

# On the empirical basis and explanatory adequacy of linguistic theory: An illustration with pronominal clitics

Paul Law

Freie Universität, Berlin

## 1 Introduction

In formal analysis of linguistic problems, one is often bogged down by the technical details, and intrigued by abstract entities and representations like empty categories of Chomsky (1977, 1981) and functional projections of Abney (1987) and Pollock (1989), to name just a few, that are not obviously related to linguistic facts. Understandably one is legitimately concerned whether these elements are not simply technical devices that have little empirical justification, and more generally how formal analysis reflects the kind of empirical facts that one expects to find or not to find.

It is against this background that I would like to discuss a few general conceptual issues in linguistic theory, addressing this concern. The empirical facts that I will use are about pronominal clitics, primarily in Romance languages. Pronominal clitics are a good case study, since their grammatical properties bear on a wide range of facts falling under the purview of principles of phonology, morphology, syntax and semantics (cf. Zwick 1977 and the papers in Borer 1986 and van Riemsdijk 1999). I would like to show that given a certain conception of linguistic theory, if justified on independent grounds, the class of issues and possible explanations for grammatical properties of specific linguistic expressions are well-delimited, and that the empirical adequacy of formal analysis can be assessed on the basis of the range of empirical facts that we expect to find or not to find. I argue that this is not simply a consequence of a specific conception of grammar, conceived of as a system of principles and rules governing language, but has non-trivial empirical ramifications in that they can be falsified in principle.

I will first briefly discuss the constraints on scientific theory in general, encompassing theory of language or any other empirical science (section 2). I argue that they are not simply conceptual bounds that we must accept a priori, but have empirical bearings. Thus, to the extent that we can determine whether the empirical predictions of linguistic theory are correct, the conceptual conditions to which linguistic theory are subject are empirically warranted. I illustrate the relationship between theory and facts with some specific properties of pronominal clitics, including participial agreement, auxiliary selection, prosodic structure, and the clitic-doubling construction (section 3). I conclude the paper with some general remarks regarding the relation between conceptual framework and empirical facts (section 4).

As the major goal of the paper is to discuss the issue of how the conceptual framework for linguistic theory is related to empirical facts, that is, what kind of facts we should expect to see or not to see, if certain hypotheses put forth by linguistic theory is correct, I will therefore not review the extensive literature on pronominal clitics or go into the very many details and intriguing cross-dialectal properties of pronominal clitics. As we will see, certain aspects of clitics are fairly obscure, and would probably remain so for some time to come. For these cases, I will not attempt to give a satisfactory account; rather, I will discuss why they are especially difficult.

## 2 Constraints on linguistic theory

Like any scientific enterprise, linguistic theory is subject to the conceptual **principle of parsimony**, i.e. Occam's Razor, assuming no more than necessary. The **empirical adequacy** of a theory is measured by the range of facts it claims to account for. There is therefore a tension between the parsimony principle and empirical adequacy. More assumptions would of course account for more facts, but the parsimony constraint specifically limits this option. Thus, we need to make additional assumptions just when all others fail.

In linguistic theory, expressions of natural language may be taken as abstract formal objects,

and the distribution of these various objects are subject to general principles of grammar. Thus, it may very well turn out, as it often does, that superficially very different facts are subject to the same grammatical principle. To illustrate this point, consider the examples in (1) and (2):

- (1) a. John was told that Mary would be promoted. (English)  
 b. John seemed to be very tired.  
 c. They expected John to be very tired.  
 d. It would be undesirable for there to be a riot.
- (2) a. \*It was told John that Mary would be promoted.  
 b. \*It seemed John to be very tired.  
 c. \*It was expected John to be very tired.  
 d. \*It would be undesirable there to be a riot.

It is not obvious that the examples in (1) are related to each other or to those in (2) in the sense that they are subject to the same principle of grammar. We need not go into the details of what grammatical principle relating the examples in (1) and how it relates them to those in (2) (cf. Rouveret and Vergnaud 1980, Chomsky 1981 for an account in terms of Case theory), the point I would like to make here is more general: a theory relying on some abstract principle of grammar to explain the grammaticality of the examples in (1) and the ungrammaticality of those in (2) makes further empirical claims, namely, there cannot be a language or dialect of English admitting the examples in (3) as all grammatical:<sup>1</sup>

- (3) a. John was told that Mary would be promoted. (Pseudo-English)  
 b. John seemed to be very tired.  
 c. It was expected John to be very tired.  
 d. It would be undesirable there to be a riot.

Nor can there be a language or dialect of English with the grammatical patterns in (4):

- (4) a. \*They expected John to be very tired. (Pseudo-English)  
 b. \*It would be undesirable for there to be a riot.  
 c. It was told John that Mary would be promoted.  
 d. It seemed John to be very tired.

These are but two of the many logically possible languages or dialects but are excluded in principle by linguistic theory. The reason behind it is fairly simple. If the examples in (1) are permitted but those in (2) are ruled out by the same grammatical principle, then it is not possible, in principle, for a language with the same principle to partially permit or exclude them.

We may never know whether this empirical claim is true, for even if we cannot find a language allowing all the examples in (3) or having the grammatical patterns in (4), it does not follow that the claim is true. One may thus wonder in what way linguistic theory is empirical if its empirical predictions cannot be (positively) verified. Like any other sciences, the empirical basis of a hypothesis comes from the fact that the claims that it makes can be falsified in principle. In the case at hand, we can show that the claim that no dialects of English have the grammatical patterns in (3) or (4) is false if we can exhibit a dialect having exactly these grammatical patterns. The point can be generalized to other typologically diverse languages. That is, no language should admit comparable examples to (3) and (4) as grammatical, a claim that can be falsified in principle if we look at a wide variety of languages. It is therefore clear that linguistic theory is more than a theory about abstract formal objects; it is also an empirical science.

It is uncontroversial that the linguistic system consists of several subsystems, each of which has its own units, structures, and principles regulating their distributions. For instance, the distribution of phrases is clearly different from that of affixation on adjectives, verbs or nouns. While there is some degree of mobility for phrases, the place where a particular affix occurs is generally fixed. As shown in the German examples in (5) and (6), phrases may sometimes switch places, but affixes never can:

- (5) a. Die Frau woll-te den Mann küss-en. (German)  
the woman want-PAST the man kiss-INF  
‘The woman wanted to kiss the man.’  
b. Den Mann woll-te die Frau küss-en.
- (6) a. Die Frau woll-te den Mann küss-en.  
the woman want-PAST the man kiss-INF  
‘The woman wanted to kiss the man.’  
b. \*Die Frau woll-en den Mann küss-te.  
c. \*Den Mann woll-en die Frau küss-te.

However, the elements belonging to each subsystem (structural units, sets of principles governing them, etc) are neither totally distinct nor unrelated to each other. Alongside cases like (5) and (6), where there seems to be no relation between the mobility of phrases and the fixed order of affixes, i.e. phrases may appear in different places regardless of the fixed positions of the affixes, there are other cases where elements of one subsystem co-incides with those of another. For instance, syntactic constituency often co-incides with phonological constituency. Thus, it is more natural to have an intonation break (indicated by a #) at the edge of a syntactic constituent than in the middle of it, as shown by the contrast in (7):

- (7) a. [ every student ]# is coming to the party. (English)  
b. ??[ every#student ] is coming to the party.

The examples in (7) therefore show the relation between syntax and phonology subsystems of the grammar.<sup>2</sup> We may then take this and other similar relations to be the empirical basis of **the explanatory adequacy constraint** on linguistic theory requiring that to some extent structural units and conditions governing them in one subsystem should have a bearing on those of another. This constraint would then in effect mark a certain class of analyses as implausible, if not impossible in principle.

In short, we have three general constraints on linguistic theory: (i) The parsimony constraint: Occam’s Razor (as few assumptions as possible), (ii) empirical coverage (the range of facts that the analysis can account for), (iii) explanatory adequacy (why should it be that the assumptions under (i) accounting for the facts under (ii) the way they are? More concretely, are there other facts in the language bearing on the analysis of a particular set of facts such that they may all receive the same explanation?). In this approach, then, properties of one linguistic entity in one subsystem of grammar may have consequences for other subsystems, as we will see in some case studies of pronominal clitics.

### 3 Some specific properties of pronominal clitics

In this section, we will look at some specific facts about pronominal clitics, and see how the general conceptual constraints limit the class of possible analyses for these. To illustrate their empirical ramifications, I will exhibit some logically possible languages but excluded in principle

by linguistic theory. However, as we will see, there are aspects of particular languages that are fairly obscure and it is unclear what the confine of cross-linguistic variations is.

We will first consider some facts about participial agreement and auxiliary selection in Romance languages when a pronominal clitic occurs (section 3.1). I argue that these are related to predicate adjective agreement and agreement in passive. We will then discuss some prosodic properties of Italian pronominal clitics, and see how considerations of the interface between phonology and other subsystems of grammar would lead to a certain type of analysis (section 3.2). Lastly, we will look at certain syntactic and semantic properties of the clitic-doubling construction (section 3.3). We will see how the conceptual constraints on linguistic theory (cf. section 2) assess the adequacy of an analysis.

