

CHAPTER 2

EXHAUSTIVE AND PARTIAL CONTROL

INTRODUCTION: CATEGORIES OF CONTROL

How complex is the empirical picture presented by control constructions? How many theoretical types must be posited? A fundamental insight, going back to early discussions in generative grammar, is the distinction between two types of control, termed Obligatory Control (OC) and Non-Obligatory Control (NOC) by Williams (1980). Each type is characterized by a cluster of properties absent from the other type. The dichotomy runs through virtually all subsequent studies of control, in one form or another, specific implementations differing on the precise empirical scope they assign to each category.

On the two extremes we find “pure” cases: Complement control with verbs like *try* is uniformly assigned to OC, while Super-Equi control with sentential subjects is uniformly assigned to NOC. In between, we approach the more controversial cases. In particular, the status of desiderative infinitival complements (to verbs like *want*, which can take *for*-complements) and interrogative infinitival complements is less clear. Desiderative infinitival complements are usually classified with NOC, the primary reason being their ability to host a lexical subject (Chomsky & Lasnik 1977, Williams 1980, Bresnan 1982, Bouchard 1984, Koster 1984, Martin 1996, Wurmbrand 1998b). Chomsky (1981) and Manzini (1983), however, treat desiderative complements as any other case of OC. All of the above authors (with the exception of Chomsky & Lasnik 1977 and Lebeaux 1984) classify interrogative complements with NOC, the primary reason being their apparent compatibility with arbitrary control.

The main claim of this chapter is that all these treatments are empirically inadequate, insofar as the real boundaries between the different categories of control lie elsewhere. I argue that all complement infinitivals fall under OC, NOC being limited to subject and adjunct infinitivals. Furthermore, the OC category comprises of two types, largely overlapping in properties but crucially not identical. The first type I call *Exhaustive Control* (EC); it refers to constructions where the reference of PRO must be exhausted by the reference of the controller. The second type I call *Partial Control* (PC); it refers to constructions where the reference of PRO includes but need not be identical to the reference of the controller.

In most contexts, PC is indistinguishable from EC. Environments that force PC and exclude EC involve collective predicates. These predicates, as shown in (1), are incompatible with a singular subject. Similarly, they are ruled out in EC environments with a singular controller (2). Interestingly, they are allowed in PC environments (3):¹

- (1) a. * John met at 6.
b. * The chair gathered during the strike.
c. * Mary applied together for the grant.
- (2) a. * John managed [PRO to meet at 6].
b. * The chair dared [PRO to gather during the strike].
c. * Mary forgot [PRO to apply together for the grant].
- (3) a. John wanted [PRO to meet at 6].
b. The chair was afraid [PRO to gather during the strike].
c. Mary wondered whether [PRO to apply together for the grant].

The bulk of this chapter is dedicated to an investigation of the scope and properties of PC. This class has received very little attention in the literature: Only four studies discussed it – Lawler (1972), Martin (1996), Petter (1998) and Wurmbrand (1998b) - of which only the second offers an explicit account (Williams (1980) also mentions one PC example). In fact, as I argue below, this scarcity of attention is disproportionate to the actual scope of the phenomenon. Most control verbs *are* PC verbs, and only a small minority are EC verbs. In particular, the PC class comprises of desiderative, interrogative, factive and propositional verbs; the EC class comprises of implicative verbs and a few modal and aspectual verbs. In a sense, then, studies of control have focused on EC for the wrong reasons: Not because most control *verbs* are EC verbs, but simply because most control *contexts* involve (embedded) distributive predicates, which do not force partial control.

PC is thus not an exotic peculiarity but an option widely available, even if not widely instantiated. An adequate theory of control must provide a principled account for this phenomenon, to the extent that systematic regularities are discovered. This will be done in the following sections.

