

The raising of predicates

Predicative noun phrases and
the theory of clause structure

ANDREA MORO

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of clause structure*

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The raising of predicates

One of the basic premises of the theory of syntax is that clause structures can be minimally identified as containing a verb phrase, playing the role of predicate, and a noun phrase, playing the role of subject. In this study Andrea Moro identifies a new category of copular sentences, namely inverse copular sentences, where the noun phrase which co-occurs with the verb phrase plays the role of predicate, occupying the position which is canonically reserved for subjects, and the subject is embedded in the verb phrase.

The consequences of such a discovery are pervasive. Four distinct areas of syntax are unified into a unique natural class. Along with inverse copular sentences, existential sentences, sentences with *seem* and unaccusative constructions are analysed as involving the raising of a predicative noun phrase to the most prominent position in the clause structure. In addition, new light is shed on some classical issues such as the distribution and nature of expletives, locality theory, cliticization phenomena, possessive constructions and the cross-linguistic variations of the Definiteness Effect.

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Ideas are never developed in isolation; they always require the stimulation and the support of a community of people. In my case, the intellectual and emotional debt I have accumulated since I embarked on this project is enormous. Among the persons and institutions who have contributed to this work in different forms and at various times, I would like to thank: Giorgio Graffi, who allowed me to make my first steps in linguistics at the University of Pavia; Guglielmo Cinque and Giuseppe Longobardi at the University of Venice, who followed my Ph.D. programme; Noam Chomsky and James Higginbotham at MIT, where I spent a considerable time as a visiting scholar, partially supported by a Fulbright grant; Luigi Rizzi and Liliane Haegeman at the University of Geneva, where I took the Diplôme d'Etudes Supérieures. I would also like to express my gratitude to Luigi Burzio, Gennaro Chierchia, Marcel Den Dikken, Jacqueline Guéron, Teun Hoekstra, Richard Kayne, Anthony Kroch, Alessandra Tomaselli and Maria Rita Manzini for their generous attention to my work and to Peter Taylor for having translated my quasi-English into a natural language; special thanks to my (extended standard) family for having shared with me the catastrophic belief that copular sentences are the centre of the universe.

The original idea of inverse copular sentences (discussed in the first three chapters of the present book) was presented in its first published form in 1988 (Moro 1988), and, during 1990, was presented at the Cambridge GLOW Conference in a talk entitled '*there*-raising: principles across levels'; at the Syntax Lunch Seminar at the CUNY Graduate Center in New York City; and at the Penn Linguistics Club at the University of Pennsylvania in Philadelphia. The last part of chapter 1, where predicative nominals are analysed, was presented as a separate piece of research at a University of Geneva 'Séminaire de recherche' in 1993. The analysis set out in chapter 4 was presented in talks given at the Johns Hopkins University in Baltimore in 1991; at a University of Geneva 'Séminaire de recherche' in 1995; and at the 'Arbeitsgruppe Strukturelle Grammatik an der Humboldt-Universität' at Max Planck Gesellschaft in Berlin in 1995. The content of the last chapter

was presented at the University of Lisbon GLOW Conference in 1992 in a talk entitled 'A syntactic decomposition of a lexical primitive: the unaccusativity effect'; at a University of Geneva 'Séminaire de recherche' in 1992; as well as at the first 'Langues et Grammaire' conference at the University of Paris 8 in 1994; and the section concerning possessive constructions was presented at the Societas Linguistica Europaea twenty-eighth annual meeting in Leiden in 1995. It goes without saying that I also benefited by the various formal and informal presentations I had the opportunity of giving at the universities of Pavia, Venice and Padua, as well as MIT. Two preliminary versions of the theory presented here have been circulating as Moro (1991) and Moro (1993a).

Finally, I would like to express my deep gratitude to Massimo Piattelli Palmarini, who encouraged me to undertake the final revision of this work while we were working together at the foundation of the Dipartimento di Scienze Cognitive at the Istituto Scientifico H. San Raffaele in Milan, and to Don Luigi Maria Verzé for having believed in linguistics.

