (by us).  
(ii) *Allowances were noticed (by us) being made for the very young.
Pires makes efforts to localize all the selection properties on the selected head, and it is one of the strengths of his analysis of clausal gerunds that he need not posit two distinct c-selection frames for those with a lexical subject and those without one as in (25).

(25) prefer [___ [DP VP\[\text{ing}\]], [___ [PRO VP\[\text{ing}\]]]

However, alternation between a lexical DP and PRO is not always possible in clausal gerunds. One idiosyncrasy concerns the preposition, *with*. Unlike *without*, *with* cannot take clauses with a PRO subject. This property is hard to state within Pires’s analysis of clausal gerunds, because we would need a mechanism that somehow forces valuation of the subject DP early so that its movement out of the embedded TP would be prevented. This, in fact, is a virtue of his analysis, because absolute clauses headed by *with* differ from clausal gerunds headed by other prepositions/conjunctions. As McCawley (1983) observes, VPs, APs, PPs and predicate nominals can all occur after the subject DP in absolute construction, so ECM by *with* seems to be responsible for the Case of the subject DP in this construction. Pires’s analysis of clausal gerunds forces us to treat *with* DP VP\[\text{ing}\] and *without* DP VP\[\text{ing}\] differently, but this is not implausible, once we recognize the peculiarities of *with* constructions.

Another idiosyncrasy is found with temporal prepositions/conjunctions. While clausal gerunds selected by *without* allow both a lexical DP and PRO as a subject, those taken by *after*, *before* and *while* do not allow a lexical subject.\(^7\) This must be specified as a property of the selected head: it cannot value a Case feature of its subject even when its own Case feature is valued, just like the head of TP-defective gerunds. However, they cannot be treated as TP-defective gerunds, because they license temporal adverbs. Here it seems we need a finer-grained distinction of the gerundive heads.

Despite Pires’s efforts, more work seems necessary concerning the feature composition of defective heads: the T heads of clausal gerunds, TP-defective gerunds (under the weak hypothesis), and infinitives, as well as the v heads of TP-defective gerunds (under the strong hypothesis), complements of perception verbs and bare infinitives. This will enable us to state the c-selec-

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\(^7\) Interestingly, Adler (2006) reports that children can handle control into adjuncts headed by *without* relatively early, in contrast to control into adjuncts headed by *after* or *while*.
tion properties of verbs and prepositions in a more principled way and may help us investigate their link to s-selection properties.

In this connection, it must be mentioned that Pires leaves unresolved the issue of morphological case-marking of lexical subjects of clausal gerunds. Why do they take an accusative form without involving ECM, though nominative form is also allowed for some speakers? Why do subjects of absolute clausal gerunds, for most speakers, bear nominative case, though they can sometimes alternate with accusative case? He rejects the possibility of regarding them as default case realization (cf. Schütze (2001)), but does not show how the morphological case is determined in his system. Notice that a lexical subject bears accusative case, even if the clausal gerund containing it occurs in the subject position, so the Case value of the head of the clausal gerunds does not seem relevant. In addition, since the head of the clausal gerunds carries a Case feature, it is necessary to demonstrate why possessive case cannot be licensed on their subject. As Pires notes himself, “the precise φ-feature/agreement status of the head T” (p. 59) of clausal gerunds may be relevant to the determination of case morphology of their subject.

4.2. Distribution of Clausal Gerunds

As we have seen in section 3.2.1, clausal gerunds occur in Case positions, which led Pires to hypothesize that they are headed by an element bearing a Case feature which needs to be valued. However, the distribution of clausal gerunds is not always the same as that of DPs. 8

First, a clausal gerund with a lexical subject cannot occur as a subject of

8 Pires (2006: 22) states that clausal gerunds can undergo Subject Auxiliary Inversion and can occur in a focus position of cleft sentences in parallel with DPs as in (i). On the other hand, Horn (1975: 378) gives different judgments as in (ii), cited also by Reuland (1983).