This chapter is organized as follows: Section 1 illustrates some immediate corollaries of PC, which bear on the certain semantic conceptions of control; section 2 reviews the classic OC/NOC distinction in terms of four criterial properties associated with each type; sections 3.1-3.2 demonstrate that PC patterns with EC with respect to all four criteria, establishing PC as a subtype of OC; section 3.3

¹ Sentences like in (3), which figure extensively in this chapter, require some contextual setting. They presuppose that the hearer can fill in the extra participants in the reference of PRO, other than the controller itself. Once this context is supplied, the contrast with (2) is sharp and clear. In most examples below the linguistic context will provide the necessary participants, but in case it does not, the reader should bear in mind that such a context can be easily constructed.

concentrates on the phenomenon of PC and presents extensive crosslinguistic evidence for its occurrence in various complement types; section 3.4 establishes the observation that PC involves semantic but not syntactic plurality on PRO; section 3.5 discusses the related but somewhat different phenomenon of split control; section 3.6 summarizes the properties of EC, PC and NOC. In section 4 I discuss the relevance of Tense to PC: It is shown that PC occurs in all and only tensed infinitival complements.

In section 5 I develop the analysis, drawing on some recent ideas within minimalism. Section 5.1 characterizes the difference between semantic number and other phi-features. I argue that while PRO enters the derivation with (arbitrarily selected) phi-features and semantic plurality. By contrast, Agr may be unspecified for semantic plurality. It is also maintained that the head of a tensed CP bears an uninterpretable T-feature which triggers T-to-C movement. Section 5.2 develops the idea that OC is an instance of the general relation *Agree*; In PC this relation applies to an anaphoric infinitival Agr, which raises in C (parasitic on T-to-C); in EC it applies directly to PRO. The operation is licensed by uninterpretable phi-features of the matrix functional head that agrees with the controller. The analysis fits well with a strongly derivational view of control, crucially utilizing the notion of the *phase*. Section 5.3 further explores the implications of Agr-in-C, especially in relation to the original proposal of "Anaphoric Agr" by Borer (1989).

In section 6 I return to the status of implicative complements in more detail, and argue that they must be treated as untensed CP's, rather than bare VP's. This has the implication that the phenomenon of restructuring should be kept distinct from that of EC (the former entails the latter, but not vice versa). Crosslinguistic evidence supports this conclusion. Section 7 deals with some consequences of the theory: In section 7.1 I discuss what appears to be an overt lexical item with the main properties of PRO in PC - the German impersonal pronoun *man*; and section 7.2 discusses a still unsolved puzzle concerning the behavior of French reflexive predicates in PC environments. Section 8 illustrates the empirical advantages of the present proposal over Martin (1996), where partial control is assimilated to NOC.²

1. SOME IMMEDIATE COROLLARIES OF PARTIAL CONTROL

Consider again our examples of PC, where the notation [DP₁... PRO₁₊...] indicates the partial control reading:

- (4) a. *John*₁ wanted [PRO₁₊ to meet at 6].
- b. *The chair*₁ was afraid [PRO₁₊ to gather during the strike].
- c. *Mary*₁ wondered [whether PRO₁₊ to apply together for the grant].

² I would like to thank the following people for providing me with valuable data: Karlos Arregui-Urbina (Spanish), Michela Ippolito and Sveva Besana (Italian), Marie-Claude Boivin, Marie-Hélène Côté and Cedric Boeckx (French), Isabel Oltra-Massuet (Catalan), Susi Wurmbrand and Irene Heim (German).

As we have seen in (1), the collective predicates in (4) are incompatible with singular subjects. The contrast between (1) and (4) has dramatic consequences for the proper semantic treatment of control. On minimal assumptions, it implies (5a), paraphraseable as (5b):

- (5) a. Complement control cannot be (always) reduced to predication or variable binding.
- b. PRO exists, and it is not (always) a lambda-variable.