### 3.1. Participial agreement and auxiliary selection in Romance

In Standard French and Italian, the participial form of an active verb shows agreement with the accusative clitic object, but not with a full DP object in argument position:<sup>3</sup>

- (10) a. Gianni la ha lavata/\*lavato. (Italian)  
 Gianni it.FEM have wash.FEM/wash.MASC  
 ‘Gianni washed it.’  
 b. Gianni ha lavato/\*lavata la camicia.  
 Gianni have wash.FEM/wash.MASC the shirt.FEM  
 ‘Gianni washed the shirt.’

Notice that the auxiliary in (10) co-occurring with a transitive verb is the *have*-type (*avere* in Italian, and *avoir* in French). However, when the accusative clitic object is a reflexive, the auxiliary must be the *be*-type (*essere* in Italian, *être* in French), as in (11):<sup>4</sup>

- (11) Gianni si è/\*ha lavato. (Italian)  
 Gianni self be/have washed.MASC  
 ‘Gianni washed himself.’

- (12) a. \*Gianni la è lavata/lavato.  
 Gianni it.FEM be wash.FEM/wash.MASC  
 ‘Gianni washed it.’  
 b. \*Gianni è lavato/lavata la camicia.  
 Gianni be wash.FEM/wash.MASC the shirt.FEM  
 ‘Gianni washed the shirt.’

There are thus several problems here. Why does the clitic/non-clitic distinction bear on participial agreement? Why should it be that the *be*-auxiliary occurs with a reflexive accusative object, but the *have*-auxiliary does not? and correlatively, why should it be that the *have*-auxiliary occurs with a non-reflexive accusative object, but the *be*-auxiliary does not?

These problems are not self-contained, however. Given the explanatory adequacy constraint, we should seek not only solutions to these problems, but also relate them to other facts, crucially, independently of pronominal clitics. With this in mind, let us consider these problems in turn.

#### 3.1.1. Structural conditions for agreement

Kayne (1989) suggests that participial agreement with an object pronominal clitic in French and Italian is related to subject-verb agreement in that both involve the configuration in which the Spec-head relation holds. That is, if the Spec-head relation holds of the subject and the verb with

which it agrees in the structure in (13), then a similar relation should hold of participial agreement with an object clitic pronoun:

- (13) Subject agreement (French)
- [<sub>IP</sub> Marie [ est [<sub>AP</sub> belle ]]]  
 Marie be pretty.FEM  
 ‘Marie is pretty.’

In order for the Spec-head relation to hold of the object clitic pronoun and the participle, it must be that the object clitic at some point is in the Spec position of the participle; Presumably, the clitic pronoun moves from object position (cf. Kayne 1975) to the Spec of the participle, and eventually to its surface position, as in (14):<sup>5</sup>

- (14) Participial agreement (French)
- Je *t<sub>i</sub>* ai [<sub>VP</sub> *t<sub>i</sub>* [ peinte *t<sub>i</sub>* ]]  
 I it.FEM have paint.FEM  
 ‘I painted it.’

If there is only one way to get agreement, namely, the Spec-head relation must hold of the the agreeing elements (cf. Kayne 1989), then there is no other possible analysis for participial agreement but (14). Here, we see how the assumption on how agreement works in general limits the analysis of particular cases of agreement.

However, when we consider other facts about agreement, it becomes clear that the Spec-head relation does not always hold of the agreeing elements. Adnominal agreement and some instances of secondary predication are cases in point:

- (15) a. Una signora simpatica/\*simpatico (Italian)  
 a woman likeable.FEM/likeable.MASC  
 ‘A likeable woman.’  
 b. Un signore simpatico/\*simpatica.  
 a man likeabl.MASC/likeable.FEM  
 ‘A likeable man.’
- (16) a. Inquieta/\*inquieto, Maria ha telefonato a Gianni.  
 worried.FEM/worried.MASC Maria have telephone to Gianni  
 ‘Worried, Marie called Gianni.’  
 b. Inquieto/\*inquieta, Gianni ha telefonato a Maria.  
 worried.FEM/worried.MASC Gianni have telephone to Maria  
 ‘Worried, Gianni called Marie.’

There is no reason to believe that the structure of the examples in (15) are more complex than those in (17) (cf. Kayne 1994 for an alternative view), where the Spec-head relation fails to hold of the agreeing elements (*simpatica/simpatico* and *signora/signore* in (15), and *inquieta/inquieto* and *Maria/Gianni* in (16)):

- (17) a. [<sub>DP</sub> una [<sub>NP</sub> [<sub>NP</sub> signora ] [<sub>AP</sub> simpatica ]]] (Italian)  
 b. [<sub>IP</sub> [<sub>AP</sub> inquieta ] [<sub>IP</sub> Maria ha telefonato a Gianni ]]]

Neither the predicate nor the phrase with which it agrees are the Spec position of the other. The APs in (17) are most plausibly an adjunct to the NP and IP respectively. Kayne’s account of

participial agreement clearly does not carry over to cases like (15) and (16). In this sense, it is empirically limited, and hence explanatorily unsatisfying.

The relevant structural difference between (10a) and (10b) is that in (10b) the full DP is in object position, i.e. in the VP-projection of the predicate, as in (18b), while the clitic in (10a) with which the predicate agrees is clearly outside the VP, as in (18a):

- (18) a. Gianni la ha [<sub>VP</sub> lavata ] (Italian)  
 Gianni it.FEM have wash.FEM  
 ‘Gianni washed it.’  
 b. Gianni ha [<sub>VP</sub> lavato la camicia ]  
 Gianni have wash.MASC the shirt  
 ‘Gianni washed the shirt.’

The structures in (18a) and (17), where there is agreement (with the participle and the adjective respectively), differ from the structure in (18b), where there is no agreement, in that the projection of the agreeing predicate does not contain the phrase with which it agrees. It is thus reasonable to bring this difference to bear on the agreement difference. Agreement between a DP and a predicate is possible when the DP is not contained in the projection of the predicate (for the standard varieties of Romance, cf. footnote 4).

Along these lines, predicate adjective agreement and agreement in passive fall under the same account:

- (19) a. Maria è bella/\*bello. (Italian)  
 Maria be pretty.FEM/pretty.MASC  
 ‘Maria is pretty.’  
 b. Essa è stata lavata/\*lavato.  
 it.FEM be be wash.FEM/wash.MASC  
 ‘It has been washed.’

As the structure in (13) for predicate adjective agreement and a similar structure for passive show, the phrase with which the predicate agrees is not contained in the projection of the predicate.

Subject-verb agreement also falls under this account. The subject in its surface position is not contained in the VP-projection of the agreeing verb. The Spec-head relation that holds between the subject in SpecIP and the inflectional head P is but a consequence of SpecIP being the position to which Case may be assigned. Recall that Case assignment is largely independent of agreement. Although the SpecIP can be assigned (abstract nominative) Case by a finite I<sup>o</sup>, the two stand in a Spec-head relation and the verb agreeing with the subject in SpecIP, the SpecIP position (of a non-finite clause) may also be assigned (abstract accusative) Case by a Case-assigner outside of the IP, as in (20) for English:

- (20) a. [<sub>CP</sub> for [<sub>IP</sub> John to win the race ]] would be desirable. (English)  
 b. They expected [<sub>IP</sub> John to win the race ]].

In (20), a prepositional complementizer *for* or an Exceptionally Case-Marking verb like *expect* may assign Case to the embedded SpecIP position, even though it does not bear the Spec-head relation with the embedded subject. The embedded (non-finite) verb in these cases clearly does not agree with the subject in SpecIP.

It does not seem necessary that there be a structural condition for participial, adnominal and secondary predication agreement. In fact, given the disparate structural relations between the agreeing elements in (13), (14) and (17), it does not appear plausible that the agreeing elements

stand in some specific structural relation like the Spec-head relation. Accusative object clitics largely occur in the same position as other pronominal clitics, which show no participial agreement. Just like accusative object clitics in (21), non-reflexive dative object clitics and pronominal clitics related to prepositional phrases *ci* ‘there’ and *ne* ‘from there’ occur adjacent to a finite verb, even though there is no agreement, as in (22)-(24):

- (21) a. La mangia. (Italian)  
 it.FEM eat  
 ‘He eats it.’  
 b. La ha mangiata.  
 it.FEM have eat.FEM  
 ‘He ate it.’
- (22) a. Le telefono.  
 her.DAT telefone  
 ‘I call her.’  
 b. Le ho telefonato.  
 her.DAT have telefone  
 ‘I called her.’
- (23) a. Ci mangia.  
 there eat  
 ‘He eats there.’  
 b. Ci ha mangiato.  
 there have eat  
 ‘he ate there.’
- (24) a. Ne ritorna.  
 from there return  
 ‘He returns from there.’  
 b. Ne è ritornato.  
 from there be return  
 ‘He returned from there.’

We clearly need an account for the position of the pronominal clitics, independently of participial agreement.

The locality condition for adnominal modifiers and secondary predicates also seems to be independent from agreement. English has no adnominal or secondary predication agreement, but adnominal modifiers and secondary predicates appear pretty much in the same structural positions (apart from the different linear order in some cases, cf. (25a) vs (15a)):

- (25) a. [<sub>DP</sub> a [<sub>NP</sub> [<sub>AP</sub> sympathetic ] [<sub>NP</sub> woman ]]] (English)  
 b. [<sub>IP</sub> [<sub>AP</sub> worried ] [<sub>IP</sub> Mary called John ]]]

The facts in (21)-(25) show that the surface positions of pronominal object clitics, adnominal modifiers and secondary predicates are determined on independent grounds. There need not be an independent condition specifically for agreement with pronominal clitics. From the parsimony constraint on linguistic theory, this is a desirable result.

Predicate agreement is thus quite general, encompassing predicate adjective, passive and object clitics. It is not the clitic/non-clitic difference that explains the presence or absence of participial agreement; rather, the clitic/non-clitic difference has structural correlates. In cases

where there is no agreement, the full DP agreeing with the predicate is contained in the projection of the predicate, but in cases where there is agreement the pronominal clitic is not in the projection of the agreeing predicate. If the necessary condition for agreement is that the argument not be in the projection of the head with which it agrees, then we can explain why a predicate shows agreement with a pronominal clitic, but not with a full DP in argument position. Significantly, the same explanation holds of other cases of adnominal agreement like (15) and secondary predication agreement in (16) as well.

### 3.1.2. Auxiliary selection

Turning now to the question of why the *be*-auxiliary appears with an accusative reflexive object clitic, but the *have*-auxiliary occurs with an accusative non-reflexive object clitic.

Kayne (1993) claims that underlying the superficial *have/be* auxiliary alternation is an abstract auxiliary BE. Specifically, the complement of the abstract auxiliary BE is a DP headed by a preposition-like determiner, as in the structure in (26), which Kayne argues to be justified independently by the possessive construction cross-linguistically (cf. Freeze 1992):

(26) ... BE [<sub>DP</sub> Spec D/P° ... [<sub>VP</sub> DP<sub>subj</sub> [ V DP<sub>obj</sub> ]]]

If D/P° incorporates into BE, then the combination is spelled out phonetically as the *have*-type auxiliary. If D/P° does not incorporate into BE, BE surfaces as the *be*-type auxiliary.

In the structure in (26), the subject DP cannot be assigned Case in the SpecVP; it therefore must move to the Spec of BE (in the ... to the left of BE in (26)) in order to be assigned Case. For independent reasons, the subject DP must first move to the Spec position of the DP-complement of BE, before it lands in the Spec of BE. Assuming that the SpecDP position is an A-bar-position, Kayne argues that the subject DP cannot move to the Spec of BE, an A-position, without violating the proper movement condition barring moving from an A-bar-position to an A-position (Chomsky 1986). However, if D/P° incorporates into BE, the SpecDP position would become an A-position, making it possible for the subject DP to move from the SpecDP position to SpecIP.

In Kayne's account, the subject must move out of the VP to the Spec of BE, whether the object is a pronominal clitic or a full DP in argument position. In both cases, D/P° must incorporate to BE, in order for the subject to move to the Spec of BE; consequently, the combination of BE+ D/P° is spelled out phonetically as the *have*-type auxiliary, as discussed above. For reflexive clitic pronouns, Kayne suggests that they adjoin to the participial AgrS (in the ... to the left of the VP in (26)) that activates AgrS in such a way as to allow AgrS to move to D/P° and turn SpecDP into an A-position, making it possible for subject DP to move through SpecDP to SpecBE without incorporation of D/P° into BE. As a result, BE surfaces as the *be*-type auxiliary.

I have no space here to discuss in detail Kayne's account of auxiliary selection, as it covers not only auxiliary selection with clitic pronouns, but also without them. However, I would like point out some problematic aspects of the analysis specifically for the co-occurrence of the reflexive and the *be*-type auxiliary. Conceptually, there is no independent reason to think that the reflexive clitic adjoins to AgrS. In the examples in (10a) and (11), repeated in (27), the reflexive clitic *si* in (27b) is related to the object of the verb *lavare* 'to wash', just as the non-reflexive clitic *la* in (27a):

(27) a. Gianni la ha/\*è lavata. (Italian)  
 Gianni it.FEM have/be wash.FEM  
 'Gianni washed it.'

- b. Gianni si è/\*ha lavato.  
 Gianni self be/have wash.MASC  
 ‘Gianni washed himself.’

If the non-reflexive clitic *la* is assigned abstract accusative Case, then so is the reflexive clitic *si*. There is thus no reason to suppose that the reflexive clitic *si*, but not the non-reflexive *la*, adjoins to AgrS. Moreover, to the extent that no independent facts can be brought to bear, there is no justification for the idea that adjoining the reflexive clitic to the participial AgrS would activate it and turn SpecDP into an A-position.

From the point of view of explanatory adequacy, we need to relate the contrast in (27) to other cases where the same contrast holds. Examples like those in (28) immediately come to mind:

- (28) a. Maria è/\*ha bell-a/\*bell-o. (Italian)  
 Maria be/have pretty.FEM/pretty.MASC  
 ‘Maria is pretty.’  
 b. Piero è/\*ha piccol-o/\*piccol-a.  
 Piero be/have small.MASC/small.FEM  
 ‘Piero is small.’
- (29) a. Essa è/\*ha stata lavata.  
 it.FEM be/have be.FEM wash.FEM  
 ‘It has been washed.’  
 b. Esso è/\*ha stata lavato.  
 it.MASC be/have be.FEM wash.MASC  
 ‘It has been washed.’

The examples in (28)-(29) show clearly that when the predicate agrees with the subject, then the auxiliary must be the *be*-type, not the *have*-type. We will see presently how this bears on the occurrence of the *be*-auxiliary when the accusative object clitic pronoun is a reflexive.

In (27b), the accusative object reflexive clitic pronoun agrees with the participle,<sup>6</sup> just like any other accusative object pronominal clitics. The crucial fact is that the reflexive is bound by the subject, and the two agree (here, in person). The combination of these two facts result in the predicate agreeing with the subject. And we know from (28)-(29), quite independently, that the auxiliary co-occurring with a predicate agreeing with the subject must be the *be*-type, not the *have*-type. In (27a), the participle agrees with the accusative object clitic pronoun in number and gender (here, feminine). The *be*-auxiliary is impossible since it would require that the participle agree with the subject in number and gender (here, masculine). Obviously, the participle cannot carry the two (different) agreement morphologies at the same time.

In sum, it is not the reflexive/non-reflexive difference itself that explains why the auxiliary in (27b) must be the *be*-type, not the *have*-type. Rather, the difference has syntactic correlates that bear on agreement. A predicate agreeing with a reflexive object pronoun bound by the subject would end up agreeing with the subject, and the auxiliary co-occurring with a predicate agreeing with the subject cannot be the *have*-type, but must be the *be*-type. Thus, the occurrence of the *be*-auxiliary in (27b) is not an isolated syntactic fact about reflexive object pronominal clitics, but is related to the predicate adjective agreement in (28) and passive in (29). Correlatively, the reason why the *be*-type auxiliary does not co-occur with an object clitic, cf. (27a), since the predicate does not agree with the subject; consequently, only the *have*-type auxiliary is possible.

Again, if linguistic theory is correct in that auxiliary selection and agreement, although superficially different, are different facets of the same phenomenon in constructions with object

clitics, predicate adjectives and passive, then the empirical implication is that there cannot be a language in which auxiliary selection and agreement are not the same in all three constructions. For instance, one such impossible language or dialect of Italian would have the grammatical patterns in (30), where the *be*-type auxiliary co-occurs with an agreeing predicate adjective or with an agreeing active past participle in the construction with an object pronominal clitic, but the same auxiliary appear in passive but without agreement on the predicate:

- (30) a. Maria è bell-a. (Pseudo-Italian)  
 Maria be pretty.FEM  
 ‘Maria is pretty.’  
 b. La è lavata.  
 it.FEM be pretty.FEM  
 ‘He washed it.’  
 c. Essa è stato lavato.  
 it.FEM be be.MASC wash.MASC  
 ‘It has been washed.’

Nor can there be a language or dialect of Italian with the grammatical patterns in (31), where the *have*-type auxiliary occurs with an agreeing predicate adjective and with a non-agreeing active past participle, but the *be*-type auxiliary appears in passive without participial agreement:

- (31) a. Maria ha/\*è bella. (Pseudo-Italian)  
 Maria have/be pretty.FEM  
 ‘Maria is pretty.’  
 b. La ha lavato/\*lavata.  
 it.FEM have wash/wash.FEM  
 ‘He washed it.’  
 c. Essa è/\*ha stato lavato.  
 it.FEM be/have be.MASC wash.MASC  
 ‘It has been washed.’

The examples in (30)-(31) are but two among many logically possible combinations that are excluded by linguistic theory as possible grammatical patterns of language (cf. footnote 4, however).

Two issues ensue: (i) is the empirical implication true? and (ii) if it is true, then why should it be? As discussed in section 1, it is difficult to settle the answer to (i) positively with certainty, for practical reasons. We probably cannot check all languages, those that still exist or used to exist but have died out, to see whether the implication is true. However, (i) can in principle be falsified if we can show a language with a combination of agreement properties that is excluded by linguistic theory, e.g. one that has the grammatical patterns in (30) and (31). It is in the latter case that we can see the empirical bearing of linguistic theory. The answer to (ii) is rather straightforward from the perspective of linguistic theory. To the extent that the empirical implication is true, it must be so since the grammatical principles underlying auxiliary selection and agreement are the same in the three constructions.

### 3.2. Some phonological properties of Italian clitics

Typically lacking stress, pronominal clitics cannot stand on their own. They therefore must be integrated in an adjacent prosodic unit. The question that arises is whether prosodic units integrating pronominal clitics are on a par with other independently established prosodic units like the prosodic word (henceforth **p-word**), a phonological unit bearing stress, or whether they are

independent prosodic units, and deserve a distinct status in the **prosodic hierarchy** for prosodic units like the syllable, the mora, the foot, the p-word, the phonological phrase (**p-phrase**) and intonational phrase (**i-phrase**). The issue is of particular interest if there is indeed some relation between phonological structure and morphosyntactic structures. Should prosodic units with pronominal clitics turn out to be different from other well-established prosodic units, then morphological and syntactic structures containing pronominal clitics may have to reflect this fact, i.e. we may have to posit some morphological or syntactic unit of sorts corresponding to the prosodic units with pronominal clitics. The issue thus bears on the interface between phonology and morphosyntax.

Selkirk (1980) suggests that a clitic and its host form a p-word, while Nespor (1984) argues that the two form an independent prosodic unit, which she calls **clitic group**, distinct from other prosodic units like p-word, p-phrase and i-phrase. There are several phonological facts of Italian that appear to be relevant to the issue of whether there is an independent prosodic unit called clitic group. First, Nespor and Vogel (1982) show that in Standard Italian, a sequence of two p-words, which may independently bear stress, has primary stress on the second p-word:

- (32) a. Mezzo giòrno. (Italian)  
 middle day  
 'Mid-day'  
 b. Senza tétto.  
 without roof  
 'Without home, homeless'

But in a sequence consisting of clitics and their host the stress falls on the host regardless of the position of the clitics:

- (33) a. Glie -lo diránno (Italian)  
 him-it say  
 'They will say it to him'  
 b. Dicéndo-glie-lo.  
 tell-him-it  
 'Telling him it'

Apparently, then, clitics do not behave like p-words.

Second, the **vowel truncation** rule optionally deletes the vowel of the last syllable of a p-word containing a single verb, when it is followed by another p-word beginning with a consonant:

- (34) a. Andáre/andár vía. (Italian)  
 go way  
 'To go away.'  
 b. Vuolo scrivere/scriver gli indirizzi.  
 want write the address  
 'He wants to write the addresses.'

But it obligatorily deletes the vowel of the verb if it is followed by a pronominal clitic:

- (35) a. Andár/\*andáre ci (Italian)  
 go there  
 'To go there.'

- b. Dár/\*dáre gli.  
give them  
'To give them.'

Note the difference between the determiner *gli* 'the' in (34b), and the pronominal clitic *gli* 'them' in (35b). In (34b), *gli* is part of the following p-word that includes the noun *indirizzi* 'address', so there is a p-word boundary separating *gli* and the preceding verb *scrivere* 'to write'. In (35b), however, the pronominal clitic *gli* is in the p-word containing the verb, with no p-word boundary separating the two:

- (36) a. [scrivere]<sub>PW</sub> [gli indirizzi]<sub>PW</sub> => [scriver]<sub>PW</sub> [gli indirizzi]<sub>PW</sub> (Italian)  
b. [dar-gli]<sub>PW</sub> => [dar-gli]<sub>PW</sub>

The optional deletion of the vowel of the verb in (36a), but not in (36b), can be accounted for by assuming that the truncation rule optionally applies across a p-word boundary, but obligatorily within a p-word. Thus, the obligatory deletion of the vowel in (36b) shows that the clitic itself is not a p-word.

Third, the rule of **Raddoppiamento Sintattico** (RS) geminates the initial consonant of a p-word, if it is immediately preceded by a stressed syllable belonging to another p-word (Nespor and Vogel 1982):

- (37) a. Sarà [p:]artito. (Italian)  
be leave  
'He will have left'  
b. Sú[b/\*b:]ito.  
'Immediately'

But the RS rule also applies to a sequence consisting of a verb and a following clitic, treating them as if they are two independent p-words:

- (38) a. Dá[m:]i (< dá 'give'+mi 'me') (Italian)  
'Give me!'  
b. Fá[t:]i (< fá 'do'+ti 'you')  
'Do (it) yourself!'

That the pronominal clitics in (38) are not part of the p-word containing the preceding verb is clear, for they were, then we should expect the RS rule not to apply, just as in (37b). Now we know from the facts about stress and the vowel truncation rule above that the clitic itself is not a p-word, so the conclusion is that the forms in (38) with a clitic are prosodic units different from p-words.

Fourth, the rule of **intervocalic s-voicing** in Northern Italian dialects applies to derived lexical items as in (39a)-(39b) and to underived lexical items as well as in (39c), but it never applies to an *s* if the vowel to its left belongs to an independent morphological category, as in (39d):

- (39) a. Pre[z]úpporre. (<pre+supporre) (Italian)  
'To presuppose'  
b. Ca[z]ína. (<case+ina)  
'Little house'  
c. A[z]ílo.  
'Nursery school'

- d. Una [s/\*z]ála.  
‘A hall’

Suppose the rule of intervocalic s-voicing applies to an *s* if it and the two vowels flanking its two sides are within one p-word. We can now distinguish (39a)-(39c) on the one hand and (39d) on the other, if in (39d), the determiner is not part of the following p-word.

In this light, the rule apparently treats the clitic and the form preceding it does not form a p-word:

- (40) a. Affittá-[s/\*z]i (Italian)  
rent-self  
‘For rent’  
b. Ci-[s/\*z]álgo  
there-get off  
‘I’m getting off there’

The examples in (40) thus appear to suggest, again, that the host and the clitic form a different prosodic category from p-word; perhaps they form a clitic group as Nespor suggests.

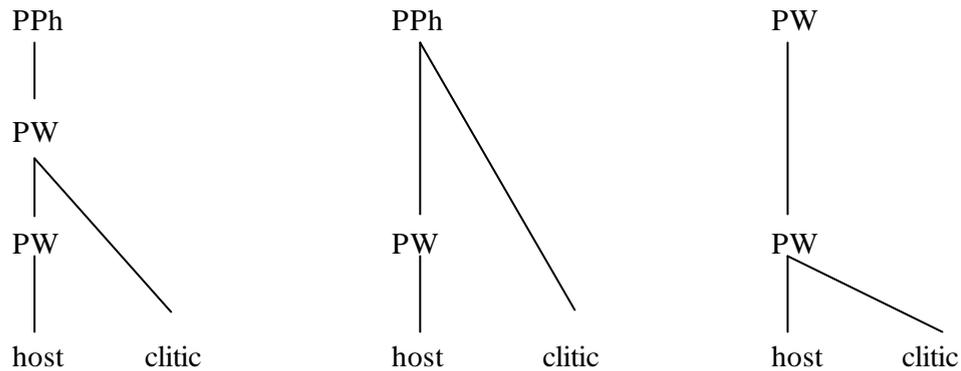
If this is correct, then it may have ramifications for the morphological and syntactic analyses of clitics. In particular, the morphological and syntactic representations for structures with clitics may have to contain some structural unit that corresponds to the prosodic unit clitic group. As it has far-reaching consequences, we need to closely examine the justification for the clitic group. Should it turn out to be possible to provide an alternative account for the various phonological facts discussed above with independently motivated assumptions, and crucially without imputing the prosodic unit clitic group, then we would not only show that clitic group is not a well-motivated prosodic unit, but also buttress the support for the independently motivated assumptions, since no changes would then be required for our theory of morphosyntax.

On closer look, it turns out that phonological facts discussed above do not warrant clitic group as an independent prosodic unit. What the stress facts in (33) and those about vowel truncation in (35) show is that the pronominal clitics and their hosts do not form p-words of the sort that are ordinarily assumed for morphological units, e.g. *súbito* ‘immediately’ or *pre+súpporre* ‘to presuppose’. It does not follow from that, however, that they form an independent prosodic unit called clitic group. It is conceivable that prosodic units integrating a clitic may have slightly more complex internal structure, but the structure as a whole is still a p-word, the same prosodic unit that is independently motivated. Before discussing what the structure of the more complex p-word, let us consider the question of whether we need the notion of clitic group as an independent prosodic unit to account for these various facts.

The assumption that pronominal clitics and their hosts form a clitic group does not seem to provide much of an explanation for the facts in (39) and (40), however, for we may ask why the RS rule and the intervocalic s-voicing rule should treat p-words and clitic groups alike, if the clitic group is indeed a prosodic unit different from the p-word. In fact, we may wonder whether it is the formulations of the rules for these various phonological facts that lead to the assumption of the prosodic unit clitic group. So it is quite possible that we need not appeal to clitic group with some alternative formulations of the rules.

Using phonological facts of several dialects of Italian, Peperkamp (1996) argues that there is no need for an independent prosodic unit like clitic group, and that pronominal clitics can be integrated into an adjacent prosodic unit by adjoining to a p-word, incorporating into a phonological phrase or incorporating into a p-word:

- (41) a. PW-adjunction      b. PPh-incorporation      c. PW-incorporation



Although she does not give an account for these various facts about pronominal clitics in Standard Italian, it is conceivable that the examples with pronominal clitics may have the PW-adjunction structure.<sup>7</sup>

Suppose the pronominal clitic in (33) is adjoined to a p-word, as in (42), and the stress rule operates on a sequence of two p-words shifting primary stress to the second p-word:



Now the reason why pronominal clitics do not affect stress in Standard Italian is now straightforward.<sup>8</sup> In (42), the pronominal clitics are adjoined to a p-word consisting of the verb; it is therefore part of a p-word. Since the two do not constitute a sequence of two p-words, they are not subject to the stress rule. By contrast, the examples in (32) are sequences of p-words, as shown in (43), and hence are subject to the stress rule, which shifts the primary stress to the second p-word:



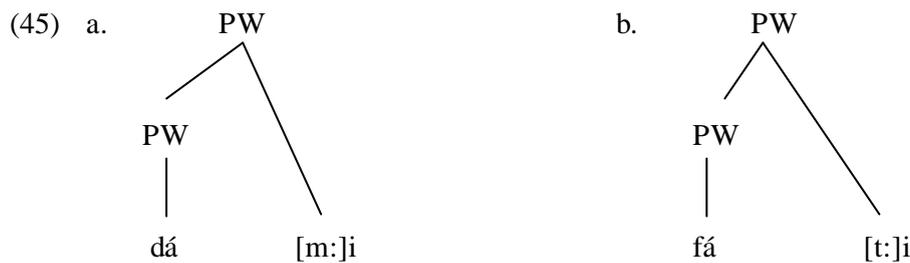
Similarly, suppose the examples in (35) have the prosodic structures in (44), where the two occurrences of PW are taken to be two segments of the same prosodic category, the same assumption made for syntactic structure (cf. May 1985):



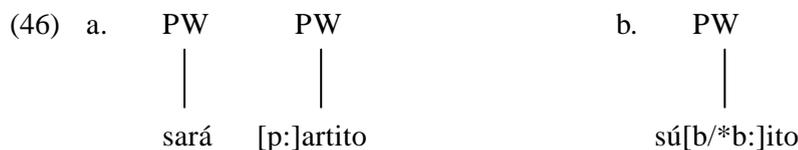
Crucially, the lower occurrence of PW in (44) does constitute a p-word; it is only a part of a larger p-word adjunction structure. Suppose further that the vowel truncation rule obligatorily deletes the final vowel of a verb if it is not at the edge of a p-word, and optionally does so otherwise. We can now distinguish the examples in (34) from those in (35).

In their prosodic structures in (44) for the examples in (35), the final vowel of the verb is not at the edge of a p-word, for the verb lies entirely within a larger p-word adjunction structure. The final vowel of the verb is therefore obligatorily deleted. By contrast, in the prosodic structure in (36a) for the example in (34b), and in a similar structure for the example in (34a), the final vowel of the verb is at the edge of a p-word. It is therefore only optionally deleted.

Turning now to the RS rule, and consider the prosodic structures in (45) for the examples in (38), where the pronominal clitic is adjoined to the preceding p-word:

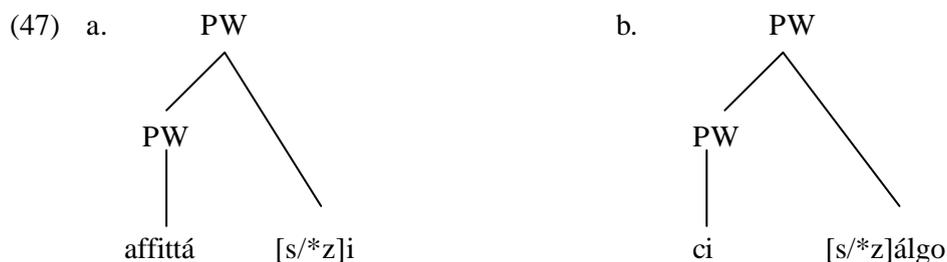


Suppose, contrary to the earlier formulation of the RS rule, we state it as a rule applying to the initial consonant of an expression if it is preceded by a stressed syllable and the two are separated by (at least) one p-word segment. So formulated, the RS rule would apply to the structures in (45) as well as to the structure in (46a) for the example in (37a), but it does not apply to the structure in (46b) for the example in (37b):



In (45) and (46a), there is at least one p-word segment separating a stressed syllable and the following consonant, while in (46b), there is no p-word segment separating the two.

Along the same lines, the intervocalic s-voicing rule, stated as a rule applying to an *s* that is not separated by a p-word segment, would fail to apply to the examples in (40), whose prosodic structures are given in (47):



By contrast, in the prosodic structures for the examples in (39) given in (48), the *s* is subject to the intervocalic s-voicing rule, since there is no p-word segment separating the *s* and the preceding stressed syllable:



- (52) a. (\*i)-am v@zut c|inele lui Popescu. (Rumanian)  
 him-I-have seen the dog him Popescu  
 ‘I saw Popescu’s dog.’  
 b. (\*le) caut un bac@tar.  
 him I-look-for a cook  
 ‘I’m looking for a cook.’

In French or Italian, the clitic-doubling construction is simply impossible (the examples in (53c) and (54c) are grammatical with a pause after the verb, cf. Lambrecht (to appear). We will return to this important fact in section 3.3.2):

- (53) a. Je vois la fille (French)  
 I see the girl  
 ‘I see the girl.’  
 b. Je la vois.  
 I her see  
 ‘I see her.’  
 c. \*Je la vois la fille.  
 I her see the girl  
 ‘I see her the girl.’
- (54) a. Je parle à Jean.  
 I talk to Jean  
 ‘I talk to Jean.’  
 b. Je lui parle.  
 I him talk  
 ‘I talk to him.’  
 c. \*Je lui parle à Jean.  
 I him talk to Jean  
 ‘I talk to Jean.’

Given the explanatory adequacy constraint on Linguistic theory, we have to ask whether the grammatical contrast between the examples in (49)-(50) and those in (51)-(52) with respect to the presence of a clitic pronoun is related to any other property that may explain why the contrast should hold. In the same vein, we can also raise the same question for the variations within Romance languages, i.e. whether there are other differences between Spanish and Rumanian on the one hand, and French and Italian on the other that bear on the grammatical difference between the examples in (49) and (50) on the one hand and those in (53c) and (54c) on the other.

Intuitively, pronouns stand for full DP arguments. The ungrammaticality of the French examples in (53c) is thus unsurprising. Either the pronoun or the full DP argument, but not both at the same time, may satisfy the subcategorization property of a transitive verb requiring that there be an object. The same explanation carries straightforwardly over to the ungrammaticality of the examples in (54c). The Spanish and Rumanian sentences in (49) and (50) are problematic, however, since the same reasoning should lead us to expect, incorrectly, that they are ungrammatical as well, just like the French examples.

Another problem arises in (51)-(52). Regardless of how we resolve the issue of why both the clitic and DP it doubles may both occur at the same time, we must also address the question of why definiteness/specificity is relevant to the clitic-doubled full DP. The clitic-doubling construction therefore raises a host of syntactic and semantic issues, not only for the analysis of

the construction in languages that (sometimes) allow it, but also for the account of the variations in the closely related languages.

### 3.3.1. The position of the clitic-doubled DP and the definiteness/specificity restriction

Essentially following earlier versions of Sportiche (1996), Uriagereka (1995) suggests that the clitic pronoun generally heads a projection in the direct object position, and head-moves to its surface position, as in (55a). The clitic-doubling construction essentially has the same structure, except that the Spec position of the direct object is occupied by the doubled full DP, as in (55b):

- (55) a.  $Lo_i$  vimos  $[_{DP} [ t_i [_{NP} pro ] ]]$  (Spanish)  
 him see  
 ‘We see him.’
- b.  $Lo_i$  vimos  $[_{DP} a Juan [ t_i [_{NP} pro ] ]]$   
 him see to Juan  
 ‘We see Juan.’

There are problematic aspects of the analysis in (55) whose details I will not go into here, e.g. there seems to be no independent evidence for the doubled full DP appearing in the Spec position of a DP headed by the pronominal clitic, or for the pronominal clitic taking a complement (cf. Postal’s (1969) idea that pronouns are intransitive determiners). What I like to do here is to discuss the empirical predictions of the analysis in (55), and to bring various independent facts to bear on the analysis.

It is clear that if the derivation and representation of the sort in (55) is possible, then we would expect the pronominal clitic to be able to double all types of full DPs, in particular, negative quantifiers. The grammatical contrast in (56) shows that the expectation is not borne out:

- (56) a. N’am vazut pe nimeni. (Rumanian)  
 not-have see to no one  
 ‘I didn’t see anyone.’
- b. \*Nu  $l_i$ -am vazut  $[_{DP} pe nimeni [ t_i [_{NP} pro ] ]]$   
 not him-have see to no one  
 ‘I didn’t see anyone.’

- (57) a. No conozco a nadie. (Spanish)  
 not know to no one  
 ‘I don’t know anyone.’
- b. \*no lo conozco a nadie.  
 not him know to no one  
 ‘I don’t know anyone.’

- (58) (\*lo) vimos a uno. (Spanish)  
 him see to one  
 ‘We saw one.’

Steriade (1980) argues that the example in (56b), and by the same token those in (57b) and (58) as well (Uriagereka 1995), are independently excluded on semantic grounds. Specifically, the doubling clitic is definite/specific, having a definite/specific referent. In (56b), (57b) and (58), the pronominal clitic has no definite/specific referent, these examples are therefore ruled out semantically.

There are both empirical and conceptual problems with this explanation. Empirically, if

(clitic) pronouns must be definite/specific in that they must have a definite/specific referent, then we would expect, apparently incorrectly, that they may not be related to a referent that is indefinite/non-specific. But as shown in (59), the clitic pronoun can in fact be related to a negative quantifier, which is certainly indefinite/non-specific. The pronominal clitic here thus clearly has no definite/specific referent:

- (59) Ningun estudiante quiere que su maestro lo vea en el bar. (Spanish)  
 No student wants that his teacher him see in the bar  
 ‘No student wants his teacher to see him in the bar.’

In fact, a clitic pronoun may also be related to a negative quantifier across discourse, showing again that it is generally not subject to a definiteness constraint:

- (60) a. Que cosa no cree ningun estudiante que hara su maestro. (Spanish)  
 which thing no think no student that will-do his teacher  
 ‘What does no student think that the teacher will do?’  
 b. Pedir-le que suspenda la clase.  
 ask-him that fail the class  
 ‘To ask him to fail the class.’  
 c. Llevar-lo a un bar.  
 take-him to a bar  
 ‘To take him to a bar.’

Facts of the sorts in (59) and (60) are quite general, independently of the clitic-doubling construction and pronominal clitics. French does not have the clitic-doubling construction, but allows a clitic pronoun to be bound by an indefinite DP, and the binder of the pronominal clitic need not appear in the same sentence:

- (61) Aucun étudiant ne pense que le professeur lui donne un cadeau. (French)  
 no student not thinks that the professor him give a present  
 ‘No student thinks that the professor is giving him a present’  
 (62) a. Qu’est-ce que aucun étudiant<sub>i</sub> pense que le professeur va faire?  
 What-it that no student thinks that the professor go do  
 ‘What does no student thinks that the professor is going to do?’  
 b. Lui demander d’échouer à un examen.  
 him ask to-fail in a exam  
 ‘To ask him to fail an exam.’

The same facts hold of languages like English that have no clitic pronoun. The pronoun in (63) and (64) may have an indefinite/non-specific referent:

- (63) No student thinks that the professor is giving him a present. (English)  
 (64) a. What does no boy fail to forget?  
 b. His first dental appointment.

Therefore, there is no good reason to suppose that pronominal clitics are subject to the constraint that they be definite/specific and have a definite/specific referent. In other words, the proposed semantic constraint is descriptively inadequate.

Conceptually, Steriade and Uriagereka's accounts do not bring independent facts to bear on their explanations, and therefore are explanatorily inadequate. With this in mind, let us consider the examples in (65) and (66), which lack a doubling clitic:

- (65) a. N'am vazut pe nimeni. (Rumanian)  
 not-have see to no one  
 'I didn't see anyone'
- b. No conozco a nadie. (Spanish)  
 not know.1SG to no one  
 'I don't know anyone.'
- c. Vimos a uno.  
 see.1PL to one  
 'We saw one'
- (66) a. \*Pe nimeni n'am vazut. (Rumanian)  
 to no one not-have see  
 'I didn't see anyone'
- b. \*A nadie no conozco. (Spanish)  
 to no one not know.1SG  
 'I don't know anyone.'
- c. \*A uno vimos.  
 to one know.1PL  
 'We saw one'

The direct object is in argument position in (65), but in non-argument position in (66). The same facts hold in English as well:<sup>9</sup>

- (67) a. I saw nobody yesterday. (English)  
 b. John, I saw yesterday.
- (68) a. \*I saw yesterday nobody.  
 b. \*Nobody, I saw yesterday.

The grammatical contrast between (65) and (66) as well as that between (67) and (68) clearly show that negative quantifiers may not appear in non-argument position. The ungrammaticality of the examples in (66) and (68) remarkably resembles that of the examples in (56b) and (57b), apart from the presence of the clitic pronoun in the latter. If the clitic-doubled full DP in (56b) and (57b) in fact occupies a non-argument position very much like the object in (66)-(68), then their grammatical contrasts with (56a) and (57a) respectively fall under the same account for that between (65) and (66) as well as that between (67) and (68), a conclusion also reached by Aoun (1981) and Hurtado (1984) on some other grounds.

As it turns out, facts about the clitic-doubling construction are rather complex. Speakers do not seem to have uniform judgments. While many find (69a) quite good (Franco 2000), they seem to disagree on (69b):

- (69) a. Juan lo invitaba a uno y luego se olvidaba. (Spanish)  
 Juan him invite to one and then self forget  
 'Juan used to invite people and then forget all about it.'

- b. En ese departamento, lo admiten a cualquiera.  
 in this department him admit.3PL to anyone  
 ‘In this department, they admit anyone.’

If *uno* ‘one’ in (69a), here interpreted as generic, is changed to *una* ‘one’, referring to some indefinite/non-specific entity with (grammatical) feminine gender, the sentence becomes very bad (Luis Lopez-Carretero, personal communication). Although it is unclear how the difference between dialects disallowing (58) and those permitting (69a) is to be accounted for, i.e. whether they have other differences bearing the contrast between (58) and (69a), it is worth noting that the clitic-doubled in (69a) may appear in a clearly non-argument position (with or without the clitic pronoun):

- (70) A uno Juan (lo) invitaba y luego se olvidaba. (Spanish)  
 to one Juan him invite and then self forget  
 ‘Juan used to invite people and then forget all about it.’

Given that *a uno* ‘to one’ may appear in a non-argument position in (70), it would not be too surprising that it may also do so in (69a), even though the two non-argument positions are obviously not the same.

Intonation is often brought up to argue that the clitic-doubled full DP is not in a non-argument position. It is often pointed out (Jaeggli 1986 and subsequent literature) that the examples in (53c) and (54c), repeated in (71), would be grammatical if there is an intonational break before the full DP in non-argument position, indicated orthographically by a comma (cf. Lambrecht to appear):

- (71) a. Je la vois, la fille. (French)  
 I her see the girl  
 ‘I see her, the girl.’  
 b. Je lui parle, à Jean.  
 I him talk, to Jean  
 ‘I talk to him, Jean.’

In the clitic-doubling construction in (49) and (50) in Spanish and Rumanian, no such intonational break is detectable before the clitic-doubled full DP. Hence, so the argument goes, the examples in (71) are not the clitic-doubling construction. Thus, if the clitic-doubled full DP in (71) in French is in non-argument position, as it is separated from the rest of the sentence by an intonation break, then the clitic-doubled DPs in (49) in Spanish and in (50) in Rumanian cannot be in non-argument position, since these are not separated from the rest of the sentence by an intonation break.<sup>10</sup>

The argument is not very compelling, however. Non-subcategorized adverbials like those in (72) are clearly in non-argument position, but there need not be an intonational break before them:

- (72) a. Está totalmente enamorado. (Spanish)  
 be.3SG madly in love  
 ‘He is madly in love.’  
 b. Estoy totalmente agotado.  
 be.1SG totally exhausted  
 ‘I’m totally exhausted.’

- (73) a. Mergem duminic © la ruine. (Rumanian)  
 will go sunday the ruins  
 ‘We’ll go to the ruins on Sunday.’  
 b. Maria e cu totul dezam©git©.  
 Maria be with total disillusion  
 ‘Maria is completely disillusioned.’

Therefore, intonation break does not seem to be a good diagnostics for non-argument positions. Note that as there are many non-argument positions, so it is conceivable that the clitic-doubled full DP and those in (71) occupy different non-argument positions.

### 3.3.2. The Case property of the clitic-doubled DP

Returning now to the question of whether the apparent lack of the clitic-doubling construction in French and Italian is related to any other differences between them and Spanish and Rumanian. As mentioned above, a noticeable property of the clitic-doubling construction is the presence of an element preceding the clitic-doubled DP. It looks like a preposition that appears elsewhere (*a* in Spanish and *pe* in Rumanian). Significantly, this preposition-like element may also precede the direct object without the clitic pronoun:

- (74) a. (Ii) iau **pe** asta. (Rumanian)  
 him I-take to this  
 ‘I take this.’  
 b. Caut **pe** alcineva.  
 I-look-for to somebody else  
 ‘I’m looking for somebody else.’
- (75) a. Vi **a** tres ingleses que llevaban pantalones a cuadros. (Spanish)  
 saw to three Englishmen that wear check trousers  
 ‘I saw three Englishmen wearing check trousers.’  
 b. Vamos a ver **a** los monos.  
 go to see the monkeys.  
 ‘Let’s go and see the monkeys.’

The conditions under which this preposition-like element may appear in front of the direct object are the same, whether it is doubled by a pronominal clitic (Farkas 1978, Steriade 1980 and Butt and Benjamin 1988), having to do with the argument being definiteness or specific, and having human reference.

At least superficially, then, the possible presence of a preposition-like element on the direct object in the clitic-doubling construction is closely related to the presence of the same in (74) and (75). From this perspective, one might want to claim that the clitic-doubling construction is possible just in case the language permits this preposition-like element on the direct object independently. Thus, the reason why French and Italian do not have the clitic-doubling construction is because they do not permit a preposition-like element to appear before the direct object in the first place (cf. Kayne 1975):

- (76) a. \*Je la vois à la fille. (French)  
 I her see to the girl  
 ‘I see the girl.’

- b. \*Io la vedo a la ragazza. (Italian)  
 I her see to the girl  
 'I see the girl.'
- (77) a. \*Je vois à la fille. (French)  
 I see to the girl  
 'I see the girl.'
- b. \*Io vedo a la ragazza. (Italian)  
 I see to the girl  
 'I see the girl.'

Along these lines, then, the reason why Spanish and Rumanian have the clitic-doubling construction with a preposition-like element (*a* in Spanish and *pe* in Rumanian) to occur before a direct object DP is because they independently allow it independently, i.e. in cases without a pronominal clitic.

There are both conceptual and empirical problems with these lines of reasoning, however. While the facts concerning the distribution of the preposition-like element *a* in Spanish or *pe* in Rumanian are relatively clear it is not obvious what grammatical property underlies it. One might think that it is the same preposition that appears in cases like (78) and (79):

- (78) a. Salté a un autobús. (Spanish)  
 jump to a bus  
 'I jumped on a bus.'
- b. El gato se subió a un árbol.  
 the cat self run to a tree  
 'The cat ran up a tree.'
- (79) a. A can@ e pe mas@. (Rumanian)  
 a jug be on the table  
 'A jug is on the table.'
- b. Universitatea e pe st@nga.  
 the university be to left  
 'The university is on the left.'

But as we can see in (78) and (79), the preposition *a* or *pe* differs from that preceding a direct object full DP in that it has no restriction on the DP following it. It need not be definite/specific or have human reference.

Aoun (1979) and Borer (1984) suggest that quite generally the clitic pronoun on the verb absorbs Case. On this view, the presence of the preposition-like element *a* or *pe* is to Case-mark the DP that follows it. In the examples in (53), repeated in (80), if a pronominal clitic occurs, and hence absorbs Case for the direct object, the lack of a preposition-like element to Case-mark the DP direct object would lead to a violation of the Case Filter (Rouveret and Vergnaud 1980), which excludes overt DPs without Case:

- (80) a. Je vois la fille (French)  
 I see the girl  
 'I see the girl.'
- b. Je la vois.  
 I her see  
 'I see her.'

- c. \*Je la vois la fille.  
 I her see the girl  
 'I see her the girl.'

If the Case-theoretic account for the clitic-doubling construction is correct, what kind of facts should we expect to see or not to see in Spanish and Rumanian?

If the clitic pronoun on the verb absorbs Case, and as a result the verb can no longer assign Case, then we should expect to see that in the absence of a clitic pronoun, the verb should be able to assign Case to the full DP in argument position. This is largely true, as shown in (81)-(82):

- (81) a. Iau asta. (Rumanian)  
 I-take this  
 'I take this.'  
 b. Caut altceva.  
 I-look-for something else  
 'I'm looking for something else.'
- (82) a. Vi tres ingleses en la playa. (Spanish)  
 saw three Englishmen on the beach  
 'I saw three Englishmen on the beach.'  
 b. Vamos ver los insectos.  
 go see the insects  
 'Let's go and see the insects.'

The problem is the examples in (74) and (75), however. Here, there is no Case-absorbing clitic pronoun on the verb. We should expect not to see the preposition-like element *a* or *pe* in front of the direct object DP. The fact that in these examples there is a preposition-like element on the direct object inspite of the absence of a Case-absorbing clitic pronoun shows that Case-assignment from the verb is independent of the preposition-like element *a* or *pe*.

Moreover, if the preposition-like element *a* or *pe* in the clitic-doubling construction is there to Case-mark the DP following it, Case to the DP being absorbed by the clitic pronoun, then we should expect this element to appear in other instances where Case is absorbed. The passive construction now becomes relevant. Recall the standard assumption that passive morphology on the verb absorbs Case; consequently, the verb can no longer assign Case to the direct object in argument position (Aoun 1979, Chomsky 1981). The direct object of a passive verb therefore must move to subject position to get Case, to avoid a Case Filter violation:

- (83) a. Juan<sub>i</sub> fue visto *t<sub>i</sub>* (por todos). (Spanish)  
 Juan be seen by everyone  
 'Juan was seen by everyone.'
- b. Turc<sub>i</sub> au fost învins *t<sub>i</sub>* (de Stefan). (Rumanian)  
 Turks be be defeat by Stefan  
 'The Turks were defeated by Stefan.'

With respect to Case, then, the passive construction is completely parallel to the clitic-doubling construction.

But there are two facts showing that the two constructions do not have the same Case property. First, in contrast with the clitic-doubling construction, the passive construction does not allow the direct object to be Case-marked by the preposition-like element:

- (84) a. Todos lo vio **a** Juan. (Spanish)  
 everyone him saw to Juan  
 ‘Everyone saw Juan.’  
 b. \*Fue visto **a** Juan (por todos).  
 was seen to Juan by everyone  
 ‘Juan was seen (by everyone).’

- (85) a. Stefan îi învise **pe** turci. (Rumanian)  
 Stefan them defeated to Turks  
 ‘Stefan defeated the Turks.’  
 b. \*Au fost **pe** turci (de Stefan).  
 be defeated to Turks by Stefan  
 ‘The Turks were defeated by Stefan.’

Second, while Case-absorption by passive morphology results in the direct object moving to subject position to get Case, Case-absorption by a pronominal clitic never does. The examples in (86), though grammatical, do not have the interpretation in which the surface subject is understood to be the direct object of the verb, an interpretation derivable on a par with passive with the direct object moving to subject position:

- (86) a. Juan<sub>i</sub> lo vio *t<sub>i</sub>* (Spanish)  
 Juan him saw  
 ‘Juan saw him.’ NOT ‘Juan was seen.’  
 b. Jon<sub>i</sub> îi-am vazut *t<sub>i</sub>*. (Rumanian)  
 Jon them-have see  
 ‘Jon saw them.’ NOT ‘Jon was seen.’

This is contrary to what we would expect if the clitic pronoun absorbs Case on a par with passive morphology. The clear difference between passive and the clitic-doubling construction thus shows that the account for passive definitely cannot be extended to the clitic-doubling construction; therefore, there is no reason to assume that the presence of a preposition-like element *a* or *pe* in the clitic-doubling construction has anything to do with Case.

Return now to the French examples in (71), repeated in (87). As already mentioned, these examples are grammatical with a pause before the full DP in argument position:

- (87) a. Je la vois, la fille. (French)  
 I her see the girl  
 ‘I see her, the girl.’  
 b. Je lui parle, à Jean.  
 I him talk to Jean  
 ‘I talk to him, Jean.’

In fact, examples like (87) are also possible with other phrasal categories. Milner (1978) gives many examples of PPs in the right periphery doubled by an adverbial *en* on the verb, very much like an accusative or dative pronominal clitic:

- (88) a. Mon amie en revient samedi prochain, de Paris. (French)  
 my friend from there come back Saturday next, from Paris  
 ‘My friend is coming back from Paris next Saturday.’

- b. Cette amie en apporte au patron, des livres.  
 this friend of them bring to the boss of the books  
 ‘This friend is bringing some books to the boss.’

Apparently, the full DP in the right periphery in (87) is in non-argument position, just like the right-peripheral PPs in (88). From this perspective, the position of the clitic-doubled DP in (87) is thus very much like the Spanish *a*-phrase or Rumanian *pe*-phrase in the clitic-doubling construction; they all occur in non-argument positions, although not necessarily in the same positions (cf. the discussion surrounding (71)-(73)). If this is correct, then we can conclude that the French examples in (87) do not differ that much from the clitic-doubling construction in Spanish and Rumanian. The difference between them is rather minimal: there is a pause before the clitic-doubled full DP in argument position in French, but not in Spanish and Rumanian. The conclusion seems plausible. French, Italian, Spanish, and to a lesser extent Rumanian, are closely related languages. If we assimilated the French examples in (87) to the clitic-doubling construction in Spanish and Rumanian, then the difference between them is accordingly reduced.

Facts in languages outside Romance also indicate that the presence of a preposition-like element on the direct object is not a condition for the clitic-doubling construction. In Nahuatl, a clitic pronoun may co-occur with an overt direct object, and the latter does not take any marker that may be taken to be the equivalent of Spanish *a* or Rumanian *pe* (Launey 1979). As shown in (89), the direct object may be incorporated in the verb as in (89a), or co-occur unmarked with what apparently is a pronoun *qui* on the verb, whether the direct object is a definite/specific as in (89b), or indefinite/non-specific as in (89c) (the examples are cited in Lazard (to appear)).  $\emptyset$  indicates phonetically null marking, ART for article):

- (89) a. ni-naca-cua. (Nahuatl)  
 1SG-meat-eat  
 ‘I eat meat.’  
 b.  $\emptyset$ -qui-cua in nacatl in pilli.  
 3SG-it-eat ART meat ART child  
 ‘The child meats the meat.’  
 c.  $\emptyset$ -qui-cua nacatl in pilli.  
 3SG-it-eat meat ART child  
 ‘The child meats the meat.’

Evidently, the example in (89b) can be treated on a par with that in (49a) or that in (50a). While the latter has a preposition-like element on the direct object (*a* in Spanish or *pe* in Rumanian), the former does not, showing that a special marking on the direct object is not required in the clitic-doubling construction.

The same fact holds of Bulgarian and Macedonian as well (Dimitrova-Vulchanova 1999:94, 104), as Ekkehard König (personal communication) points out:

- (90) a. kupil bih ja kniga. (Bulgarian)  
 bought would it the book  
 ‘I wold buy that book.’  
 b. mu ja dadov knjigata na Petar. (Macedonian)  
 him it gave the book to Petar  
 ‘I gave the book to Petar.’

Notice again that there is no special marking on the clitic-doubled direct object in (90).

It thus seems that the clitic-doubling construction is rather common in natural language. Particular languages do differ, however. As we saw above, Spanish and Rumanian make use of a preposition-like element on the clitic-doubled direct object and French uses an intonational break, while Nahuatl, Bulgarian and Macedonian use none of these devices. The difference among particular languages certainly calls for an explanation, but it is not clear how it is to be accounted for. The major difficulty here is that with the explanatory adequacy constraint, we must bring other facts to bear on this difference. And it is fairly obscure what other facts may bear on, for instance, the difference between the use of a preposition-like element on the direct object in Spanish and Rumanian and the use of an intonational break before the direct object in French. That is, it is not obvious what principle of grammar would be violated if French used the device for marking direct object in Spanish and Rumanian.

#### 4 Conclusion

The properties of pronominal clitics discussed above are but a few among their many properties, many of which are still fairly obscure (cf. footnotes 4 and 6). Their obscurity is not helped by the apparent lack of other elements having properties remotely resembling those of pronominal clitics. To the extent that certain ideas in the discussion above are on the right track, they are subject to further examining. It should therefore come as no surprise if they turn out to be insufficiently general or simply incorrect, and hence have to be revised or even abandoned when further related facts are brought to light.

While it seems clear that general conceptual constraints on linguistic theory delimit the class of possible analyses of some particular facts, it is not obvious a priori why these facts should cluster together. The explanatory adequacy constraint on linguistic theory provides some guidance for this problem, for it requires that assumptions for some particular facts be brought to bear not only on other assumptions in the same subsystem encompassing those facts, but also on other subsystems of grammar. That is, if various facts are due to some specific grammatical principle, then they must cluster together. From this point of view, it is easy to see what typology of language linguistic theory predicts: there cannot be a language with grammatical principles allowing only a subset of facts that fall under that principle (cf. section 2, and the discussion of auxiliary selection, predicate adjective/passive agreement and reflexive clitics in section 3.1).

For sure, there are aspects of language that remain obscure for some time to come, but it bears pointing out that like any empirical science, linguistic theory need to be refined as more facts come to light and the problems are better understood. It is in this sense that linguistic theory is an empirical science; the form of theory is shaped by the form of the facts. This is the normal course of development of any rational inquiry. In no way do the changes we need to make invalidate the general approach.

#### Endnotes

1. Pseudo-English is meant to be dialects of English that is not known to me to have the indicated grammatical properties. Should there turn out to be such a dialect, then linguistic theory must be modified to accommodate such dialect. Similar remarks apply to other languages as well.
2. There are occasional mismatches between syntactic and phonological constituents. A well-known case is the possessive marker 's in English, which is commonly taken to be a typical case of syntax/phonology mismatch. Voicing assimilation and vowel epenthesis apply to 's as if it is part of the preceding expression, even though the two do not form a syntactic constituent:

- (i) a. The queen of England<sup>h</sup>[z] hat.

- b. A brother of Bruc[iz] hat.
  - c. A friend of Kate'[s] hat.
- (ii)
- a. Land[z]
  - b. Juic[iz]
  - c. Mate[s]

Auxiliaries whose vowel is reduced behave like the possessive marker 's in that it is integrated in an adjacent prosodic unit:

- (iii)
- a. John'[z] coming to the party.
  - b. A brother of Bruc'[iz] left the country.
  - c. A friend of Kate'[s] in the choir.

Cases like (i) and (iii) do not seem to be compelling enough to completely obliterate the relation between syntax and phonology.

3. We need to exercise some care in determining when a participle shows agreement, as syncretism often obscures it. In (ia), the participle shows agreement with the accusative object clitic pronoun, not with the subject. There is thus no reason to think that in (ib) the participle agrees with the subject, even though the participle and the subject have the same gender feature:

- (i)
- a. Gianni la ha lavata/\*lavato.  
Gianni it.FEM have wash.FEM/wash.MASC  
'Gianni washed it.'
  - b. Gianni lo ha lavato/\*lavata.  
Gianni it.MASC have wash.MASC/wash.FEM  
'Gianni washed it.'

4. Kayne (1993) gives the example in (i) from a central Italian dialect, contrasting sharply with (12b):

- (i) Ntonio è róta la bbròcca.  
Antonia be break the jug  
'Antonio broke the jug.'

The fact in (i) can be accommodated in the account given in section 3.1.1 if the direct object lies outside the projection of the agreeing predicate.

It would be interesting to see if there are other differences between this dialect and Standard Italian that may be related to auxiliary selection and agreement pattern in (i). Having no access to detailed description to this dialect, I will have nothing to say about agreement of the type in (i).

5. For simplicity, I label the projection of the participle as VP. For Kayne, it is in fact a small clause, assimilating it completely to the structure in (13). Alternatively, it can also be taken to be the functional category AgrO of Chomsky (1991), whose the Spec position the object clitic may move through where it agrees with the participle when the participle moves to the head of AgrO. The discussion in the text does not hinge on the category whose Spec position the object clitic moves through, but on the Spec-head relation holding of the object clitic and the participle at some point in the derivation. According to Sportiche (1996), participial agreement is mostly optional in colloquial French, and is obligatory in formal registers.

6. It is conceivable that participial agreement with reflexive clitics is independent from participial agreement with accusative clitics. Dative clitic pronouns show agreement with a participle just in case they are interpreted as having the same reference as the subject:

- (i) a. (loro) ci hanno telefonato/\*telefonati.  
 they 1PL have.3PL telephone/telephone.PL  
 ‘They called us.’  
 b. (noi) ci siamo telefonati.  
 we 1PL be.1PL telephone.PL  
 ‘We called ourselves/each other.’

In (ia), the participle may agree with neither the subject nor the dative object clitic. Thus, the agreement in (ib) must have something to do with the dative being a reflexive.

Note that first and second person non-subject clitic pronouns are not syntactically reflexive; they need not to be bound by a subject, cf. (ia), in contrast with the third person clitic pronoun *si*, which is syntactically reflexive and must be bound syntactically:

- (ii) a. loro si sono telefonati.  
 they self.3 be.3PL telephone.PL  
 ‘They called themselves/each other.’  
 b. \*noi si siamo telefonati.  
 we self.3 be.1PL telephone.PL  
 ‘We called themselves/each other.’

It is not clear what other facts may bear the agreement patterns in (i).

7. The PW-adjunction structure in (41a) seems conceptually most plausible for the analysis in the text, since adjunction structure is independently assumed for syntax (cf. the discussion of (44)-(48) below). However, as far as I can tell, the PW-incorporation structure can also account for these facts, perhaps with different formulations of the various rules. The issue is whether there is any syntactic or morphological correlate of the PW-incorporation structure.

8. This is true only of Standard Italian. According to Peperkamp (1997), Lucanian enclitics always shift stress to the penultimate syllable of the encliticized string, while in Neapolitan an additional stress falls on the first of two enclitics, but there is no change in the stress pattern with a single clitic.

9. Ekkehard König (personal communication) points out that if topics are generally subject to some topicality constraint requiring topics to have definite/specific referents (Lambrecht to appear), then (68b) with a clause-initial negative quantifier as topic would be excluded. As topics are clearly in non-argument position, the explanation for (68b) based on the topicality constraint is consistent with the argument in the text that the negative quantifier in the example is in non-argument position.

10. According to Lambrecht (to appear), the clitic-doubled DP in the clitic-doubling construction in (ia) is necessarily accented (indicated in capital letters), and has a focus relation to the (preceding) proposition, in contrast with the right-dislocation construction in (ib) where the clitic-doubled DP is not accented:

- (i) a. le di un beso a MARIA.  
 her I.gave a kiss to Maria  
 ‘I have a kiss to Maria.’

- b. le di un BESO a Maria.  
‘I have Maria a KISS.’

The same apparently holds for French as well:

- (ii) a. Elle est venue ELLE.  
she is come she  
‘SHE came.’  
b. Elle est VENUE elle.  
‘she CAME (her).’

The comparison of (i) and (ii) does not involve a minimal pair, however. The verb in (i) being a ditransitive verb, while that in (ii) being an intransitive verb. Lambrecht says that the clitic-doubled DP in the clitic-doubling DP is in argument position, while that in the right-dislocation construction is in non-argument position. But the second pronoun in both (iia) and (iib) is clearly in non-argument position, the verb being intransitive. So it is not clear what Lambrecht has in mind for the rightmost *elle* ‘she’ in (iia) being in argument position.

Nevertheless, the prosodic difference between the clitic-doubling construction and the right-dislocation construction presumably generalizes to the Spanish/Rumanian and French examples discussed in the text. As far as I can tell, the clitic-doubled DP in French may or may not be stressed, just like those in (ii). Thus, apart from an obligatory pause after the verb, French and Spanish have essentially the same constructions.

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