(i)  a. Did Dan kissing Mary bother her parents?
   b. It was Mary leaving town that surprised me.
(ii) a. *Did John kissing Mary annoy/bother her parents?
     b. *It was John kissing Mary that upset everyone.

Horn (1975: 379) also claims that clausal gerunds cannot be topicalized, unlike DPs.

(iii) *John kissing Mary we remembered.


(iv) They put their/*them studying off.

The status of the data is not clear, but it seems that clausal gerunds and ordinary DPs do not behave totally alike. Since Pires posits TPs for the clausal gerunds, he may be able
an ECM clause, though one with a PRO subject can.\textsuperscript{9}

(26) a. *I consider [[Mikey being unhappy] to be unpleasant].
   b. I consider [[PRO being unhappy] to be unpleasant].

(Johnson (1988: 585))

Pires’s analysis predicts that (26a) should be possible just like (26b), because the clausal gerund should be able to have its Case feature valued by the matrix v just like an ordinary ECM subject DP, and subsequently its subject should be able to have its Case feature valued by the T head. Interestingly, Horn (1975: 346, fn. 5) notes that it is possible to topicalize a clausal gerund with a lexical subject from the subject position of an ECM clause.

(27) John failing the test we considered to be horrible.

The clausal gerund in (27) seems to have its Case feature valued because it has once been an ECM subject. Then it is not clear why (26a) is impossible. Pires’s system is meant to account for the alternation of PRO and a lexical subject within clausal gerunds, so it faces difficulty when the alternation fails to obtain.

Another such case is found with \textit{it}-extraposition. We have seen in Section 3.2.1 that clausal gerunds, sharing a property with DPs and not with clauses (28a), cannot be extraposed. However, some gerunds with a PRO subject can, as shown in (28b).

(28) a. It was tragic [*?Paul losing the elections/that Paul lost the elections]. (=(6d))
   b. It was nice [*my/*me/PRO seeing you].

(Battistella (1983: 3))

Pires does not provide an account for why it is impossible to \textit{it}-extrapose clausal gerunds or DPs, and it is not clear why some predicates allow \textit{it}-extraposition of the clausal gerunds with a PRO subject. However, the failure of alternation between PRO and a lexical subject in the extraposed clausal gerunds could be a problem for his analysis, since a lexical subject should be licensed on a par with PRO.

\textsuperscript{9} The situation is not simple. For instance, Johnson (1991: 599) observes that clausal gerunds can occur in the subject position of a clausal gerund and a causative small clause.

(i) a. She remembers Gary telling the story being uncomfortable.
   b. She let Chris being there make the point.
Gerunds with a PRO subject show wider distribution than those with a lexical subject. Pires’s system does not distinguish a head of clausal gerunds that licenses PRO from the one that licenses a lexical subject, but it might be necessary to do so in order to account for this asymmetry.

4.3. Derivation of Clausal Gerunds

In Section 3.2.3, it was shown that Pires’s derivation of clausal gerunds ingeniously incorporates the idea developed by Reuland (1983) that the Case assigned to the clausal gerund from outside is transferred to its lexical subject. The alternation between a lexical subject and PRO in clausal gerunds has been a long-standing puzzle in the GB era, and different structures have been posited for them (e.g. Johnson (1988)). Pires points out that it is not plausible to posit two different structures for clausal gerunds with a PRO subject and those with a lexical subject because there is no difference regarding their tense property. He need not do so, which is a definite advantage of his intricate minimalist account.

Unfortunately, however, the proposed derivations of clausal gerunds are rather complicated and involve some stipulations. Notice how the timing of Case valuation of a gerundive subject is controlled in his analysis. First, the subject Agrees with the AGR head, and the φ-features of AGR are valued. This eliminates the defectiveness of the AGR head, an option allowed only for clausal gerunds. However, the φ-features of AGR are not deleted until the derivation reaches the matrix vP. When they Agree/Match with the unvalued φ-features of the matrix v, the Case feature of the embedded AGR gets valued. Then the Case feature of the gerundive subject is valued by AGR. At this point, however, an Agree/Match relation does not hold between the subject DP and AGR. Since the φ-features and the Case feature of AGR have already been valued, AGR is not active any more. Case feature valuation of the gerundive subject, having been withheld by the condition on feature valuation, has to take place based on the Agree relation established earlier. It is not clear how the “memory” of the previous Agree relation can be employed in feature valuation at the stage in which the Agree relation no longer holds. What seems to be at the heart of this problem is the status of AGR, which is both a Case valuee and a Case valuer. If we could posit two distinct elements, one for a Case valuee and one for a Case valuer, and somehow link these two elements so that Case feature valuation of the gerundive subject by a head is licensed by another element having its Case feature valued, we might be able to circumvent this difficulty.
Another technical point concerns the derivation of OC clausal gerunds. Once a controller DP moves out of the embedded TP, and its AGR head has its Case feature valued by a matrix v, the AGR should be able to value the Case feature of a copy of the controller left in its Spec position because the condition on feature valuation is satisfied. This, however, can be prevented by a principle of economy. As I have pointed out above, the AGR head after its Case feature valuation is not active, and valuing a Case feature without Agree/Match at that moment is a marked option. It should only take place as a last resort. Since the Case feature of a controller DP in a head position of a chain is successfully valued in a matrix clause, the tail of the chain need not, and therefore should not, have its Case feature valued.

Clausal gerunds have been a “syntactic nut,” and every serious attempt to deal with them inevitably involves ad hoc stipulations in one way or another, but such stipulations cannot be included in the Universal Grammar under Chomsky’s (2000) Strong Minimalist Thesis. Thus they have to be learnable. Unfortunately, it is not clear how children can learn, for example, Pires’s condition on feature valuation, dealing with the order of two Case valuation processes involving one head. It would be desirable if one could reduce such stipulations to a minimum in accordance with the spirit of Minimalism so that children can acquire them effortlessly.

4.4. TP-Defective Gerunds and Complements of Perception Verbs

As was shown in Section 3.3, in order to account for the ungrammaticality of (29), Pires claims that a TP-defective gerund is headed by T (the weak hypothesis) or v (the strong hypothesis) with a Case feature that needs to be valued.

(29) *John was tried swimming. (= (22a))

The same analysis has been offered to explain the impossibility of passivizing subjects of clausal gerunds, so this is a natural extension for Pires. However, I do not think it is necessary to assume that the TP-defective gerunds carry a Case feature like DPs. In fact, Pires’s analysis makes a wrong prediction concerning passivization. If they have a Case feature, they should be able to undergo passivization, but they cannot.

(30) a. *(Bill’s) playing the Sixth Suite was begun twice.

(Milsark (1988: 630))

b. *Playing the Fifth Symphony was tried/avoided by the orchestra.

Moreover, Milsark (1972) observes that TP-defective gerunds, unlike clausal
gerunds, show the doubling effect (cf. Ross (1972)).

(31) a. *Bill was beginning playing the Sixth Suite.
    b. Bill was enjoying playing the Sixth Suite.

(Milsark (1988: 630))

The exact nature of this effect awaits further study, but the nominal character of clausal gerunds in contrast to the verbal character of TP-defective gerunds seems to be relevant, as Milsark (1972) points out. Pires’s analysis, which assigns a Case feature to both clausal gerunds and TP-defective gerunds, should face difficulty with this contrast.

Following Milsark (1988), let us assume that these gerunds do not carry a Case feature. Then the ungrammaticality of (29) and (30) follows, because intransitive verbs do not passivize in English. This would make the feature specification of the head of the TP-defective gerunds simpler, and give us a basis to deal with differences between clausal gerunds and TP-defective gerunds more easily. The status of \textit{ing} is unclear, but if we could treat \textit{ing} without positing a T head, then I take the TP-defective gerunds to be vPs with -\textit{ing} attached to Vs. There is no Case requirement on them. Remember that Pires’s weak hypothesis states that the T head of the TP-defective gerunds is similar to that of clausal gerunds in having a Case feature, and differs in its inability to value a Case feature of a DP in its Spec position as well as in its defectiveness in φ-features and tense features. We can discard his weak hypothesis, and dispense with the Case requirement of the TP-defective head in his strong hypothesis.

As for Pires’s analysis of complements of perception verbs, we have already seen in footnotes 5 and 6 that DPs and the present participles following them sometimes form clausal complements, contrary to his claim. His analysis is very sketchy, based only on a selective set of data, and fails to take into account a whole range of complex behaviors exhibited by perception verb complements. Declerck (1982), Cinque (1995) and Felser (1999) convincingly argue that perception verb complements of the form DP VP\textsubscript{ing} can be ambiguous, corresponding to three different structures: (i) a DP in which a reduced relative clause modifies the head noun, (ii) a DP and a participial adjunct, and (iii) a clause. Pires’s vP analysis seems to be on the right track for complements of type (ii), but it only gives a partial picture of the perception verb complements.

4.5. Derivation of Adjunct Control

In Section 3.2.2, we have seen the data that Pires uses to demonstrate that PRO subjects of adjunct clausal gerunds have OC properties. He
claims that movement of the controller DP is involved in these cases as well, following Hornstein. Adjuncts constitute an island for extraction, so ordinary movement cannot take place out of them. Hornstein argues that sideward movement proposed by Nunes (2001, 2004) is employed in these cases. Let us see how Hornstein derives (32). ((33) and (34) are adapted from Hornstein (2001: 48).)

(32) John, saw Mary [without [PRO_i/*j entering the room]].
(33) [vP saw Mary], [adjunct without [IP John [I ing [vP John v [vP entering the room]]]]]

First, the adjunct clause is built bottom-up. When INFL, \textit{ing}, merges with vP, \textit{John} raises to the Spec of IP to check the strong feature of INFL. This movement violates the economy preference for Merge over Move, according to which \textit{Mary} within the numeration should be merged into the Spec of IP instead. However, if \textit{Mary} were merged there, the Case of \textit{John} would not be checked, and the derivation would fail to converge. Hence economy preference is overridden for convergence. The matrix VP is independently built up.

(34) [vP/vP [vP John v [vP saw Mary]] [adjunct without [IP John [I ing [vP John v [vP entering the room]]]]]]

When v merges with the matrix VP saw Mary, \textit{John} moves sideward from the adjunct clause to pick up an external θ-role of the matrix v, and merges into the Spec of vP. Notice that this movement is to a non-c-commanding position. These subtrees are not connected at the point of sideward movement, so c-command relation does not hold between them. \textit{Mary} and \textit{John} are equidistant from the Spec of the matrix vP, because they do not c-command each other, so either DP should be able to move there. However, if \textit{Mary} moved instead of \textit{John}, the derivation would not converge for a Case-theoretic reason. Hence only \textit{John} can move to the Spec of vP in effect. Then the adjunct is adjoined to the matrix vP. Once the adjunct is merged with the matrix clause, it becomes frozen and extraction out of it can no longer take place. Finally, \textit{John} raises up to the Spec of the matrix IP for Case checking.

Notice that \textit{John} cannot be merged with saw via sideward movement, because \textit{Mary} should be merged with it due to the economy preference Merge over Move. This is how Hornstein rules out object control in (32).

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In some cases, however, object control obtains with adjunct clauses.

(35) Johni arrested Billj [for PROi/j driving his car too fast].