The argument is quite simple. In the semantic tradition, controlled complement infinitivals are treated as properties rather than propositions. These analyses either deny the existence of PRO altogether, or construe it as merely a lambda-variable (Bach 1979, Williams 1980, Chierchia 1984, 1989, 1990, Lebeaux 1985, Dowty 1985, Clark 1990). The semantics of control, that is, coreference between the controller and the understood subject of the infinitive, is achieved via two alternative mechanisms: Direct predication (as in Williams 1980, Lebeaux 1985, Clark 1990), or meaning postulates lexically associated with the control predicate (Chierchia 1984, 1989, 1990; Dowty 1985). Applied to (4a), both options incorporate at some level the formula in (6a), where x stands for the controller:

- (6) a. **meet at 6'**(x)
- b. $\lambda x.x$ want x to meet at 6

However, quite clearly, (6a) is undefined, given that singular individuals are outside the domain of collective predicates. Of course, meaning postulates being unrestricted as they are, one can always modify them so as to pick a group as the "subject" of the embedded predicate, with the requirement that this group properly include the controller explicitly built into the meaning postulate. This would defeat the rationale of analyses like Chierchia's, where the controller must be a co-argument of the infinitive, selected by a θ -function. Notice that in (4) the value of PRO is *not* an argument of the matrix predicate.

The analysis of Manzini & Roussou (2000), which completely dispenses with PRO, is incapable of expressing any control relation other than identity. The analysis of Hornstein (1999), which creates a compound monadic predicate as in (6b), fares no better: It requires the two occurrences of x to denote distinct entities, a logical impossibility. In fact, formulae like (6b) do not even do the work that Hornstein designs them to do, which is to explain the obligatory *de se* reading of PRO in OC. As Chierchia (1990) and Higginbotham (1992) observe, the mechanism of variable binding does not distinguish *de se* from *de re* interpretations. Thus, both (7a), under Hornstein's account, and (7b), under anyone's account, contain at LF the abstract in (7c) (modulo tense distinctions); yet (7b) supports a *de re* reading,

whereas (7a) does not (we return below to the relevance of the *de selde re* distinction to control):

- (7) a. John hopes to win.
- b. Everyone_i hopes that he_i will win.
- c. $\lambda x.x$ hopes that x will win

Furthermore, PC effects never occur in raising constructions, undermining Hornstein's reduction of OC to raising (see O'Neil 1997 for a similar analysis):

- (8) a. * John is likely to meet tomorrow.
- b. * The chair appeared to be gathering once a week.
- c. The chair claimed to be gathering once a week.

Notice that propositional complements *do* support PC (see discussion in section 3.3.3); thus the contrast between (8a,b) and (8c) cannot be related to the semantic type of the infinitive, which is propositional throughout. Rather, it is the control vs. raising distinction which is crucial here.³

Notice that given the existence of partial control, (5) follows on virtually minimal assumptions concerning the logic of predication and variable binding. No syntactic assumption about PRO is needed; rather, PC constructions are simply uninterpretable if complement infinitivals must always denote properties.⁴ The fact that this knock-down argument has never been appreciated (but see Wurmbrand 1998b: 190), let alone countered, indicates how little attention PC phenomena received in the literature.

Before we can offer any theoretical analysis of PC, there is a lot of empirical ground to cover. The proper generalizations have to be motivated and the specific properties of the PC category, as opposed to EC and NOC, need to be established. Sections 2-4 are dedicated to this task.

³ Hornstein's analysis faces many other serious problems (lack of account for implicit OC, lack of account for **John was hoped to win*, failure to block sideward movement in complement control, systematic violations of the Minimal Distance Principle, exclusion of NOC without c-command), which we do not discuss here. Many of these problems also arise for O'Neil (1997), who assumes further that object-control is (overt) "raising-to-object" to (Spec,Agr_oP) from the embedded subject position. This proposal faces the additional problem of explaining dative/oblique control, given that such arguments never move for case.

⁴ Of all the authors mentioned above, Williams (1980) is the only one who treats certain complement infinitivals as instances of NOC. However, as shown in section 2.1, his criterion (taking a *for*-complement) has undesirable consequences. Furthermore, as far as I can tell, the *interpretation* of NOC in his system boils down to the same predication mechanism offered for OC, the sole difference being that the former is established at LF (after the *arb*-rewriting rule applies), whereas the latter at P(redication) S(tructure). Therefore, the logical paradox of PC afflicts his theory as well.

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