

**ON THE STATUS OF CLITIC REFLEXIVES AND  
RECIPROCALLS IN ITALIAN AND SERBIAN**

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## Abstract

This paper discusses the status of Italian and Serbian clitic reflexives and reciprocals with respect to the phenomenon of split intransitivity. Assuming an analysis that treats clitics as non-argumental markers of the verb's derived intransitivity, numerous proposals have been put forward as to whether clitic reflexives and reciprocals are unaccusative or unergative. The issue still appears as problematic in the literature, due to the fact that compelling empirical evidence is available for both views.

As a solution to this problem, we adopt the approach of Alsina (1996), according to whom both verbal arguments remain implicitly present in the clitic forms, making reflexives and reciprocals behave as unaccusative in some contexts, and as unergatives in others. In addition, we look at patterns of reflexive and reciprocal marking of intransitive verbs in Italian and Serbian, and we show that reflexives are more closely related to non-derived unaccusatives, while reciprocals have a closer relation to non-derived unergatives. This is formally captured in the framework of Correspondence Theory (Ackema and Moore 2001), in an analysis indicating that in reflexive-marked forms there is a progressive loss of agentivity, while the reciprocal-marked forms are characterised by a gradual decrease in patienthood.

## 1 Introduction

Italian and Serbian belong to the group of languages that use clitics as predominant reflexive and reciprocal markers. Both the Italian *si* and the Serbian *se* have caused much dispute, as they have been analysed both as short forms of argumental reflexive pronouns, and as morphological spell-outs of the verbs' derived intransitivity.<sup>1</sup> Most current approaches assume them to be non-argumental morphological markers (see De Alencar and Kelling 2005 for a recent view to the contrary); however, assuming that clitic-marked reflexives and reciprocals are indeed intransitive, another important problem arises: are these forms unaccusative or unergative?<sup>2</sup>

Both views have been advocated in the literature, and proponents of both have offered compelling evidence in favour of their positions, pointing to somewhat of a paradox: clitic reflexives and reciprocals sometimes display unaccusative, and sometimes unergative behaviour. Consequently, any approach based on the assumption that the process of intransitive reflexive and reciprocal formation requires

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<sup>1</sup>Third person *si* is the most widely mentioned form for Italian, partly due to the fact that it is also used to mark inchoatives, middles, and several other derived structures. The remaining reflexive and reciprocal clitics are *mi* (1st singular), *ti* (2nd singular), *ci* (1st plural) and *vi* (2nd plural).

<sup>2</sup>The problem in fact concerns intransitive reflexives and reciprocals in general, including the unmarked English forms (*John shaved*, *Bill and Mary kissed*) and forms marked by affixes, as in Russian, Greek, or Hungarian, or by a dedicated verbal template, as is the case in Hebrew. We will, however, limit our discussion to Italian and Serbian.

a reduction of one of the verbal arguments (the external one in the case of unaccusative analyses, the internal one in unergative approaches) has to make additional stipulations to account for the full range of empirical facts.

The present paper builds on a somewhat different approach, formulated by Alsina (1996). This particular approach attempts to resolve the above paradox by arguing that clitic reflexives and reciprocals are neither exclusively unaccusative or exclusively unergative. Specifically, Alsina claims that the contradictory behaviour of clitic reflexives and reciprocals is best explained if it is assumed that no argument reduction takes place in the course of their formation, and that both their external and internal arguments are implicitly kept, even though they are mapped onto a single syntactic function.

Our paper brings additional evidence for this view, based on the patterns of reflexive and reciprocal marking with a wider range of intransitive verbs. We argue that another important problem for the unaccusative and unergative analyses (which we label as ‘reductionist’) lies in the fact that reflexives and reciprocals behave alike with respect to the unaccusativity diagnostics, which indicates that they are formed through the same argument structure alternation,<sup>3</sup> but reflexives seem to have a closer relation to non-derived unaccusatives, whereas reciprocals appear to be closer to non-derived unergatives. This ‘closer relation’ manifests itself in the fact that intransitive verbs close to reflexives (in that they involve a single participant) are typically unaccusative (e.g. *sedersi* ‘sit down’ in Italian), while those close to reciprocals (in that they obligatorily involve at least two participants) are typically unergative (e.g. *rukovati se* ‘shake hands’ in Serbian). We formalise this using the Correspondence Theory of Ackerman and Moore (2001), an approach based on standard Lexical Mapping Theory on the one hand, and Dowty’s (1991) Proto-Role approach to thematic roles on the other.

The paper is structured as follows. Section 2 gives an overview of the reductionist approaches and the evidence they use when arguing in favour of an unaccusative or unergative analysis. Section 3 introduces the non-reductionist analysis proposed by Alsina (1996), explaining how this approach deals with the unaccusative/unergative dilemma. Section 4 presents additional evidence for the non-reductionist approach, capturing it in a formal LMT-style representation. Lastly, section 5 gives some concluding remarks.

## 2 Reductionist approaches

The approaches which assume that Italian and Serbian clitic-marked reflexives and reciprocals are unaccusative or unergative can quite straightforwardly be described as reductionist approaches, as they necessarily assume a reduction of one of the

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<sup>3</sup>Clearly, the mapping of semantic participants in reflexive and reciprocal formation cannot be exactly the same, but if we want to assume that one of the verbal arguments is reduced, it would have to be the same argument in both cases. For the sake of simplicity, in the rest of the paper we will treat reflexive and reciprocal forms as being derived through the same argument mapping.

verb's arguments. To be precise, if the clitic forms are unaccusative, their external argument was suppressed in the process of reflexive derivation, and their internal argument was consequently promoted to a subject, similarly to what happens in passivisation (see Bouchard 1984; Grimshaw 1990; Van Valin 1990); if clitic reflexives and reciprocals are unergative, their internal argument was reduced and the subject simply remained the only argument present in the syntax (see Grimshaw 1982; Wehrli 1986; Chierchia 2004; Reinhart and Sioni 2004). Some of the pieces of evidence quoted in favour of each of these approaches are presented in the following two sections.

## 2.1 The unaccusative view

In Italian, clitic reflexives and reciprocals pattern with unaccusatives with respect to auxiliary selection, as the verbs associated with reflexive and reciprocal clitics invariably select the auxiliary *essere* 'be' (1a), typically used with unaccusatives (1b), and not *avere* 'have', reserved for transitive and unergative verbs (1c).

- (1) a. Silvia e Sandra si sono vestite.  
 Silvia and Sandra REFL be.PRES.3PL dress.PAST.PART  
 'Silvia and Sandra dressed.'
- b. Sandra è uscita.  
 Sandra be.PRES.3SG go.out.PAST.PART  
 'Sandra went out.'
- c. Silvia ha pianto.  
 Silvia have.PRES.3SG cry.PAST.PART  
 'Silvia cried.'

Another oft-cited proof for the unaccusative view concerns the fact that absolute participles in Italian can be formed only from unaccusative verbs, as in (2a). Reflexives permit them too, as demonstrated by (2b).

- (2) a. Arrivato Gianni, dovevamo partire.  
 arrive.PAST.PART Gianni must.IMP.1PL leave.INF  
 'Once Gianni had arrived, we had to leave.'
- b. Vestitisi i bambini, potevamo uscire.  
 dress.PAST.PART-REFL the children can.IMP.1PL go.out.INF  
 'Once the children got dressed, we could go out.'

Moreover, reflexives pattern with unaccusatives in being incompatible with constructions having derived subjects, such as passives, raising predicates, predicative 'be' and *frighten*-type psychological predicates (see Bouchard 1984; Rizzi 1986; Wehrli 1986; Grimshaw 1990); the latter two are illustrated by the Italian examples in (3).

- (3) a. \*Gianni si è affezionato.  
 Gianni REFL be.PRES.3SG affectionate  
 ‘Gianni is affectionate to himself.’ (from Rizzi 1986, 83)
- b. \*Gianni si preoccupa.  
 Gianni REFL worry.PRES.3SG  
 ‘Gianni worries himself.’<sup>4</sup> (from Belletti and Rizzi 1988, 296)

Several other diagnostics are mentioned by scholars adhering to the unaccusative view, but they will not be discussed here. It should only be added that the reason for which only examples with reflexives are given is their higher frequency in the literature; reciprocals display the same behaviour in these contexts.

## 2.2 The unergative view

One of the facts most typically quoted in favour of the unergative approach is the impossibility to have partitive *ne* cliticisation in Italian with reflexives, alongside unergative verbs (Alsina 1996; Reinhart and Siloni 2004):

- (4) a. Ne sono rimasti tre.  
 of-them be.PRES.3PL remain.PAST.PART three  
 ‘Three of them remained.’ (from Rosen 1988, 64)
- b. \*Ne hanno telefonato tre.  
 of-them have.PRES.3PL telephone.PAST.PART three  
 ‘Three of them telephoned.’ (ibid: 63)
- c. \*Se ne sono difesi parecchi.  
 REFL of-them be.PRES.3PL defend.PAST.PART several  
 ‘Several defended themselves.’ (ibid: 94)

Reinhart and Siloni (2004) argue that reduced relatives also indicate a patterning with unergative verbs: while unaccusatives allow reduced relatives (5a), unergatives do not (5b), and neither do reflexives and reciprocals (5c-5d).

- (5) a. La ragazza partita ieri ha dimenticato  
 the girl leave.PAST.PART yesterday have.PRES.3SG forget.PAST.PART  
 la valigia.  
 the suitcase  
 ‘The girl who left yesterday forgot her suitcase.’
- b. \*L’uomo telefonato ieri è mio fratello.  
 the.man phone.PAST.PART yesterday be.PRES.3SG my brother  
 ‘The man who phoned yesterday is my brother.’
- c. \*L’uomo lavatosi ieri è mio nonno.  
 the.man wash.PAST.PART-REFL yesterday be.PRES.3SG my grandfather  
 ‘The man who washed yesterday is my grandfather.’

<sup>4</sup>The sentence is grammatical with the reading ‘Gianni is worried’.

- d. \*I ragazzi baciatisi ieri sono miei alunni.  
 the children kiss.PAST.PART-REC yesterday be.PRES.3PL my pupils  
 ‘The children who kissed yesterday are my pupils.’ (from Siloni 2008, 461)

Lastly, Marelj (2004) notes that the test of Left-Branch Extraction can be used to diagnose unaccusative verbs in Serbian, which displays very few syntactic reflexes of split intransitivity. Namely, in Serbian it is possible to extract possessives, demonstratives or interrogative elements from postverbal objects, including the surface subjects of unaccusatives (6a), but not from postverbal unergative subjects (6b), meaning that reflexives should not allow it if they are unergative forms. This is precisely what happens in (6c).

- (6) a. Moj je stigao brat.  
 my be.PRES.3SG arrive.PAST.PART brother  
 ‘My brother arrived.’  
 b. \*Moj je plakao brat.  
 my be.PRES.3SG cry.PAST.PART brother  
 ‘My brother cried.’  
 c. \*Moj se obukao brat.  
 my REFL dress.PAST.PART brother  
 ‘My brother dressed.’<sup>5</sup>

In sum, it is clear that the evidence is inconclusive, as clitic reflexives and reciprocals pattern with unaccusatives in some contexts, and with unergatives in others. Most authors account for the mixed pattern by questioning the reliability of some of the unaccusativity tests. However, even though such questioning might be justified, there does not appear to exist a principled solution that would offer a unified explanation for different tests.

A problem closely related to this one is that the tests are usually taken as straightforward diagnostics based only on the surface behaviour of different forms, without taking into account what exactly it is that makes unaccusatives and unergatives behave differently in each of these contexts. It is commonly argued that unaccusative verbs are inadmissible in constructions that require the presence of an external argument, whereas unergatives are banned from those asking for an internal one. However, the real situation seems to be more complex than this and the mere presence or absence of external and internal arguments does not account for all the manifestations of unaccusativity and unergativity. Therefore, looking at these accounts only, it remains unclear why and how intransitive reflexives and reciprocals should display both unaccusative and unergative properties.

<sup>5</sup>Note that in Serbian the 3rd singular auxiliary form *je* is normally omitted in the presence of *se*; see e.g. Progovac (2005, 135).

### 3 The non-reductionist approach

This state of affairs led to a formulation, by Alsina (1996), of an account that does not assume a reduction of either argument, but suggests instead that both the external and the internal argument are implicitly retained, providing the verb with potential for both unaccusative and unergative behaviours. Before describing Alsina's account in more detail, it should be mentioned that there are at least two other approaches that assume both semantic arguments to be present in the subject of intransitive reflexives and reciprocals. Reinhart and Siloni (2005) propose that a 'bundling' of thematic roles takes place, but that only unergative derivations are possible. Similarly, Rákosi (2008) argues for a 'unification' of theta-roles, allowing again only for unergative derivations in reciprocals, and for default unergative and some lexicalised unaccusative derivations in reflexives; however, Rákosi deals primarily with data from Hungarian, which has a closed class of intransitive reflexive and reciprocal predicates, so his analysis cannot be straightforwardly extended to Italian and Serbian. Even more importantly, neither of these approaches proposes that both arguments (in the sense of valence slots) are retained in reflexive and reciprocal formation.

It should be highlighted at this point that the account we adopt assumes a three-level representation of verbal argument structure, consisting of thematic structure ( $\theta$ -structure, the level of semantic roles), argument structure (a-structure, the level of valence slots), and surface syntax (f-structure, the level of grammatical functions); see Alsina (1996), Ackerman and Moore (2001), a.o. The middle level, the a-structure, is central for our discussion of clitic reflexive and reciprocal formation.

The mapping principles we assume are those proposed by Bresnan and Kanerva (1989) and Bresnan and Zaenen (1990), based on the [+/-*r*] (thematically restricted) and [+/-*o*] (objective) features. The key elements of the mappings between different levels of argument structure are given in (7) and (8); specifically, (7) shows the features that can be mapped onto each grammatical function, while (8), taken from Kelling (2001), explains how the semantic properties of arguments (i.e. their thematic roles) affect their mapping onto syntactic functions (filtered by the a-structure level).

(7) **Featural specifications of grammatical functions**

SUBJ	[- <i>r</i> ], [- <i>o</i> ]
OBJ	[- <i>r</i> ], [+ <i>o</i> ]
OBL $_{\theta}$	[+ <i>r</i> ], [- <i>o</i> ]
OBJ $_{\theta}$	[+ <i>r</i> ], [+ <i>o</i> ]

(8) **Intrinsic features of thematic roles**

Thematic roles:	Features:	Possible mappings:
Agent	[- <i>o</i> ]	SUBJ/OBL
Theme/Patient	[- <i>r</i> ]	SUBJ/OBJ
Locative	[- <i>o</i> ]	SUBJ/OBL

The  $[-r]$  feature indicates a mapping onto syntactic functions that can be occupied by any argument regardless of its original thematic role; such functions are subject (SUBJ) and object (OBJ), while all others (obliques and restricted objects) are  $[+r]$ . The  $[-o]$  feature defines functions other than object, i.e. SUBJ and  $OBL_{\theta}$ , whereas OBJ and  $OBJ_{\theta}$  (restricted object) are  $[+o]$ .

Returning now to reflexive and reciprocal formation, Alsina (1996) proposes that, when clitic reflexives and reciprocals are formed, the two arguments of the transitive input verb are bound in the a-structure and jointly mapped onto the SUBJ function, in an instance of many-to-one argument linking. This type of binding relation is obtained when a reflexive or reciprocal marker such as the clitic *si/se* is added to a transitive verb. The reflexivising morpheme is assumed to have the structure *si/se*  $\langle [\dots]_1 [\dots]_1 \rangle$ , which makes the two arguments of the transitive verb map onto a single syntactic function (SUBJ), as indicated by the numerical indices. Alsina uses a somewhat different annotation and a different set of features, but his account can easily be captured in an LMT representation of argument structure (exemplified on the Italian verb *difendere* ‘defend’):

(9) **Formation of clitic reflexives and reciprocals**

$\theta$ -structure:		Agent	Patient
a-structure:	<i>difendersi</i> <sub>REFL/REC</sub>	$\langle \text{Arg1}_1$	$\text{Arg2}_1 \rangle$
		$[-o]$	$[-r]$
f-structure:		SUBJ <sub>1</sub>	

As can be seen from (9), both arguments of the predicate and both its thematic roles remain implicitly present in clitic reflexives and reciprocals. Clearly, the proposed analysis rests on the assumption that the mapping between different levels of representation can be many-to-one. This is contrary to what is assumed in most theories (cf. the Theta Criterion of Chomsky 1981, the Uniformity of Theta Assignment Hypothesis (UTAH) of Baker 1988, and the Function–Argument Bi-uniqueness constraint of Bresnan 1982), but in the specific case of reflexives and reciprocals there appears to be good reason to allow it.<sup>6</sup>

When it comes to explaining the unaccusative/unergative paradox, Alsina suggests that with phenomena sensitive to the presence/absence of the internal argument, and insensitive to the involvement of an external argument, reflexives and reciprocals behave like unaccusatives; by contrast, when the phenomenon is dependent upon whether the argument is an external or an internal one, their unergative properties manifest themselves. For instance, the principal requirement of absolute participle formation in Italian (see example (2) above) is the presence of an internal argument, which can be either the object of a transitive verb or the subject of an unaccusative verb, as long as it triggers participial agreement. Since there is nothing in this rule that refers to the external argument, reflexivised and reciprocated verbs satisfy the condition and can therefore be used in absolute participle constructions.

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<sup>6</sup>See Alsina (1996) for a detailed explanation and a discussion of several other constructions which are best explained assuming a many-to-one mapping between arguments and grammatical functions.

Similarly, the unaccusative-like auxiliary selection with reflexives and reciprocals in Italian can be explained if it is assumed that *essere* ‘be’ has to be used whenever there is an internal argument mapped onto the subject position, while *avere* ‘have’ is the correct choice only if this is not the case. In contrast, *ne*-cliticisation, which also targets only internal arguments, additionally imposes a ban on the external ones, and as a consequence of this reflexive and reciprocal forms are ruled out in constructions with *ne*.<sup>7</sup> Moreover, additional evidence for this view comes from the data on reflexive and reciprocal marking with intransitive verbs that are derived through somewhat different lexical operations, or are not derived at all.

## 4 Additional evidence for the non-reductionist account

In section 2 above we pointed out that reflexives and reciprocals pattern together with respect to the main unaccusative diagnostics, and are commonly analysed as products of the same mapping process.<sup>8</sup> However, the patterns of reflexive marking with non-derived intransitive verbs indicate that while reflexives are more closely related to unaccusatives, reciprocals have a closer connection to unergatives. Clearly, this is highly problematic for both reductionist views, as they assume a reduction of the same argument in both cases.

Specifically, reflexive-marked verbs that take single semantic participants, and are thus similar to reflexives, are typically unaccusative (e.g. *sedersi* ‘sit down’ or *inginocchiarsi* ‘kneel down’ in Italian), while reflexive-marked verbs that, similarly to reciprocals, must have two semantic participants (an Agent and a Comitative), are unergative (e.g. *takmičiti se* ‘compete’ or *svadjati se* ‘argue’ in Serbian). A few lexicalised forms exist that constitute exceptions to this tendency (e.g. the unergatives *smejati se* ‘laugh’ or *igrati se* ‘play’ in Serbian), but a systematic reflexive-marking pattern pointing in this direction does not seem to be attested. Reductionist approaches can only explain such a distribution of reflexive marking by assuming that a different argument is eliminated in reflexive and reciprocal forms (external vs. internal); this, however, would be contrary to the empirical facts, which demonstrate their parallel behaviours on unaccusativity tests. In the next two sections, we present more detailed data on reflexive-marked intransitive verbs and we elaborate Alsina’s theoretical account to capture these facts.

### 4.1 Descriptives

Both Italian and Serbian use an extremely wide range of reflexive-marked forms.<sup>9</sup> The theoretical account presented above deals with what we can call ‘proper’ reflexives and reciprocals, i.e. those clitic reflexives and reciprocals whose semantics

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<sup>7</sup>See Alsina (1996, 123-134) for detailed accounts of several other phenomena.

<sup>8</sup>Rákosi (2008) is a notable exception to this trend, as he assumes reflexives and reciprocals in Hungarian to have different derivations.

<sup>9</sup>Here we refer only to forms relevant for either reflexive or reciprocal meaning, not to impersonals or middles.

remains the same as that of their transitive alternant, and whose clitics can thus be replaced by argumental reflexive/reciprocal pronouns. For instance, the (a) and (b) version of the Serbian sentence in (10), containing a reflexive clitic and an argumental reflexive pronoun respectively, have the same meaning, and differ only in emphasis.

- (10) a. Marko se dobro brani.  
 Marko REFL well defend.PRES.3SG  
 b. Marko sebe dobro brani.  
 Marko REFL.PRO well defend.PRES.3SG  
 ‘Marko defends himself well.’

In contrast, there are numerous cases in which clitic reflexives and reciprocals have a somewhat changed semantics compared to their transitive alternants. The sentences in (11) illustrate the point, as the act of throwing does not entail the same actions in the two sentences (see Kayne 1975 for similar examples in French).

- (11) a. Ivan se bacio kroz prozor.  
 Ivan REFL throw.PAST.PART out window  
 ‘Ivan threw himself out the window.’  
 b. Ivan je bacio Jovana kroz prozor.  
 Ivan be.PRES.3SG throw.PAST.PART Jovan.ACC out window  
 ‘Ivan threw Jovan out the window.’

We will refer to cases similar to the one in (11) as ‘extended’ reflexives and reciprocals, given that they are formed through a sort of reflexive (or reciprocal) derivation, but one that is not based solely on the mapping of two arguments onto one syntactic function. Consequently, what we wish to add to Alsina’s account is that, in addition to proper clitic reflexives and reciprocals, there also exist extended reflexives and reciprocals, whose semantics is changed (jointly with their morphosyntax), with respect to the semantics of their transitive version, or whose transitive version is not instantiated at all. In particular, we argue that there are two distinct continua that relate proper clitic reflexives and reciprocals to non-derived intransitive verbs. As has already been pointed out, the reflexive continuum is related to unaccusative verbs, and the reciprocal continuum to unergative verbs. The key elements in the continua are the semantic shift that happens in the formation of the verbs along the continuum, and the morphosyntactic consequences of this shift.

Starting from reflexives, some verbs that are commonly treated as proper reflexives are actually characterised by a difference in meaning between the clitic form and the transitive use (see (11) above, also in Serbian/Italian *sakriti se/nascondersi* ‘hide’, *preobraziti se/trasformarsi* ‘transform’). A related group of verbs are the *verbs of nontranslational motion* and *verbs of change of body posture* (Kemmer 1993). Among these verbs we find predicates that have a transitive alternant, but for which the alternant has a changed meaning, and is normally used with inanimate objects, as shown in (12) for the Italian verb *alzarsi* ‘get up’.

- (12) a. Matteo si è alzato.  
 Matteo REFL be.PRES.3SG get.up.PAST.PART  
 ‘Matteo got up.’
- b. Matteo ha alzato la mano.  
 Matteo have.PRES.3SG raise.PAST.PART the hand  
 ‘Matteo raised his hand.’

Moving further down the continuum, the next group is given by those verbs of nontranslational motion and body posture that do not have a transitive alternant at all (Italian *sedersi* ‘sit down’). Lastly, we reach *verbs of translational motion*, such as Italian *arrivare* ‘arrive’ or *partire* ‘leave’; most of them do not receive the reflexive marking, and they roughly correspond to the *change of location* class postulated in Sorace’s (2000) Auxiliary Selection Hierarchy, which represents the class of core unaccusative verbs.

Moving on to reciprocal forms, some verbs often treated as proper reciprocals actually undergo a change in meaning with respect to the canonic one; examples are the Serbian forms *videti se* ‘see each other’, *čuti se* ‘hear from each other’ and *naći se* ‘meet up’ (literally ‘find each other’) - these verbs’ semantics typically equals ‘meet’, ‘talk on the phone’ or ‘keep in touch’, and they are only rarely used with their literal meanings. The next class comprises reciprocal-marked verbs which can be used transitively, but only with objects of the type *X and Y*, or with a comitative complement in addition to the object, conforming to Levin’s (1993: 58-59) ‘transitive simple reciprocal alternation’ (e.g. Serbian *pomiriti se* ‘reconcile’, Italian *unirsi* ‘unite’). This is illustrated by the Serbian sentences in (13).

- (13) a. Sanja i Mita su se pomirili.  
 Sanja and Mita be.PRES.3PL REC reconcile.PAST.PART  
 ‘Sanja and Mita reconciled.’
- b. Pomirili smo Sanju i Mitu.  
 reconcile.PAST.PART be.PRES.1PL Sanja.ACC and Mita.ACC  
 ‘We reconciled Sanja and Mita.’
- c. Pomirili smo Sanju sa Mitom.  
 reconcile.PAST.PART be.PRES.1PL Sanja.ACC with Mita.INS  
 ‘We reconciled Sanja with Mita.’

What follows are the reciprocal-marked verbs participating in Levin’s ‘intransitive simple reciprocal alternation’ (1993: 62-63), which do not have a transitive alternant and can either take an *X and Y* subject or a comitative argument (Serbian *svadjati se* ‘argue’, *takmičiti se* ‘compete’). An example is given in (14).

- (14) a. Iva i Aca se stalno svadjaju.  
 Iva and Aca REC always argue.PRES.3PL  
 ‘Iva and Aca always argue.’

- b. Iva se stalno svadja sa Acom.  
 Iva REC always argue.PRES.3SG with Aca.INS  
 ‘Iva always argues with Aca.’

They are followed by similar non-reciprocal-marked verbs, which belong to Sorace’s *non-motional controlled process verbs*, which are the core group of unergative verbs on her Hierarchy; examples in Italian are *collaborare* ‘collaborate’, *negoziare* ‘negotiate’, etc.

It is clear from the above that the area between proper clitic reflexives and reciprocals and non-derived intransitive verbs is quite blurred, and that several related criteria determine the groups on the extended continua: the presence of reflexive or reciprocal marking, the existence of a transitive alternant, and the difference in meaning or use between the reflexive or reciprocal-marked predicate and its transitive variant. Specifically, the members of the first class have the marking and they have a transitive alternant whose meaning is only minimally different, and whose syntactic behaviour is essentially the same. The members of the second group also have the marking and an alternant, but they differ from the alternant in the syntactic conditions of use (e.g. type of object, requirement for a comitative argument). The members of the third group preserve the marking despite not having a transitive alternant, because they encode types of actions similar to the ones denoted by the verbs from the previous group. The final (non-derived) group contains verbs with no reflexive or reciprocal marking and with no transitive alternant. These defining properties indicate that at least some of these forms are products of regular operations on the verbs’ argument structure, but operations that do not create proper reflexive and reciprocal predicates.

Crucially, the above data show that the reflexive and reciprocal continua take different directions in their passage into non-derived intransitive verbs. The fact that the continuum of reflexive use gradually passes into the domain of unaccusative verbs and that of reciprocal use into the domain of unergative verbs confirms the claim that both arguments must be kept in the formation of intransitive reflexives and reciprocals.

## 4.2 Theoretical approach

While the theoretical account presented in section 3 treats reflexivisation and reciprocation as morphosyntactic processes, it is clear from the data in 4.1 that some reflexive-marked and reciprocal-marked forms also involve a change in verbal semantics. In order to explain the patterns of semantic shift, it is necessary to elaborate Alsina’s proposal further.

This can be achieved by relying on the Correspondence Theory of Ackerman and Moore (2001). The Correspondence Theory is an approach to argument linking based on standard Lexical Mapping Theory on the one hand, and the Proto-Role approach of Dowty (1991) on the other. Specifically, Ackerman and Moore propose two complementary principles of argument selection, the Syn-

tagmatic Selection Principle and the Paradigmatic Selection Principle; the former regulates morphosyntactic operations, that is, changes in the way arguments are mapped onto syntactic functions (e.g. in the active/passive alternation or the locative inversion), while the latter deals with morphosemantic changes such as the causative/inchoative alternation. Standard LMT is the basis for the Syntagmatic Selection Principle, i.e. for morphosyntactic operations, which yield realignments of grammatical functions without any changes in the semantics of predicates. The Paradigmatic Selection Principle, on the other hand, is crucial in explaining the operations motivated by morphosemantic changes, which cannot be captured by LMT's mapping principles.

The analysis of clitic-marked reflexives and reciprocals presented in section 3 treats them as being derived via a morphosyntactic operation, i.e. through a change in the way the verb's arguments are mapped onto syntactic functions, and without any modifications in the verb's meaning. This analysis accounts for proper reflexives and reciprocals, but it cannot explain the forms in the extended continua, which do undergo a semantic change in addition to the morphosyntactic one.

In order to capture the gradual increase in the level of semantic change, our theoretical approach has to capture the extended reflexive and reciprocal continua described in the previous section. Given that verbal semantics influences syntax through thematic roles, a continuum can only be enabled by a non-categorical view of thematic roles, which is the central idea of Dowty's Proto-Role approach.

Dowty (1991) argues that two proto-thematic-roles – Proto-Agent and Proto-Patient – are sufficient to describe all thematic relations a predicate can express. This is possible because proto-roles are determined by predicate entailments, and a single entailment can suffice for a specific proto-role to be assigned to an argument; however, the prototypicality becomes stronger as the number of properties increases. The properties that contribute to each of the roles are listed in (15) and (16), taken from Dowty (1991, 572).

(15) **Contributing properties for the Agent Proto-Role:**

- a. volitional involvement in the event or state
- b. sent[i]ence (and/or perception)
- c. causing an event or change of state in another participant
- d. movement (relative to the position of another participant)
- e. (exists independently of the event named by the verb)

(16) **Contributing properties for the Patient Proto-Role:**

- a. undergoes change of state
- b. incremental theme
- c. causally affected by another participant
- d. stationary relative to movement of another participant
- e. (does not exist independently of the event, or not at all)

These properties influence the syntactic realisation of verbal arguments through the mapping principles introduced in section 3, and they also underlie the principles of argument selection postulated by Ackerman and Moore. Rather than citing the (Syntagmatic) Argument Selection Principle (Dowty 1991, 576), which assumes that the assignment of grammatical functions is determined directly from proto-role entailments, we rely on the principles proposed in Zaenen (1993, 150), according to which proto-role entailments determine intrinsic argument classification, which in turn enables the mapping onto surface grammatical functions:

- (17) If a participant has more patient properties than agent properties, it is marked  $[-r]$ .  
 If a participant has more agent properties than patient properties, it is marked  $[-o]$ .  
 An equal number of properties leads to the assignment of  $[-r]$ .  
 When the sole participant of a verb has neither agent nor patient properties it is marked  $[-o]$ .

These principles are a ‘graded’ elaboration of the ones discussed in section 3, as they allow for different degrees of agentivity and patienthood. As the central part of the Syntagmatic Argument Selection Principle, they can also be related to the Paradigmatic Argument Selection Principle, given in (18), from Ackerman and Moore (2001, 67).

- (18) Let  $P(\dots, \text{arg}_i, \dots)$  and  $P'(\dots, \text{arg}'_i, \dots)$  be related predicates, where  $\text{arg}_i$  and  $\text{arg}'_i$  are corresponding arguments. If  $\text{arg}_i$  and  $\text{arg}'_i$  exhibit different grammatical encodings and  $\text{arg}_i$  is more prototypical with respect to a particular proto-role than  $\text{arg}'_i$ , then  $\text{arg}_i$ 's encoding will be less oblique than  $\text{arg}'_i$ 's encoding.

This principle is intended to regulate morphosemantic changes, i.e. to relate semantically non-equal realisations of the same predicate. It finds direct applications in the analysis of psychological predicates and causatives, where it can explain, for instance, alternative (more and less oblique) causee encodings of some languages by relying on different degrees of proto-agentivity entailed by the predicate; however, the authors point out that different degrees of proto-agentivity can have morphosyntactic consequences in other domains of grammar as well. One example is the selection of the suffix *-age* vs. *-(e)ment* in the derivation of deverbal nouns in French; Kelling (2001) proposes that *-age* is chosen when the input verb possesses many Proto-Agent properties, while *-(e)ment* is selected if there are fewer.

A similar application of the above principles can be found for clitic reflexives and reciprocals. Specifically, in proper clitic reflexives and reciprocals the arguments keep the degree of agentivity and the degree of patienthood that are defined by the transitive verb from which they are formed (recall the example in (10)); the only change concerns the fact that in the reflexive/reciprocal form the grammatical subject is the function characterised by both agentivity and patienthood. The approach of Alsina (1996), presented in section 3, and falling within the domain

of the Syntagmatic Argument Selection Principle, can thus fully account for this operation.<sup>10</sup>

A bigger change occurs in the extended forms. Along the extended continuum, there is a decrease in one of the proto-properties characterising the grammatical subject. In the case of reflexives, agentivity is progressively lost, and the extended reflexives gradually blend into unpaired reflexive-marked intransitives and non-reflexive-marked unaccusatives. In the case of reciprocals, the subject progressively loses its patienthood, becoming more prominently a Proto-Agent than a Proto-Patient, until an end point is reached at which it turns into reciprocal-marked unpaired unergatives, and unmarked unergatives. As a consequence of different degrees of agentivity and patienthood, verbs at different points of the continua allow different morphosyntactic behaviours: those that undergo a minor semantic shift remain transitive and can appear with the same type of object as the proper forms, with a moderate change in meaning; those whose proto-property decreases further also keep their transitivity, but can only take a specific type of objects, different from the ones allowed with their transitive alternant; when the change in the given property grows even bigger, the verb becomes intransitive, after which it also loses the reflexive/reciprocal marking.

A simplified schema of the process, without the syntactic consequences, is shown in (19) for reflexives, and in (20) for reciprocals. ‘P-A’ and ‘P-P’ denote Proto-Agent and Proto-Patient properties respectively, while the ‘+’ and the ‘-’ signs symbolise the increase/decrease in the number of proto-properties. The top two lines show the Italian and Serbian verbs that exemplify each of the different classes; they are followed by their English translations. The exact specification of the Proto-Role entailments involved in each step is left for future work.

(19) **The continuum reflexive → unaccusative**

<i>vestirsi/</i> <i>obući se</i> ‘dress’	<i>buttarsi/</i> <i>baciti se</i> ‘throw oneself’	<i>alzarsi/</i> <i>podići se</i> ‘get up’	<i>sedersi/</i> <i>[sesti]</i> ‘sit down’	<i>arrivare/</i> <i>stići</i> ‘arrive’			
P-A ⟨Arg1 <sub>1</sub>	P-P Arg2 <sub>1</sub> )	P-A <sup>-</sup> ⟨Arg1 <sub>1</sub>	P-P <sup>+</sup> Arg2 <sub>1</sub> )	P-A <sup>--</sup> ⟨Arg1 <sub>1</sub>	P-P <sup>++</sup> Arg2 <sub>1</sub> )	P-P <sup>R</sup> ⟨Arg1 <sub>1</sub> )	P-P ⟨Arg1 <sub>1</sub> )
[-o]	[-r]	[-o]	[-r]	[-o]	[-r]	[-r]	[-r]
SUBJ <sub>1</sub>		SUBJ <sub>1</sub>		SUBJ <sub>1</sub>		SUBJ <sub>1</sub>	SUBJ <sub>1</sub>

(20) **The continuum reciprocal → unergative**

<i>baciarsi/</i> <i>poljubiti se</i> ‘kiss’	<i>vedersi/</i> <i>videti se</i> ‘meet up’	<i>ricongiarsi/</i> <i>pomiriti se</i> ‘reconcile’	<i>[competere]/</i> <i>takmičiti se</i> ‘compete’	<i>collaborare/</i> <i>saradživati</i> ‘collaborate’			
P-A ⟨Arg1 <sub>1</sub>	P-P Arg2 <sub>1</sub> )	P-A <sup>+</sup> ⟨Arg1 <sub>1</sub>	P-P <sup>-</sup> Arg2 <sub>1</sub> )	P-A <sup>++</sup> ⟨Arg1 <sub>1</sub>	P-P <sup>--</sup> Arg2 <sub>1</sub> )	P-A <sup>R</sup> ⟨Arg1 <sub>1</sub> )	P-A ⟨Arg1 <sub>1</sub> )
[-o]	[-r]	[-o]	[-r]	[-o]	[-r]	[-o]	[-o]
SUBJ <sub>1</sub>		SUBJ <sub>1</sub>		SUBJ <sub>1</sub>		SUBJ <sub>1</sub>	SUBJ <sub>1</sub>

<sup>10</sup>Dowty’s approach to thematic roles is in fact adopted by Alsina as well, but for the sake of simplicity it was not introduced earlier.

In sum, we argue that proper reflexives and reciprocals are created through a morphosyntactic operation, where the alignment of arguments changes, but not their meaning, while with the extended reflexives and reciprocals, a morphosemantic operation is also at work, as the semantic content of the arguments is altered. In this specific case, the reflex of the Paradigmatic Selection Principle consists in the inability of these forms to freely alternate with their transitive versions. And most importantly for the central topic of this paper, any theoretical approach that aims at explaining both reflexive and reciprocal formation must be able to account for these processes, which go in opposite directions for reflexives and reciprocals.

## 5 Conclusion

The account proposed by Alsina (1996), based on the joint mapping of two arguments onto the SUBJ function, seems to provide a satisfactory explanation for some of the most problematic facts concerning the status of clitic reflexives and reciprocals in Italian and Serbian. Most importantly, it can account for the mixed unaccusative/unergative behaviour of these forms, both with respect to unaccusativity diagnostics and the divergent marking patterns of non-derived intransitive verbs. The latter is achieved by incorporating Alsina's account in a wider context of the Correspondence Theory of Ackerman and Moore (2001).

Moreover, even though in this paper we deal only with Italian and Serbian, it should be possible to apply the same approach to at least some other languages, as the unaccusative/unergative paradox is not limited to Serbian and Italian, or to the Slavic and Romance families. Clearly, before making any further claims, more crosslinguistic data needs to be examined. In addition, there are a number of related verbal forms that could be compared to the reflexives and reciprocals analysed in this paper. One such case are psychological predicates, which also show an interesting pattern (cf. the Italian pairs *spaventarsi* 'get scared' – *spaventare se stesso* 'scare oneself' and *rispettarsi* – *rispettare se stesso* 'respect oneself'). Studying similar forms is necessary if we are to formulate a comprehensive account of reflexives and reciprocals.

## References

- Ackerman, F. and J. Moore (2001). *Proto-Properties and Grammatical Encoding: A Correspondence Theory of Argument Selection*. Stanford: CSLI Publications.
- Alsina, A. (1996). *The Role of Argument Structure in Grammar: Evidence from Romance*. Stanford: CSLI Publications.
- Baker, M. (1988). *Incorporation: A Theory of Grammatical Function Changing*. Chicago: Chicago University Press.

- Belletti, A. and L. Rizzi (1988). Psych-verbs and  $\theta$ -Theory. *Natural Language and Linguistic Theory* 6, 291–352.
- Bouchard, D. (1984). *On the Content of Empty Categories*. Dordrecht: Foris Publications.
- Bresnan, J. (1982). Polyadicity. In J. Bresnan (Ed.), *The Mental Representation of Grammatical Relations*, pp. 149–172. Cambridge, MA and London: The MIT Press. Revised version of Bresnan, J. (1980). Polyadicity: Part 1 of a Theory of Lexical Rules and Representations. In T. Hoekstra, H. van der Hulst and M. Moortgat (Eds.), *Lexical Grammar*, pp. 97–121. Dordrecht: Foris Publications.
- Bresnan, J. and J. Kanerva (1989). Locative inversion in Chicheŵa: A case study of factorization in grammar. *Linguistic Inquiry* 21, 1–50.
- Bresnan, J. and A. Zaenen (1990). Deep unaccusativity in LFG. In K. Dziwirek, P. Farrell, and E. Mejías-Bikandi (Eds.), *Grammatical Relations: A Cross-Theoretical Perspective*, pp. 45–57. Stanford: CSLI Publications.
- Chierchia, G. (2004). A semantics for unaccusatives. In A. Alexiadou, E. Anagnostopoulou, and M. Everaert (Eds.), *Unaccusativity Puzzle: Explorations of the Syntax–Lexicon Interface*, pp. 22–59. Oxford: Oxford University Press.
- Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris Publications.
- De Alencar, L. F. and C. Kelling (2005). Are reflexive constructions transitive or intransitive? Evidence from German and Romance. In M. Butt and T. H. King (Eds.), *Proceedings of the LFG05 Conference*, pp. 1–20. University of Bergen.
- Dowty, D. (1991). Thematic proto-roles and argument selection. *Language* 67, 547–619.
- Grimshaw, J. (1982). On the lexical representation of Romance reflexive clitics. In J. Bresnan (Ed.), *The Mental Representation of Grammatical Relations*, pp. 87–148. Cambridge, MA and London: The MIT Press.
- Grimshaw, J. (1990). *Argument Structure*. Cambridge, MA and London: The MIT Press.
- Kayne, R. (1975). *French Syntax: The Transformational Cycle*. Cambridge, MA and London: The MIT Press.
- Kelling, C. (2001). Agentivity and suffix selection. In M. Butt and T. H. King (Eds.), *Proceedings of the LFG01 Conference*, pp. 1–20. University of Hong Kong.
- Kemmer, S. (1993). *The Middle Voice*. Amsterdam and Philadelphia: John Benjamins.

- Levin, B. (1993). *English Verb Classes and Alternations*. Chicago and London: University of Chicago Press.
- Marelj, M. (2004). *Middles and Argument Structure across Languages*. LOT Dissertation Series 88. Utrecht: LOT Publications.
- Progovac, Lj. (2005). *A Syntax of Serbian: Clausal Architecture*. Bloomington: Slavica.
- Rákosi, G. (2008). The inherently reflexive and the inherently reciprocal predicate in Hungarian: Each to their own argument structure. In E. König and V. Gast (Eds.), *Reciprocals and Reflexives: Theoretical and Typological Explorations*, pp. 411–450. Berlin and New York: Mouton de Gruyter.
- Reinhart, T. and T. Siloni (2004). Against the unaccusative analysis of reflexives. In A. Alexiadou, E. Anagnostopoulou, and M. Everaert (Eds.), *Unaccusativity Puzzle: Explorations of the Syntax–Lexicon Interface*, pp. 159–180. Oxford: Oxford University Press.
- Reinhart, T. and T. Siloni (2005). The Lexicon–Syntax parameter: Reflexivization and other arity operations. *Linguistic Inquiry* 36, 389–436.
- Rizzi, L. (1986). On chain formation. In H. Borer (Ed.), *Syntax and Semantics 19: The Syntax of Pronominal Clitics*, pp. 65–95. Orlando: Academic Press.
- Rosen, C. (1988). *The Relational Structure of Reflexive Clauses: Evidence from Italian*. London and New York: Garland.
- Siloni, T. (2008). The syntax of reciprocal verbs: An overview. In E. König and V. Gast (Eds.), *Reciprocals and Reflexives: Theoretical and Typological Explorations*, pp. 451–498. Berlin and New York: Mouton de Gruyter.
- Sorace, A. (2000). Gradients in auxiliary selection with intransitive verbs. *Language* 76, 859–890.
- Van Valin, R. D. (1990). Semantic parameters of split intransitivity. *Language* 66, 221–260.
- Wehrli, E. (1986). On some properties of French clitic *se*. In H. Borer (Ed.), *Syntax and Semantics 19: The Syntax of Pronominal Clitics*, pp. 263–283. Orlando: Academic Press.
- Zaenen, A. (1993). Unaccusativity in Dutch: Integrating syntax and lexical semantics. In J. Pustejovsky (Ed.), *Semantics and the Lexicon*, pp. 129–161. Dordrecht: Kluwer Academic Publishers.

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