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Introduction: four apparently unrelated empirical domains

In this work, we will explore four distinct empirical domains in detail and propose a unified treatment for them. I will begin by briefly illustrating some central aspects of these domains; for the moment the presentation will be kept at a rather informal level.¹

I The anomaly of copular sentences

A well-established assumption concerning the structure of clauses is that in a sequence of the type *noun phrase – verb – noun phrase* such as the following, the two noun phrases have different syntactic properties:

- (1) [_{NP} a picture of the wall] revealed [_{NP} the cause of the riot]

This assumption does not follow from any logical necessity; instead it is based on empirical evidence. To illustrate this we will consider the following simple case of extraction of an interrogative from a noun phrase:

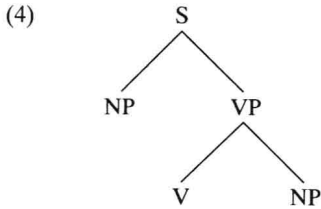
- (2a) * [which wall]_i did [_{NP} a picture of t_i] reveal [_{NP} the cause of the riot]?
 b [which riot]_i did [_{NP} a picture of the wall] reveal [_{NP} the cause of t_i]?

As we see, extraction from the preverbal noun phrase yields an ungrammatical sentence, while extraction from the postverbal noun phrase is successful. To prove that the ungrammaticality of (2a) is due to the position of the noun phrase from which extraction originates rather than to some other factor in the internal structure of the noun phrase involved, it is sufficient to observe that if [*a picture of the wall*] is placed in the same position as [*the cause of the riot*] in (2a), extraction becomes fully acceptable:

- (3a) [_{NP} the inquiry] revealed [_{NP} a picture of the wall]
 b [which wall]_i did [_{NP} the inquiry] reveal [_{NP} a picture of t_i]?

In the traditional representation that goes back to the first pioneering works in syntax this difference is implemented in terms of ‘topological’ asymmetry in the geometry of tree representation. The following simple formal representation will be sufficient for our purposes:²

2 Introduction: four apparently unrelated empirical domains



Using this structure, we can quite easily derive the phenomena we are considering here. Many independent facts have led to the generalization that extraction from a phrase is not possible if the phrase is in a left-branch position.³ Since only the preverbal noun phrase is in a left-branch position in this minimal clause structure, the contrast in (2) will follow. Of course, there are many further empirical data that support this asymmetry, such as, for example, verb agreement which reveals that inflection is sensitive only to the features of the higher noun phrase. Indeed one major contribution to the theory of clause structure stemming from this approach is that grammatical functions, like subject, predicate and the like, can be immediately derived from the configuration: thus, the subject of the predication is the 'most prominent' NP, i.e. the NP immediately dominated by the clausal node S; the object is the NP immediately dominated by the VP node, and the predicate would be the VP itself. Thus, the whole cluster of phenomena that yield differences between a preverbal and postverbal NP are generally called 'subject-object asymmetries'.

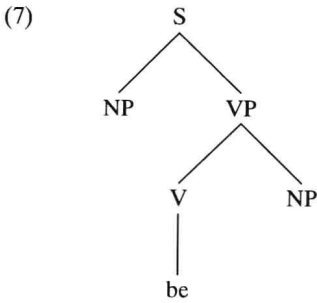
The clause structure represented in (4) and the asymmetry that is associated with it is generally held to apply invariantly to all instances of clauses. In principle, there seems to be no reason to restrict it to a particular subclass. However, if we consider copular sentences, that is to say, those sentences where the main verb is *be*, several problems arise. Let us begin by considering the following case:

- (5) [_{NP} a picture of the wall] was [_{NP} the cause of the riot]

It is easy to show that in this case, the usual subject-object asymmetries are fully preserved. Consider, for example, the following contrast:

- (6a) * [which wall]_i was_j [_{NP} a picture of t_i] t_j [_{NP} the cause of the riot]?
 b [which riot]_i was_j [_{NP} a picture of the wall] t_j [_{NP} the cause of t_i]?

Extraction from the preverbal noun phrase (in a left-branch position) is impossible whereas extraction from the postverbal noun phrase is fully acceptable. So far, then, the standard asymmetric representation has been seen to hold when V is *be*:



But let us now examine another sentence which contains exactly the same lexical elements as *a picture of the wall was the cause of the riot* but where they are arranged in a different way:

(8) $[_{NP} \text{ the cause of the riot}] \text{ was } [_{NP} \text{ a picture of the wall}]$

On the face of it, there seems to be no reason why we should not apply exactly the same analysis to this sentence and thus expect the same subject-object asymmetries to show up. Surprisingly, however, if we apply the usual test used to detect subject-object asymmetry, we find that the results are bad in both cases:

- (9a) * $[\text{which riot}]_i \text{ was } [_{NP} \text{ the cause of } t_i] t_j [_{NP} \text{ a picture of the wall}]?$
 b * $[\text{which wall}]_i \text{ was } [_{NP} \text{ the cause of the riot}] t_j [_{NP} \text{ a picture of } t_i]?$

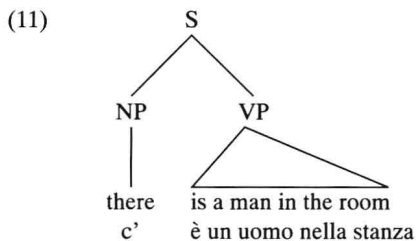
Extraction is impossible not only from the preverbal noun phrase but from the postverbal noun phrase as well. More explicitly, the postverbal noun phrase of this sentence does not behave like an object. How can we explain this fact? Clearly, we cannot simply maintain the traditional representation given to the clause structure and stipulate that the copula does not allow extraction from the postverbal noun phrase. This assumption would go against the fact that there are cases where extraction is indeed possible from a postverbal noun phrase of a copular sentence, as in the example in (6b). A simple question then arises: why is there a difference between *a picture of the wall was the cause of the riot* and *the cause of the riot was a picture of the wall*? I will attempt to show that the answer to this question implies a revision of the standard theory of clause structure. In this book, a broad range of phenomena similar to those illustrated here will be analysed in detail and a principled theory will be proposed to account for them. I will now briefly summarize the other related issues that will be explored.

II A case study in comparative linguistics: on the subject of existential sentences

A second empirical domain will be investigated in the present study. A common assumption is that, in both English and Italian, the following pairs of sentences share essentially the same structure:

- (10a) a man is in the room
 b there is a man in the room
 c un uomo è nella stanza
 d c'è un uomo nella stanza

The elements in preverbal position in (10b) and (10d), namely *there* and *ci*, are regarded as semantically null entities. Their role is said to be that of place holders (technically 'expletives') which stand for the subject of the predication (*a man/un uomo*) when the latter is in postverbal position. The obligatoriness of such elements is traced back to a general principle of clause structure that requires subjects of the predication to be realized, namely the Extended Projection Principle. Thus, the standard schema applied to clause structure holds for these clauses as well, provided that the expletive element is inserted in the most prominent position:



The analogy between the two languages is only partial, though. A well-known semantic restriction applies in English to the noun phrase following the copula in a sentence like (10b). Thus, this noun phrase cannot be 'definite', in the way that proper names or noun phrases introduced by a definite article are considered to be. The following exactly analogous examples illustrate a classic violation of this semantic restriction in English and show that the same restriction is not valid for Italian:

- (12a) * there is John in the room
 b c'è Gianni nella stanza

This contrast immediately raises at least two conceptually distinct sets of questions. The first set centres on the comparative problem: what kind of evidence might be expected to trigger this cross-linguistic variation? Is a

semantic restriction sensitive to parametric variation? How can we account for such a contrast in terms of language acquisition? A second set of questions can be formulated within the analysis of a single language: if *there* and *ci* are semantically null elements why is it that only those copular sentences in which these elements show up are considered to be 'existential sentences' as opposed to the other types? More radically, what are the defining properties of an existential sentence?

To answer these questions we will explore the syntax of *ci* and *there* in detail, using original empirical tests. For the moment I will briefly illustrate some central data on which the argument will be based. Consider the following simple examples taken from Italian:

- (13a) Gianni è uno scienziato
(Gianni is a scientist)
- b c'è uno scienziato
(there is a scientist)
- c Gianni lo_i è t_i
(Gianni clitic-is)
- d * ce lo_i è t_i
(there clitic-is)
- e ce n'_i è uno t_i
(there of-them is one)

In the first sentence (13a), where the subject position is occupied by a lexical noun phrase, the postverbal noun phrase can freely undergo cliticization (13c). If *ci* occurs (13b), *lo*-cliticization is completely blocked and gives rise to a strong effect of ungrammaticality (13d). Why should a semantically null element block movement? This is puzzling; indeed, as the last example shows, one cannot simply stipulate that *ci* blocks cliticization *tout court*. In fact, *ne*-cliticization is perfectly possible in such types of sentence (13e).

In this book, a new approach to the distribution of *there* and *ci* will be proposed, which, hopefully, will overcome many of the empirical problems such as the one just illustrated and provide answers to both sets of questions raised in this introduction.