(Hornstein (2001: 98))

Hornstein argues that this adjunct clause is attached relatively low, either adjoined to v′ or to VP, in contrast to the adjunct clause in (32), which is adjoined between vP and T′. Then the difference in control between (32) and (35) can be derived by the Extension Condition, which he assumes holds for adjuncts as well. In (32), after a controller DP in the Spec of TP (IP) of the adjunct clause moves sideward into the Spec of vP of the matrix clause to induce subject control, the adjunct clause has to adjoin higher than that matrix vP so that the structure can be extended; it cannot be attached inside the vP structure which has already been built up. On the other hand, in (35) the controller DP within the adjunct clause moves sideward into the object position of the matrix V, and then the adjunct is adjoined to VP or v′. The controller DP cannot move from the adjunct clause to the Spec of the matrix vP, because then the adjunct would have to attach higher than the vP due to the Extension Condition, which is not possible, for the adjunct of this sort must be attached below v′ to establish modification relation. Thus, subject control is not available with low-hanging adjuncts.

Now consider a case in which more than one adjunct occurs.

(36) John, kissed Mary [without PROi saying a word] [after PROi seeing Susan off].

It seems that OC obtains in (36) as well, but it is not clear how Hornstein’s movement theory can handle this case. Nunes proposes to analyze across-the-board movement in terms of sideward movement, so let us see how the structure can be derived with sideward movement. One possibility is to move John sideward from the Spec of TP of the adjunct headed by without to the Spec of the matrix vP, move it sideward to the Spec of vP of the adjunct clause headed by after, raise it to the Spec of TP within the adjunct, and finally move it back to the Spec of the matrix TP. However, such derivation is illicit. As Nunes (2004: 139) argues, sideward movement should “proceed from a ‘subordinated’ to a ‘subordinating’ derivational workspace,” so John cannot move sideward from the matrix clause to the adjunct clause. Another conceivable derivation of (36) is to move John sideward from the Spec of TP of one adjunct to the Spec of vP of another adjunct, raise it to the Spec of TP within the adjunct, move it sideward to the Spec of the matrix vP, and raise it to the Spec of the matrix TP. However, there is a reason to think that such derivation should not be allowed. Consider (37).
(37) John arrested Bill [for PRO \_i driving his car too fast] [before PRO \_j checking his driver’s license].

Unlike (36), (37) involves subject control in one adjunct and object control in the other. If sideward movement from the adjunct headed by \textit{for} to the adjunct headed by \textit{before} is possible, it has to occur before the adjuncts are merged into the matrix clause, or else the movement would be banned due to the Conditions on Extraction Domain. But at the stage when adjuncts are not yet adjoined to the matrix clause, sideward movement between them is blind to their prospective attachment height. It should then be possible to move John from the Spec of TP of the adjunct headed by \textit{for} to the Spec of vP of the adjunct headed by \textit{before}, raise it to the Spec of TP within the adjunct, move it to the Spec of the matrix vP and from there to the Spec of the matrix TP. This would allow subject control for both adjunct clauses, contrary to fact.\footnote{Of course the correct derivation of (37) involves sideward movement of Bill from the adjunct headed by \textit{for} to the object position of the matrix V, and sideward movement of John from the adjunct headed by \textit{before} to the Spec of the matrix vP.} Hornstein’s mechanism of controller choice based on the attachment height of adjunct clauses to the matrix clause cannot prevent this. Now we have a problem: on the one hand, sideward movement between two adjuncts seems necessary to derive (36); on the other hand, such movement would permit a wrong interpretation of control for (37). Perhaps some modification can fill the gap, but it should be noted that this would not be a problem, if movement were not involved in OC.

4.6. Control Properties of Adjuncts

When we have adjuncts with a PRO subject, control by the matrix subject is expected, except for cases involving low-hanging adjuncts, as we saw in the previous section. However, there are cases in which PRO in adjunct clauses is not controlled by the matrix subject.

One such case involves control by a passive agent. Let us consider Adler’s (2006: 96) examples, which show that a lexical agent in a \textit{by} phrase as well as an implicit agent can control PRO in adjunct clauses.

(38) a. The trash was dumped (by John\_i) without PRO\_i checking the bag for holes.

b. The cat was fed (by its owner\_i) before PRO\_i leaving for work.

The derivation in (38a) probably proceeds as follows. First the adjunct
clause headed by \textit{without} is formed. Then the matrix VP is formed merging \textit{dumped} and \textit{the trash}. Note that \textit{John} in the Spec of the adjunct TP cannot move sideward to be merged with \textit{dumped} because Merge is preferred over Move. Next \textit{John} moves sideward and merges with \textit{by}. The constructed PP is adjoined to vP, to which the clause headed by \textit{without} is adjoined subsequently. Finally, \textit{the trash} raises to the Spec position of the matrix TP, and the derivation converges. The derivational account correctly rules out the surface subject as a controller.

However, Kawasaki (1993: 165) observes that “control by a passive agent is the most acceptable when the agent is human and the derived subject is non-human.” In (39), where the derived subject is human, control by the passive agent is not as feasible as (38).

\begin{equation}
\text{(39) } \#\text{John was dumped (by Mary,$i$) without PRO,$i$ explaining why.}
\end{equation}

(Adler (2006: 96))

I don’t see how structure alone can account for the difference between (38) and (39), for sideward movement should be possible in (39) as well as in (38). Following Kawasaki and Adler, I consider these to be NOC cases, sensitive to topicality of controllers. It seems that Hornstein’s derivation of adjunct control employing sideward movement is so powerful that it incorrectly treats the cases of NOC as involving OC.

Similarly, Landau (2003) points out that (40) should be derivable by sideward movement, and that Hornstein would wrongly predict it to be a case of OC. (Examples (40)–(42) are from Williams (1992: 299–300).)

\begin{equation}
\text{(40) } \text{PRO,$i$ having just arrived in town, the main hotel seemed to Bill,$i$ to be the best place to stay.}
\end{equation}

To this, Boeckx and Hornstein (2004: 442) reply, in (40) “PRO may well have a sideward movement derivation and so have a possible OC PRO interpretation.”\footnote{They show that PRO in (40) acts as a gate with respect to weak crossover, which they take to be an indication of OC.} Notice that PRO is not c-commanded by its controller \textit{Bill} in (40), even though one of Hornstein’s main diagnostics of OC PRO is c-command by its antecedent. Note also that the presence of the controller is not obligatory.

\begin{equation}
\text{(41) } \text{PRO having just arrived in town, the new hotel seemed like a good place for a stop.}
\end{equation}

PRO in (41) is controlled by an implicit experiencer of \textit{seem}. It might be argued that the implicit experiencer \textit{pro} is present in syntax and undergoes
sideward movement, but I would rather say that (40) and (41) illustrate NOC.

Note in passing that Williams argues that logophoric nature of the controller is crucial in (40). Compare it with (42).

(42) *PROi having just arrived in town, the main hotel collapsed on Billi.

In (42) Bill is not a logophoric center, so cannot be a controller. OC has no such restriction. Landau (2003) cites (42) along with (40) in his argument against Hornstein’s approach, but Boeckx and Hornstein (2004) argue that (42) is a case of NOC, because sideward movement cannot be involved in it. It is probably because the preference for Merge over Move would be violated, if such movement were to take place. (42) then does not provide an argument against Hornstein’s theory. Still, Landau’s argument based on (40) seems to hold.

Pires (2007: 200, fn. 55) also claims that clause-initial adjunct clauses constitute an OC environment. However, unlike Boeckx and Hornstein, who seem to derive the adjunct in (40) directly in the clause-initial position, Pires thinks that they are formed following the main clause, and preposed to the clause-initial position afterwards. He argues for reconstruction of these adjuncts, which allows PRO to be c-commanded by its controller in (43b, c).

(43) a. Every/no studenti turned in an assignment before PROi going home.

b. Before PROi going home, every studenti turned in an assignment.

c. ok/?/??/*Before PROi going home, no studenti turned in an assignment.

If the left peripheral adjuncts reconstruct to the right edge, it is not clear why some people find (43c) unacceptable in contrast to (43a), though Pires suggests it may be due to some scope properties of negative quantifiers.

However, there are additional differences between adjuncts preceding the main clause and those following it. Williams (1992: 301) observes that clause-initial adjuncts allow logophoric control more readily than adjuncts on the right.

(44) a. Having spent my day with Bill, Mary was a wonderful

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13 In fact, it is very difficult to come up with an example in which a non-logophoric DP occurs in a high non-subject position.
change.

b. Mary was a wonderful change, having spent my day with Bill.

(44a), in contrast to (44b), allows logophoric control more easily. This asymmetry cannot be accounted for if OC is involved in both cases, for reconstruction would incorrectly obviate such a contrast. As Williams and Adler claim, adjuncts in the left periphery (and some high adjuncts on the right) host NOC easily, which Adler attributes to their high attachment in a phrase structure tree.

Admittedly, the nature of adjunct control is still unclear. As we have seen, views vary regarding their OC/NOC classification. Hornstein tries to derive the complementary distribution of OC and NOC by assuming that OC is possible where movement is possible and that NOC obtains otherwise. His theory predicts which environment hosts OC and which hosts NOC. We have seen that his prediction is not always borne out, if we regard c-command as a criterial property of OC, and sensitivity to logophoricity or topicality as a criterial property of NOC. Since sideward movement is a powerful device, I think its application needs to be regulated carefully so as not to treat NOC cases as involving OC.

One might wonder if it is possible to treat all the cases of adjunct control as NOC. After all, matrix subjects, which control into adjuncts in most cases, are likely to be chosen as a controller based on logophoricity or topicality without reference to syntactic structure. In fact, Landau’s (2000) theory predicts that OC is not involved in adjuncts because they are inaccessible to Agree due to their islandhood. I believe more research is necessary in this area.

4.7. Absolute Clauses

Traditionally, absolute clauses are categorized as participles, because they do not occur in Case positions. However, Pires treats them as clausal gerunds, because they display properties of OC.

(45) a. John, said that [Peter’s daughter] went on to college, PRO being the best student in the class.

b. Having kissed Mary at the door, Peter left the party with some friends, and Bill did too. (=Bill kissed Mary and left)
c. PRO understanding the importance of a good education, Peter expected his son to go to a good college.
d. PRO having given the BST speech, [only Churchill] was congratulated by everybody. (adapted from Pires (2006: 60))
He states that PRO has to be c-commanded by a local controller (45a), and that it only has a sloppy interpretation under ellipsis (45b). It cannot be controlled by split antecedents (45c), and it has to be interpreted as only NP in (45d).

Pires further claims that the binding domain of the OC PRO subject of a clausal gerund is a matrix clause. Under Hornstein’s theory, insertion of pronouns is regarded as a costly operation, which is prohibited in the environment where movement is possible. Pires (2006: 61–64) claims that with respect to binding, absolute clauses behave mostly in parallel with complement clausal gerunds and adjunct clausal gerunds headed by a preposition/conjunction, which is expected if their subject can move to the matrix clause.

(46) a. The architects favored [them_{i} being placed upon the investigations committee]. (cited from Reuland (1983) by Pires)
   b. John left [without him_{j} having finished the report].
   c. [Mike and Paul]_{j} called for assistance, them_{j} being unable to fix the computer.
   d. Every student_{k} wanted to be in the play, he/him_{j/k} being a good actor.

(47) a. The architects favored [each other_{i} being placed upon the investigations committee].
   (cited from Reuland (1983) by Pires)
   b. They_{i} both disagreed with Bill [without each other_{i} noticing it].
   c. *They both disagreed with Bill, each other having already noticed it.

The subject position of complement clausal gerunds (46a, 47a) and that of adjunct clausal gerunds (46b, 47b) do not allow a pronoun bound by the matrix subject, but allow an anaphor bound by it. The subject position of absolute clauses is similar in disallowing a pronoun bound by the matrix subject (46c, d). However, absolute clauses do not allow anaphors in their

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14 According to my informant, (45b) does not have a sloppy reading. This is probably because for him, the elided VP does not include a clause-initial adjunct. He finds (i) acceptable with a sloppy reading.

(i) Peter left the party, having kissed Mary at the door, and Bill did too.
Again, we find left/right asymmetry of absolute clauses.

15 In contrast, Reuland (1983) states that adjunct gerunds and absolute clauses behave differently from complement gerunds regarding binding.
subject position as indicated in (47c). Pires suggests that covert agreement may be responsible for the unacceptability of (47c), but the exact analysis is not clear.

Though these pieces of data are murky, it seems to me that absolute clauses should be analyzed differently from complement clausal gerunds. They are not assigned Case from outside, and we have seen in the previous section that they sometimes show NOC properties. Moreover, they seem to constitute a binding domain as illustrated in (47c), which is probably related to the nominative Case marking of the subject. As for the data regarding pronominals, (48) is possible in contrast to (46c, d), as Pires (2006: 61, fn. 66) himself notes.

(48) Mikek expected to win the game, hek being the best athlete in the school.

Can we take (48) as evidence to show that absolute clauses constitute a binding domain? Pires suggests that some sort of focus may be involved in (48), which seems correct. The overt pronoun is clearly a marked option here, because PRO is readily available. This illustrates Chomsky’s (1981) Avoid Pronoun Principle, which deals with preference for PRO over lexical pronouns, independently of binding principles. Pires further suggests that the focus allows the subject pronoun of the absolute clauses to avoid the restriction on coreference. Then we cannot tell from (48) whether absolute clauses constitute a binding domain or not. Similarly, I do not think (46c, d) support Pires’s claim that the matrix clauses constitute a binding domain. They are unacceptable, not necessarily because the pronouns are bound within the alleged binding domain, but maybe because you can say the same thing without using the overt pronoun. If so, the binding domains cannot be determined by the data involving pronouns.

Pires does not demonstrate how the Case feature of absolute clausal gerunds is valued, and how the case of their subject is determined. The fact that absolute clauses usually show OC properties deserves an explanation, but without a proposal regarding the Case valuation of their heads, Pires’s analysis does not seem to invalidate the traditional view that they are participial clauses that need not be Case-marked.

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16 Hornstein captures this intuition by assuming that the use of pronouns is costly.
5. Conclusion

In this review article, I have examined Pires’s analysis of gerunds and pointed out some loose ends and potential problems. It was shown that a distributional difference between clausal gerunds with a PRO subject and those with a lexical subject might be a problem for his analysis. I have also examined his derivational account for the alternation between PRO and lexical subjects of clausal gerunds from the perspective of learnability. In addition, it was argued that contra Pires’s analysis, TP-defective gerunds are vPs and are not Case-marked. Adjunct control was scrutinized as well. I have considered a potential problem for Hornstein’s analysis concerning sentences with more than one adjunct clause, as well as the NOC properties of some adjunct clauses, and suggested that Pires’s proposal to treat adjunct clauses (including absolute clauses) as involving OC may be too strong.

As we have seen, Pires’s analysis of clausal gerunds depends crucially on Hornstein’s movement theory of control. Whether it is the best way to handle OC has been hotly debated, but this theory is restrictive and powerful enough to make clear predictions about interpretations of PRO, and produces far-reaching consequences. The book under review can be read as a case study testing this theory. To the extent that Pires’s analysis is successful, it will provide support for Hornstein’s theory. Regardless of whether one agrees with Pires’s analysis or not, this book will surely inspire further research on the topics of gerunds and control.

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Foreign Language Research and Teaching Center
Tokyo Institute of Technology
2–12–1 Ookayama, Meguro-ku
Tokyo 152–8552
e-mail: ishihara@flc.titech.ac.jp