III The anomaly of *seem*

A third kind of problem comes from those constructions which involve finite clauses as complements. It is a well established assumption that in passive constructions the object NP is raised to the subject position, while preserving the 'semantic' role it had in postverbal position:

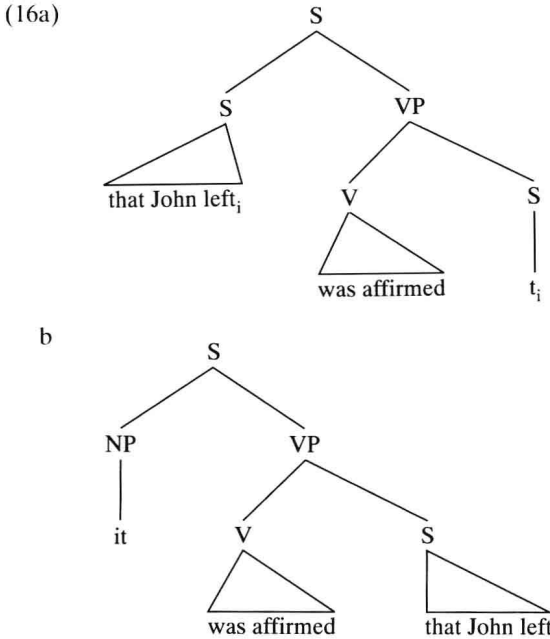
6 Introduction: four apparently unrelated empirical domains

- (14a) John read [the book]
b [the book]_i was read t_i (by John)

If the object is a finite clause, we find the following two options for passive constructions:

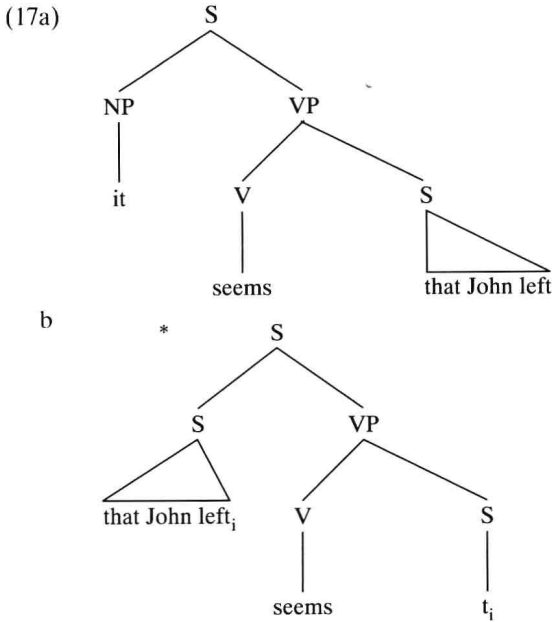
- (15a) [that John left]_i was affirmed t_i
b it was affirmed [that John left]

This paradigm is traditionally interpreted by assuming that either the embedded clause is raised to subject position (paralleling the case of object NPs) as in (15a), or it remains *in situ* as in (15b) and some kind of ‘semantically null element’ like preverbal *there* (i.e. *it*) is inserted in subject position. In formal terms, we obtain the following two structures:



As in the case of *there*, the subject position cannot be left empty, because this would contradict the general principle that requires clauses to have a subject of the predication.

There is one important exception to the general pattern that we have just illustrated; if the verb is *seem* no raising of the complement is possible on the analogy of passive structures. Thus, the only option is for *it* to be realized in subject position:



The very fact that *it* cannot be replaced seems somewhat paradoxical. Indeed, there has been a long-standing debate about why a semantically null element should be obligatory. What kind of explanation should we seek for this? In this book this problem will be reconsidered in the light of one of the central results of our analysis of copular sentences.

IV Remarks on unaccusatives

In the final part of this study, we will examine an area of syntax that has recently yielded some important advances with implications for the entire field. In the late seventies, the traditional notion of ‘intransitive verb’ turned out to be inadequate from a descriptive point of view. In Italian, three purely empirical tests, namely *ne*-extraction from the postverbal subject, auxiliary selection and past participle agreement, show that intransitive verbs do not constitute a homogeneous class: specifically, if an intransitive verb allows extraction of the clitic *ne* from the postverbal subject then it selects the auxiliary *essere* (be) and its past participle agrees in gender and number with the subject. These three phenomena go together in the sense that if one property holds, the others will also hold.

The following contrasts between *arrivare* (‘arrive’) and *telefonare* (‘telephone’) illustrate this distinction: