

The Anaphoric and Pronominal System (Rev. 3/1/08)

LUIGI BURZIO

Department of Cognitive Science, Johns Hopkins University, Baltimore, MD 21218, USA
burzio@jhu.edu

Submitted for *The Syntax of Italian*, Giuseppe Longobardi (ed). Cambridge University Press.

Abstract

This chapter reviews the inventory of anaphoric and pronominal elements of Italian in a historic perspective and looks at the universal principles that control the use of such elements in context, and their effects in Italian. These principles must select not only between anaphors and pronouns, but also among forms of different morphological complexity. It is argued that competition among different principles is crucial to understanding the distribution of each element, requiring the general resources of Optimality Theory, which, however, also need to be adapted in certain ways.

Contents

1.	Introduction	1
2.	The Inventory	1
2.1	Strong pronouns	1
2.2	Clitics	4
2.2	Weak Pronouns	6
2.3	The nature of syncretism	10
3.	The Anaphor-Pronoun Dimension	16
3.1	Referential Economy	16
3.2	The Reflexive-Impersonal Relation	20
3.3	Possessives	23
3.4	Competing for Antecedency	26
4.	The Strong-Weak Dimension	34
4.1	The Weak Anaphora Principle	34
4.2	Unaccusative <i>si</i>	41
5.	Conclusion	46
	References	46

1. Introduction

In this essay, I will attempt to characterize the pronominal system of Italian by decomposing the problem into its natural subparts, the inventory of pronominal elements and the grammatical principles that select from the inventory. The subdivision is partly artificial, since the inventory is itself controlled by grammatical principles as we will see, but it will nonetheless be useful.

In Italian as in many languages, the pronominal system occupies a space that, in addition to distinctions of person, number, gender and Case, has at least two other dimensions. One concerns the distinction between pronouns and anaphors, while the other concerns the distinction between weak and strong elements, as schematically illustrated in (1).

(1)

anaphor	si	se
pronoun	lo	lui
	weak	strong

The principles needed are thus those capable of navigating this space. The vertical dimension in (1) is of course the one addressed by the traditional ‘Binding Theory’ of Chomsky (1981) and much related work, while the horizontal dimension is the one addressed by Cardinaletti and Starke’s (1999) ‘Economy of Representations’ principle, as well as Burzio’s (1994a) ‘Weak Anaphora’ principle.

The view that I will take and defend is that capturing the distribution of each member of the inventory over the space in (1) cannot be accomplished by reference to that particular member alone, but must rather consider the inventory as a whole. Given the inventory, the chosen element in each case will be the one that best satisfies the principles at work. This approach is in the spirit of Optimality Theory (Prince and Smolensky 1993) and is consistent with the account of the strong/ weak variation in (1) of both Cardinaletti and Starke (1999) and Burzio (1994a). This approach contrasts with the account of the anaphor/ pronoun variation in Chomsky (1981), in which each type of element (anaphor, pronoun, R-expression) invokes a separate principle (A, B, C), with no reference to the rest of the inventory.

The following sections will address the inventory first, and then each of the two dimensions in (1) in turn, with section 5 drawing general conclusions.

2. The Inventory

2.1 Strong pronouns

We begin with the ‘strong’ pronouns, tabulated in (2a, b), along with their Latin etyma for 1st and 2nd person. The etymology of 3rd person pronouns is more complex and is discussed below.

Various patterns of syncretism, to be reviewed in the text, are noted below each table, with the underscored portion identifying the patterns that were already present in Latin .

(2) **The Strong Pronouns**

a. Subject Pronouns	1	io	noi	Latin (NOM)	
	2	tu	voi	ego	nos
	3 M/ F	lui/ lei	loro	tu	vos

Gender Syncretism in 1, 2 and plural

b. Object Pronouns	1	me	noi	Latin (ACC)	
	2	te	voi	me	nos
	3 M/ F	lui/ lei	loro	te	vos

Gender Syncretism in 1, 2 and plural

Case syncretism in 3 and plural

The etymological mappings for 1st and 2nd person forms are quite straightforward. The plural forms simply reflect the general morphological change discussed in Calabrese (1998). Calabrese postulates that Italian and Rumanian borrowed the plural morpheme from the Latin Nominative forms of nouns, hence the endings in *-i*, *-e*, while other Romance varieties borrowed plural markings from Latin Accusative forms, hence resulting in plurals in *-s*. The change from *ego* to *io* is straightforward as well, assuming lenition and disappearance of intervocalic *g*, followed by height dissimilation of the resulting hiatus, *eo* > *io*, similarly to Spanish *yo*, and consistently with the alternative dissimilation to *eu* in Rumanian and Portuguese.

Concerning syncretisms, it is argued in Burzio (2005), Burzio and Tantalou (2007), that cross-linguistically that categories that are intuitively more marked or contentful, tend to have fewer internal contrasts. In the categories that are relevant to pronouns, persons 1, 2 would be viewed as more marked than 3, while plural would be more marked than singular, non-nominative cases more marked than nominative, and feminine gender more marked than masculine (and neuter), leading to the asymmetries as in (3).

(3) a. Unmarked (less syncretic):	3	Singular	Nom.	Masc/ Neuter
b. Marked (more syncretic):	1, 2	Plural	non-Nom.	Feminine

Burzio (2005), Burzio and Tantalou (2007) argue that morphological syncretism is a type of neutralization resulting from the high degree of similarity of the structures involved, not unlike the neutralization of phonological contrasts under specific conditions. They assume that the ‘unmarked’ categories of (3a) are underspecified compared with their marked counterparts of (3b), for instance ‘singular’ consisting of no number specification. On this view, members of the ‘unmarked’ paradigms will be relatively less similar to one-another. For instance *lei*, *lui* of (2)

will have some phonological traits in common, but will share no morphosyntactic number on the underspecification view of ‘singular’. Their hypothetical plural counterparts will share number, however, and hence will be more similar to one-another than the singulars, yielding greater pressure to neutralize, a common form *loro* in (2) thus being expected.

While I return below to a more specific account of the putative tendencies in (3), we note that the patterns in (2a, b) are largely consistent with them. The only exception is the syncretism in Case/ grammatical function of invariant 3rd person *lui/ lei* versus the distinctions *io/ me, tu/ te* of 1st and 2nd persons. In contrast to Italian, English would be consistent with (3), in virtue of the 3rd person contrasts *he/ him, she/ her*, versus invariant 2nd SG subject/ object *you*. While idiosyncrasies violating (3) are not infrequent, some light on this anomaly may be shed by history, to which I now turn.

In the 3rd person, Latin employed the element whose nominative forms were *is, ea, id* for masculine, feminine and neuter, respectively. This element did not survive the Romance developments. To trace the genesis of the 3rd person forms *lui, lei, loro* of (2a, b), we need to consider instead the paradigm of the Latin demonstrative adjective/ pronoun *ille* ‘that’, in (4).

(4) **Latin demonstrative *ille***

	SG			PL		
	M	N	F	M	N	F
NOM	ille	illud	illa	illi	illa	illae
ACC	illum		illam	illos		illas
GEN	illius			illorum		illarum
DAT	illi			illis		
ABL	illo	illa				

According to Tekavčić (1980, § 560), in the Romance developments, the bolded forms in (4) evolved analogically to forms of the relative pronoun *qui* ‘who’, in the way schematically shown in (5), producing the bolded masculine singular forms *illuius, illui* on the model of *cuius, cui*.

(5)

	qui ‘who’	M SG	F SG	PL
NOM	qui	illi (< ille)	illa (< illa)	illi/ illae
GEN	cuius	illuius (< illius)	illeius (< illius)	illorum (< illorum/ illarum)
DAT	cui	illui (< illi)	illei (< illi)	illorum (< illis)

For the feminine singular forms *illeius, illei* of (5), Tekavčić suggests they evolved as analogical extensions first from 1st declension feminine nouns, and then from their masculine counterparts. Hence analogy with *terrae* ‘earth-GEN, DAT’ would yield *illae*, from which analogy with the masculine forms in (5) would subsequently yield *illeius, illei*. Syncretic extension of genitive plural *illorum* of (4) to both the feminine and the dative (consistently with (3) in each case), would yield the dative plural *illorum* of (5). The dative series in (5) would then consistently

provide the basis for the modern forms *lui, lei, loro* of (2), via apheresis and regular sound changes (*lorum > loro*). These forms were then generalized by syncretic extension to the Genitive and Accusative and were all used a-prepositionally in the genitive and dative in Old Italian, e.g. *la lei bellezza* ‘her-GEN beauty’, *risposi lei* ‘I answered her-DAT’ (Rohlf 1969, § 441) as is still true of plural *loro* in the modern language *la loro bellezza* ‘their-GEN beauty’, *risposi loro* ‘I answered them-DAT’

It seems natural given this genesis that these forms should have been used as objects first (*illei* is attested from the II century according to Tekavčić (1980, § 560), and only later as subjects). It is this extension that will contravene the tendencies in (3) as was noted. In defense of (3), it must be observed that French, that features cognate *lui* for objects, has instead *il* for subjects, consistently with (3). Similarly, Old Italian featured *elli/ el/ ei* for subjects, subject *lui* being attested no earlier than the XIII century and becoming acceptable by literary standards only in the XIX century (Rohlf 1969, § 436, 446). In comparing this genesis with that of 3rd person clitic pronouns to which I turn below, it would appear that a morphological difference originally encoding Case was -at least in the Italian developments- reanalyzed as encoding the weak/ strong distinction of (1) above. Specifically, the genitive forms bearing the bisyllabic genitive inflections in (4) and their descendants in (5) were reanalyzed as strong forms, while the forms bearing the simpler monosyllabic nominative/ accusative/ dative inflections in (4) were in time and after the general apheresis of the first syllable, reanalyzed as the weaker clitic forms *lo, la, li, le* and *gli, le* given in (6) below. It is this obliteration of Case-based information that can help account for the generalization of object forms *lui, lei, loro* to subject as in (2), and the resulting violation of (3).

2.2 Clitics

Turning now to the clitic forms, tabulated in (6), we observe some familiar patterns of syncretism.

(6) Clitic Pronouns

		SG		PL		Latin sources	
		F	M	F	M	SG	PL
1	ACC	mi		ci		me	nos
	DAT					mihi	nobis
2	ACC	ti		vi		te	vos
	DAT					tibi	vobis
3	ACC	la	lo	le	li		
	DAT	le	gli	loro			

Case and Gender syncretism 1, 2; Gender syncretism in Plural Dative

The syncretisms of (6) are consistent with the tendencies in (3). The gender syncretism in persons 1, 2, which is very common cross-linguistically, continues that of Latin, while the Case

syncretism in those persons is a Romance innovation. The shading in the 3rd dative plural cell is to indicate that *loro*, to which I return below, is syntactically not a clitic in the same sense as the other elements. Aside from this, its gender syncretism is consistent with (3), while the same gender syncretism in the dative but not in the accusative would also be so consistent, assuming dative is more marked than accusative.

Considering the actual forms in (6), the strong vs. clitic contrasts *me/ mi*, *te/ ti* (compare (2b)) reflect the normal evolution of the vowel system, unstressed [e] turning to [i] in these cases just as in Lat. *nepote* > It. *nipote* ‘nephew’, etc. The plural forms *ci*, *vi*, on the other hand, do not find their Latin etyma in (6), but rather result from syncretic extension of locative forms *ci*, *vi*, respectively from Latin *hinc*, *ibi* as argued in Calabrese (1995). Their extension to the dative Case is understandable from the present similarity-based perspective, in terms of the relative proximity of dative and locative cases under the feature system proposed in Calabrese (1995), while their further extension to the accusative case would reflect the proximity of dative and accusative cases under the same feature system. As for the choice of *ci* for 1st person and *vi* for 2nd, Calabrese points to semantic affinity, locative *hinc* (>*ci*) being presumed to have a ‘[+proximate]’ interpretation (‘here’, analogous to ‘us’), while *ibi* (>*vi*) would have been [-proximate] (‘there’, analogous to ‘you’). As suggested in Burzio (2007), however, there is also a likely role for phonological similarity, intermediate forms [(i)nči], [(i)vi] sharing, respectively, *n* and *v*, with the respective descendants of *nos*, *vos*. Phonological similarity would also help explain the failed extension of either locative pronoun to 3rd person dative forms in Italian, given the relative non-similarity of *hinc*, *ibi* to descendants of *illi* (discussed below), whence *gli parlo*, not **ci parlo*, for ‘I speak to him’. Such ‘locative > 3rd dative’ extension is attested in many Italian dialects as Calabrese reports, as well as substandard varieties of Italian. Such extension is natural under the morpho-syntactic proximity of locative and dative just noted. The peculiarity of Italian is in the extension to 1st and 2nd person instead, attributable to the semantic/ phonological affinities noted.

The 3rd person accusative forms in (6) descend from the accusative forms of *ille* in (4), via the same apheresis that produced strong forms *lui*, *lei* already discussed, and regular phonological and morphological changes that lead to the *-o*, *-a*, *-i*, *-e* paradigm of gender/ number inflections (Calabrese 1998). The same etymology is applicable to the definite article series, which is parallel to the accusative clitic series except for the *il/ lo* allomorphy of the masculine singular, as in *il ragazzo/ lo studente* ‘the boy/ the student’ and the *i/ gli* allomorphy of the masculine plural, as in *i ragazzi/ gli studenti* ‘the boy/ the students’ (discussed in Burzio 1989, among others).

The dative forms *le*, *gli* of (6) both continue dative *illi* of (4), whose final vowel was in fact long, [illi:]. Assuming that the prosodically weak position resulted in shortening of the vowel (illi: > illi) normal evolution of short *i* (e.g. as in *piper* > *pepe* ‘pepper’) would then yield (*il*)*le*, thus accounting for the feminine form. As for masculine *gli* ([ʎi]), palatalization of *l* must have initially occurred in prevocalic contexts, as in hypothetical [liavevo] > [ʎavevo] ‘to him I had...’, parallel to the normal evolution of [filia] > [fiʎʎa] ‘daughter’, as suggested in Tekavčić (1980, § 562), with the palatalized allomorph later taking over, supplanting [li]. Of course the different paths to [le], [ʎi] from a single form still call for an explanation. Here, a specific principle proposed in Burzio and Tantalou (2007) may help. That principle connects morphologically more marked structures, which are more complex as per discussion of (3) above, to higher-

ranked forms of Input-Output faithfulness in Optimality Theory, resulting in greater stability under phonological pressure. In this case, the feminine form (*le*) would be more marked or complex by possessing gender information, unlike its (underspecified) masculine counterpart, thus escaping palatalization for that reason. Note that a change *illi:* > *ille* in the masculine would not block palatalization, witness *vinea* > *vinja* > *viŋŋa* ‘vineyard’.

Further speculation will be needed to distinguish palatalized dative *gli* ([ʎi]) from unpalatalized accusative masculine plural *li* of (6). Here one can suppose that the four-member accusative series constitutes a stronger paradigm in the sense of Downing et al., eds. (2005), blocking palatalization of *li* by ‘Paradigm Leveling’. Yet, as Tekavčić (1980, § 562) notes, palatalized accusative masculine plural *gli* did exist in Old Italian, suggesting that paradigm leveling operated in the diachronic evolution.

We note that the preservation of accusative/dative Case distinctions among clitics as in (6) versus their loss by strong pronouns as in (2), is easily relatable to the clitics’ reduced status, which inherently privileges synthesis, whence *gli* rather than prepositional **a lo*. At the same time, strong pronouns exist in both nominative and accusative forms, as in (2), while clitics, except for impersonal *si* to which I will return, lack nominative counterparts. This is attributable to the well-known functional equivalence of null subjects and clitic objects (Cardinaletti and Starke 1999), both referring to presupposed information in contrast to strong pronouns, as in (*A proposito di Gianni*) *arriva domani/ *lui arriva domani* ‘(Concerning Gianni) he is coming tomorrow’, parallel to (*A proposito di Gianni*) *lo ho invitato a cena/ *ho invitato lui a cena* ‘(Concerning Gianni) I invited him to dinner’. Hence, availability of null subjects dispenses with the need for a series of nominative clitics. This general complementarity between subject clitics and null subjects may seem violated by Italian dialects, which have subject clitics in various persons, but have at the same time been viewed as null-subject languages (see Brandi and Cordin 1981, Rizzi 1986c). This issue is revisited in Cardinaletti and Repetti (2008) however, who argue that in fact such dialects are null subject languages *only* where subject clitics are absent, hence effectively reasserting the complementarity. The latter complementarity may still seem challenged by French, which is not a null-subject language, has object clitics on a par with Italian, and yet lacks subject clitics proper. Certain further considerations mitigate this challenge as well. In particular, French subject pronouns are known to have some of the properties of clitics (see in particular Cardinaletti and Starke 1999), for instance in resisting coordination, ** il et Marie...* ‘he and Marie...’, and have all the other properties of a third series intermediate between strong and clitic pronouns which I address in the next section. Hence, with Cardinaletti and Repetti, we can indeed assume that null subjects dispense with the need for subject clitics, French only showing that other ‘weak’ pronominal options, may also dispense with such need.

2.2 Weak Pronouns

Alongside of the clitic and strong series of pronouns, Italian also has a third series for the third person, mostly confined to literary styles in the modern language. This series, which I will refer to as ‘weak pronouns’, following Cardinaletti and Starke (1999) is shown in (7) for the subject role, with their Latin sources.

(7) **Subject Weak Pronouns (3rd person)**

Latin 'that'	SG			SG	PL	Latin 'same'	
						SG	PL
(ille>) illi	egli	M		esso	essi	ipse	ipsi
illa	ella	F		essa	esse	ipsa	ipsae
	[+h]			[-h]	[±h]		

The shaded cells in (7) give the Latin etyma. The forms *egli*, *ella* originate from the familiar paradigm of demonstrative *ille* of (4) above. They differ from other reflexes, like *lui*, *lo*, *la*, by the lack of apheresis. The change in the initial vowel from short [i] to [e] is by normal evolution, as in the noted *piper* > *pepe* 'pepper' and other cases. The palatalization in the masculine [eʎʎi] is analogous to that observed in the dative form *gli* reviewed above. The modern language has no plural variants of *egli*, *ella*, but older stages up to the XIX c. featured *eglino/ ellano* 'they M/F' (Tekavčić 1980, § 562), coined analogically to 3rd PL verbal inflections, e.g. *amano* 'love-3PL' compared with *ama* 'loves', with ending *-no* interpreted as a plural inflection.

The forms on the right-hand side in (7) are reflexes of the adjective modifier *ipse* 'same', whose inflectional paradigm paralleled that of *ille* in (4). This form was used as an adjunct analogous to its Italian counterpart *stesso*, e.g. as in Lat. *ipse magister*, equivalent to It. *il maestro stesso* 'the teacher himself'. Its stand-alone pronominal function may have developed via its use as an adjunct to an empty head, in a structure [_N e]-*ipse*, similarly to what I will suggest below for modern possessive *proprio*, alternating between *suo proprio* 'his own' and [_N e]-*proprio* '(his) own'. The morpho-phonological evolution of the forms in (7) is straightforward and normal, short [i] normally turning to [e] as previously noted, and cluster [ps] turning to geminate [ss] also normally, e.g. as in *gypsum* > *gesso* 'plaster'.

As indicated in (7), the two singular types *egli*, *ella*, and *esso*, *essa* partition the referential domain into [+human] and [-human], respectively. Plural forms *essi*, *esse*, however, refer to both [±human]. This will be one of many cases in which forms appear to compete with one another for applicability. With no plural counterpart for *egli*, *ella*, plural forms *essi*, *esse* face no competition, at least within this 'weak' series, and thus extend to [+human] referents. It must be noted in this regard that, alongside of the [-human] uses of *essa* reported in (7), some [+human] uses are also reported (Dardano and Trifone, 1985, 161). This, however, may just reflect the fact that (as Dardano and Trifone note) *ella* is particularly rare, more so than *egli*, thus making it a weaker competitor for *essa*. However, rather than taking the absence of plural counterparts to *egli*, *ella* in (7) to be just an accidental gap, filled by *essi*, *esse*, it would seem more cogent to take the absence of a [± human] distinction in the plural in (7) as a type of syncretism conforming with (3) above, plurals tending towards greater syncretism than singulars as in various other cases already encountered (e.g. (2b), (4)). The point will stand that the distribution of individual forms hinges on the distribution of other forms, with which they compete.

As shown in (8) below, subject forms *egli*, *ella* of (7) lack not only plurals, but also object counterparts. By contrast, the *esso* series extends to object position as well, though only with [-human] interpretation, both in the singular and in the plural (Cordin and Calabrese 1988, 536; Dardano and Trifone.1985, 163).

to semantic weakness, alternative to low morphophonological weight.

As argued in Cardinaletti (1991), the class of pronouns that differ from clitics proper but exhibit the properties in (9) includes also the a-prepositional dative *loro* of (10a), contrasting with its strong counterpart of (2) above in (10b), to which it is transparently related.

- (10) a. Ho dato loro questo libro
I-have given them this book
- b. Ho dato questo libro a loro
I-have given this book to them

According to Cardinaletti, the *loro* of (10a) is closely comparable to the ‘clitics’ of the Germanic languages, which are also syntactically intermediate between Romance clitics and full DPs. The contrast with full DPs is shown by the different positions in (10a, b), while the contrast with proper Romance clitics is shown, for instance, by the different positions of clitic *lo* and *loro* in *Lo ho dato loro* ‘I gave it to them’. The difference between weak and strong *loro*’s behavior with respect to the properties in (9) is shown in (11)

(11) A-prepositional *loro* vs. ‘strong’ *loro* (Cardinaletti 1991).

- a. No coordination: Ho parlato loro (*e a Maria)
Ho parlato a loro e a Maria
‘I spoke to them and to Maria’
- b. No new information: A chi hai parlato? *Loro
A chi hai parlato? A loro
‘To whom did you speak? To them’
- c. No modification: Ho parlato (*solo) loro
Ho parlato solo a loro
‘I spoke only to them’
- d. [-human] referents (A quelle penne) non metterò mai loro il cappuccio
(*A quelle penne) non metterò mai il cappuccio a loro
‘(As for those pens) I’ll never put a cap on them’

Syntactic differences notwithstanding, a-prepositional *loro* is functionally part of the clitic paradigm in (6), in so far as no independent 3rd PL clitic form exists.

Note that, unlike the elements in (7) and (8), a-prepositional *loro* does somewhat conform with the morpho-phonological norm. It is morphologically weaker than its informationally strong counterpart *a-loro* by virtue of the absorption of the preposition *a* into the pronoun, being in this respect analogous to dative forms *gli*, *le* of (6) above. As Cardinaletti points out and was partly noted above, Old Italian featured a-prepositional dative uses of *lui*, *lei*, *noi*, *voi* as well, as in *Ond’io risposi lei* ‘Whence I answered (to) her’ in Dante’s *Purgatory* (Rohlf’s 1969, § 441).

In sum, in reviewing the historical development of Italian pronouns, two major characteristics emerge. One is that a loss of Case distinctions was offset by a gain in distinctions in the weak-strong dimension of (1). The other characteristic is that most patterns of syncretism conform with the generalizations in (3) above.

2.3 The nature of syncretism

While it is beyond present goals to provide a full theory of syncretism, I will briefly illustrate two different approaches, taking the patterns in (7) and (8) for the weak pronouns as an example. The first approach is that of Burzio (2005), (2007), Burzio and Tantalou (2007) mentioned above. The second is the theory of ‘Distributed Morphology’ of Halle and Marantz (1993), (1994) and related work.

Beginning with the first, it is based on the hypothesis that representations are sets of logical entailments between the components of a complex representation –the Representational Entailments Hypothesis (REH). A direct consequence of this hypothesis is that any representation is an attractor to its neighbors. For instance, a representation consisting of components A, B, C will attract a neighbor A, B, -C (where ‘-C’ stands for ‘minus C’ or ‘not C’) by virtue of the fact that -C violates two of the attractor’s entailments, $A \Rightarrow C$ (if A, then C) and $B \Rightarrow C$. Minimization of violations as in Optimality Theory would then demand that the neighbor’s ‘-C’ change to ‘C’, thus neutralizing the neighbor to the attractor. In a more distant neighbor, however, like A, -B, -C, such neutralization pressure is lessened, in the sense that each mismatched component like ‘-C’ now violates only one entailment, namely $A \Rightarrow C$ ($B \Rightarrow C$ being now vacuously satisfied by ‘-B’).¹

Consider then the fact, illustrated in (7) above, that the *egli* and *esso* series syncretize in the plural though not in the singular. I will refer to members of the *egli* series as ELL, and to members of the *esso* series as ESS. Table (12) lists the properties of the two series in their singulars as well as in their hypothetically distinct plurals (those that in fact syncretize).

¹ As argued in Burzio (2005), the REH formalizes a well known principle of neural behavior called ‘Hebbian learning’ (Hebb 1949), and its applicability to several core issues in Phonology and Morphology has shown promise. See also Wayment, Burzio, Mathis, Frank (2007).

(12)

Properties	SINGULAR		PLURAL	
	ESS	ELL	ESS	ELL
A pronoun	✓	✓	✓	✓
B Weak	✓	✓	✓	✓
C 3 rd	✓	✓	✓	✓
D Number			✓	✓
E [+hum]		✓		✓

As shown in (12), I assume the two series are inherently distinct for the feature (E) [\pm human]. All other properties are common, except that, on the underspecification account, singular number (D) is absent rather than shared. Among the various properties, (12) also factors in the semantics responsible for the behavior in (9) above. Without attempting any specific analysis of that property here, I have simply labeled it ‘Weak’ (standing for ‘weak semantics’). Under the REH, the common properties will yield mutual attraction between the two series. I abstract away here from the directionality of attraction, namely the fact that plurals in ELL neutralize to ESS as in (7) rather than the other way round, although this would follow from the principle touched upon above that the more marked categories are more stable, [+human] being plausibly more marked. See Burzio (2007) for a discussion of directionality. With ELL thus neutralizing to ESS, we can describe ESS as the ‘attractor’. Table (13) then reports the attraction effect measured in number of entailments for singular and plural, based on the common properties in (12).

(13)

ELL’s attraction to ESS	SINGULAR	PLURAL
	A \Rightarrow ESS	A \Rightarrow ESS
B \Rightarrow ESS	B \Rightarrow ESS	
C \Rightarrow ESS	C \Rightarrow ESS	
	D \Rightarrow ESS	

The entailments in (13) simply reflect co-occurrence. For instance ‘A \Rightarrow ESS’ results from the fact that property A of (12) obtains with the form ESS in the language. It will be violated when the same property obtains with any other form, like ELL, this being the source of syncretism in this approach. We can see that, because candidates from the two series have more properties in common in the plural than in the singular, the syncretic pressure/ attraction, measured by number of violated entailments, will be greater in the plural. We take the countervailing force, that would keep the two series distinct, to be the association between [+human] and the ELL series, as in (14a), while an association with weak semantic holds for both series, as in (14b).

- (14) a. [+HUMAN] \leftrightarrow ELL
 b. WEAK: Weak \leftrightarrow ELL/ ESS

Resolution of conflicting entailments for a sentence like (15a) can then be characterized as in the OT tableau in (15b).

- (15) a. (A proposito dei candidati) Essi / *Egolino/ ?* Loro hanno ribadito le loro posizioni
 ‘(Concerning the candidates) They have restated their positions’

b. / [weak], [+hum], [+pl] /	ATTR ⁴ (PL)	WEAK	[+HUM] ↔ ELL	ATTR ³ (SG)
ELL	*			*
☞ ESS			*	
loro		*		

In (15b), weak informational content ‘[weak]’ (corresponding to presupposed information), [+human] and [+plural] are all taken to be part of the input, while ATTR³ and ATTR⁴ refer to the attraction effects in (13) relative to singular and plural forms respectively, their rank and the superscripts reflecting the number of entailments represented. As the tableau shows, candidate ELL is ruled out by attraction to neighboring ESS, while strong form *loro* is ruled out by the association in (14b). The winning candidate ESS is syncretic, violating the association in (14a). It is easy to see that, had the subject been singular, ELL would have been optimal as desired (*Egli/ *Esso/ ?*Lui ha ribadito...* ‘He has restated...’), as ATTR⁴ would not have been applicable. Tableau (15) abstracts away from the competition among different weak series, the ELL/ ESS series on one hand, and the clitic/ null subject series on the other. This could involve different degrees of informational weakness as suggested above, or stylistic difference, ELL/ ESS being confined to more formal registers.

Turning now to the object case in (8), the challenge for any analysis will be both how to restrict the ELL series to subject, and how to prevent the ESS series from extending to [+human] the way it does in subject position. The constraints in (16) would thus seem minimally needed.

- (16) a. ELL ⇒ SUBJ (an ELL form must be a subject)
 b. ESS, OBJ ⇒ [-hum] (an ESS form in object position must be [-human])

Putting aside independent motivation for the moment the effects of (16a, b) can be illustrated for the example in (17a) by the tableau in (17b).

- (17) a. (A proposito di Gianni) Sono andato da *egli/ *esso/ lui ieri
 ‘(Concerning Gianni) I went to (see) him yesterday’

b. / ...[+hum], object, weak... /	ELL ⇒ SUBJ	ESS, OBJ ⇒ [-hum]	WEAK
ELL	*		
☞ lui			*
ESS		*	

In (17b), the weak options ELL, ESS are ruled out by the two top-ranked constraints, thus imposing a strong pronoun in an informationally weak context – a typical case of competition.

We can now directly compare this type of account of the facts in (16) and (17), with one couched in terms of the ‘Distributed Morphology’ (DM) machinery (Halle and Marantz 1993). The syncretism in (7) could be accounted for rather simply by the vocabulary in (18a) and the ‘impoverishment’ rule (IR) in (18b) as explained below.

(18) a. **Vocabulary**

- i. ELL \leftrightarrow [+human] subject
- ii. ESS \leftrightarrow ____

b. **Impoverishment:** +human $\Rightarrow \emptyset$ / ____ [+ plural] subject

This type of account is based on the notion that vocabulary items (morphemes) compete for insertion into morpho-syntactic nodes bearing the appropriate specifications, a competition partly similar to that of the present account. Ignoring the underscored portions for the moment, ELL would win the competition in singular, human contexts, by bearing the [+human] specification. However, in the plural, the rule in (18b) would eliminate the feature [+human], disqualifying ELL, and leaving ESS (a default form) as the only alternative, hence the syncretism. The same use of underspecification as in the entailment theory would ensure that syncretism could not affect the singular instead, since, if singular is just absence of number, no rule will be able to refer to it.

Turning to object contexts where only [-human] ESS is possible as shown in (8) above, these can be accounted for by appealing to the underscored portions in (18a, b). If being a subject (or perhaps nominative) is part of the definitional characterization of ELL, then of course this series will not be insertable into object positions. Similarly, if the IR in (18b) targets only subjects, then the ESS series will always be blocked in the context of human objects.

The simplicity of (18) belies a certain lack of explanatory force, however. First, unlike the entailment-based attraction, Impoverishment Rules do not reduce to independent properties and do not deal with any phenomena other than morphological syncretism. Second, the two underscored portions in (18) need to be stipulated. Consider that these have effects comparable to those of the two constraints/ entailments in (16a, b), respectively. Unlike the former, however, the latter constraints can find independent grounding. In particular, the entailment in (16a) $ELL \Rightarrow SUBJ$ can be traced back to the fact that subjects tend to be human. This tendency is expressible by an entailment $[+human] \Rightarrow subject$, understandable either as a deep-seated grammatical principle, or -derivatively- as reflecting the statistics of the lexicon. When the latter entailment is combined with the bidirectional entailment in (14a) $[+human] \Leftrightarrow ELL$, transitivity of entailments will yield (16a) $ELL \Rightarrow SUBJ$. Similarly, the entailment $ESS, OBJ \Rightarrow [-hum]$ of (16b) can be seen as the result of combining the two entailments $object \Rightarrow [-human]$ and $ESS \Rightarrow [-human]$. The first of these two is logically equivalent to the above $[+human] \Rightarrow subject$, while the second is inherent in (14a) $[+human] \Leftrightarrow ELL$. In contrast to this arguably derivable character there seems to be a conspiratorial character to the DM-style analysis in (18), with the structure of the vocabulary items and the IR conspiring, by their underscored portions in particular, to yield properties that the grammar independently has, namely the tendency for human subjects, and non-human objects.

Related to this inability of the vocabulary and grammar to see one another's effects in DM is the inability of this framework to properly characterize instances of syncretism that are phonologically conditioned, since, in that conception as in much traditional work, the Morphology is serially ordered before the Phonology. The Italian pronominal system witnesses two such cases, one illustrated in (19).

- (19) A lei, non glielo do
 ‘To her, I will not give it (to her)’

In (19), feminine dative clitic *le* of (6) above syncretizes with its masculine counterpart *gli* when followed by an accusative clitic like *lo*. Such contextual syncretism mirrors the more general syncretism of substandard varieties in which *gli* replaces *le* altogether, but the replacement in (19) is true of all varieties. As argued in Blasco Ferrer (1984), Maiden (2000), Pescarini (2005), Burzio (2007), the Romance evidence indicates that this is an OCP effect, acting on the candidate sequence **le lo*, hence due to the Phonology. The entailment-based approach to Morphology makes it possible to see Phonology and Morphology as part of the same parallel computation, and can thus characterize the phenomenon in (19) as in (20).

(20)

/ ...FEM, DAT.../	OCP	FEM, DAT ⇒ le	ATTRACTION (to <i>gli</i>)
le lo	*		*
↗ glielo		*	

Tableau (20) presupposes the presence of an accusative clitic after the dative, creating the potential for an OCP violation by repetition of the [l]. The repair consists of neutralizing the feminine form to its nearest attractor, masculine *gli* = [ʎi] (I ignore insertion of [e] in *glielo*). This violates the entailment/ constraint in the middle column, effectively a form of Input-Output faithfulness in OT. In contexts in which there is no potential OCP violation, dative *le* will surface faithfully in satisfaction of the middle constraint in standard speech, while substandard varieties would require permutation of the last two constraints, leading to wholesale neutralization of *le* to *gli*.² The well-known case of Spanish ‘spurious *se*’, as in **le lo ⇒ se lo*, also an OCP-driven repair from this point of view, can receive a comparable account as argued in Burzio (2007).

The second case of syncretism in clitic sequences is illustrated in (21).

- (21) a. Si sperava di addormentarsi / ?? addormentarci subito
Impers. hoped to put-to-sleep-self / put-to-sleep-us right away
 ‘One hoped to fall asleep right away’
- b. Ci si / *Si si addormenta subito
us Impers. / self Impers. puts-to-sleep right away
 ‘One falls asleep right away’

The case in (21a) shows that impersonal *si* ordinarily selects *si* as a coreferential reflexive, not 1st plural *ci*. The two cannot occur adjacent in the same clitic sequence, however, as shown in (21b), where *ci* replaces reflexive *si*. This effect can be accounted for as in (22), analogous to (20).

² The repair *le ne ⇒ gliene* is left out by the text discussion, however, and will require some analogical mechanism. See Burzio (2007).

(22) / ...-person.../	OCP	ci ⇒ [+person]	ATTRACTION (to 1 st plural)
si si	*		*
ci si		*	

In (20), the feature [-person] is given as part of the input to represent the intended meaning. This is expressed by the use of impersonal *si*, which in turn will require a coreferential pronoun or reflexive to have consistent specifications. 1st plural *ci* does not have such specifications, as expressed in the middle column, and is for this reason generally excluded with impersonal *si* as in (20a). In (20b), however, this exclusion is overridden by the potential OCP violation. The choice of *ci* as a replacement is again determined by its ‘nearest attractor’ status, a point to which I return below, and that can be independently established by a case like (23) (from Burzio 1992).

- (23) Si_i e’ contenti quando ci_i scrivono
Impers._i is happy when to us_i they-write
 ‘We are happy when they write to us’

In this case, a reflexive coreferential with impersonal *si* is excluded by the Binding Theory, which would force a more local interpretation of the reflexive. With a second instance of impersonal *si* excluded in any object position for reasons I return to, this leaves again *ci* as the closest available approximation, the calculation being essentially as in (22) with (some version of) the Binding Theory replacing the OCP.

The point at hand is that the effects in (19) and (21) can only be captured within a constraint-based approach to both Morphology and Phonology such that phonological constraints can interact with the morphological constraints (attraction, in the present approach) that govern syncretism. They cannot be captured in an approach in which syncretism is due to Impoverishment rules. The latter can neither foresee the demands of phonological constraints which would apply later in the derivation, nor naturally interact with constraints since they are not rankable. Other known cases of phonologically conditioned syncretism leading to the same conclusion include French ‘liaison’ as in **nouveau/ nouvel ami* ‘new friend-MASC.’, where masculine [nuvo] syncretizes with its feminine counterpart [nouvel] in pre-vocalic contexts so as to improve syllabification. See Steriade (1999).

To conclude this section, the various instances of syncretism found in the Italian pronominal system can be understood as neutralizations of maximally similar representations, an effect that is derivable from the general hypothesis that representations constitute sets of entailments. The same hypothesis can also account for the tendencies in (3) under the additional assumption that the unmarked pole of an opposition is underspecified compared with the marked pole. Certain instances of syncretism appear controlled by phonological principles, requiring a parallel interaction of Phonology and Morphology, consistently with the present framework. On other approaches to syncretism beside that of DM, see Calabrese (1998), Bresnan (2001), Baerman (2004, and references), Aranovich (2007). Among the topics that this discussion has not addressed is the general principles governing clitic sequences. For an OT analysis, see Grimshaw (2001).

3. The Anaphor-Pronoun Dimension

3.1 Referential Economy

In the 3rd person, local coreference can utilize either clitic *si*, non-clitic *se*, or the complex form *se-stesso* made up of *se* and an adjective modifier meaning ‘same’, as illustrated in (24).

- (24) a. Gianni *si* lava
 ‘Gianni washes himself’
- b. Gianni ha fatto da *sé*
 ‘Gianni made (managed) by himself’
- c. Gianni parla spesso di *se-stesso*
 ‘Gianni often talks about himself’

The phonological difference between *si* and *se*, both from Latin *se* is analogous to the distinctions *mi/ me*, *ti/ te* discussed above. The element *stesso* inflects in gender and number in accordance with the *-o*, *-a*, *-i*, *-e* inflectional paradigm. The conditions that select among the three options in (24) will be examined in section 4 below, where I consider the strong-weak dimension. In this section, I consider the principles that select between anaphoric elements like those in (24) and the pronominal elements of the previous section.

In persons other than the third, the paradigm in (24) is rendered as in (25).

- (25) a. (Tu) *ti* lavi
 ‘You wash yourself’
- b. (Tu) hai fatto da *te*
 ‘You made (managed) by yourself’
- c. (Tu) parli spesso di *te-stesso*
 ‘You often talk about yourself’

The elements *ti*, *te* of (25) are of course just the same forms as the already discussed pronoun, a behavior that extends to the first person (*mi/ me*) and to the plurals of both 1st and 2nd persons. The question is how to interpret this fact. One possibility is that this is a case of syncretism, with 1st and 2nd person pronouns syncretically extending to the corresponding reflexive cells, as in (26).

(26)

	pronouns	reflexives
1 st SG	mi, me	⇒
PL	ci, noi	
2 nd SG	ti, te	⇒
PL	vi, voi	
3 rd SG	lo, la, lui, lei	si, se
PL	li, le, loro	

This view would be consistent with the noted tendency of 1st and 2nd persons to be more syncretic than 3rd ((3) above). Nonetheless, several considerations foreclose this possibility. One is that, as noted in Burzio (1991), in languages that employ the same type of element as Italian *si, se* (i.e. descendants of Indo-European *sw*, Meillet 1973), one never finds, for the 1st and 2nd persons, some dedicated reflexive form that the pronominal form could syncretize with. Rather, one only finds extensions of the same form as used in the third person, as in the Russian example in (27) (Timberlake 1979).

(27) ...ja_i mog navredit' sebe_i / *mne_i
*I can harm self/ *me*

Rather than the syncretic extension of (26), this suggests for Italian a failed extension of *si, se* to 1st and 2nd, with the pronouns filling in as some kind of default rather than by syncretism proper. The ability of the same element to function in all persons in some languages suggests that this type of element is inherently personless. Its invariant form over different numbers and genders as in (26) further suggests that this element is simply featureless altogether. Its personless status suggested by Russian can in fact be established even within Italian, although this will require a slight digression into the properties of impersonal *si*. Consider the contrast in (28).

(28) a. Lui/ Si pensa
he/ Impers. thinks

b. Lui_i/ *Si_i pensa che [e] partirà
he / Impers._i thinks that he will leave

In (28a), impersonal *si* occurs with 3rd person verb agreement, just like 3rd person *lui*, suggesting 'impersonal' may be a variant of 3rd person. The contrast in (28b), however, shows this conclusion would be incorrect, as the 3rd person inflection that licenses the null subject in the embedded clause can refer to *lui*, but not to *si*. The correct assumption would rather seem to be that impersonal *si* has no person specification, as its name suggests, and that a zero-3rd mismatch is tolerable in the context of verb agreement, as in (28a), but not in the context of coreference between *si* and an independent pronominal, as in (28b). The ungrammaticality of the *si* variant of (28b) is in fact duplicated when an object pronoun rather than a null subject is involved as (29) below will show. We then conclude that impersonal *si* is personless. With this in mind, we return to reflexive *si, se*, noting the behavior in (29).

(29) a. Lui_i/ *Si_i pensa che lo_i inviterete
 'He_i/ one_i thinks that you will invite him_i'

b. Lui_i/ Si_i parla sempre di se_i
 'He_i/ one_i always talks about (him/one)-self_i'

The pattern in (29a) is parallel to that in (28b), the contrast following from a match versus a mismatch in person. This, however, will inevitably lead to the conclusion that there must also be a mismatch in (29b) with either subject not matching the reflexive, requiring an explanation for the lack of contrast. In this regard, consider the hypothesis in (30).

(30) Reflexive *si, se*: no person, no number, no gender

The genderless, numberless character of *si, se* is established by its invariance as in (26), while its personless character would be consistent with *si, se*'s ability to be anteceded by impersonal *si* unlike a truly 3rd person pronoun, as in (29). To accommodate the *lui* variant of (29b) one must then assume that anaphoric relations work like subject-verb agreement relations in tolerating 3rd-zero mismatches. There may seem to be an alternative to this. It would consist of taking *se* in (29b) to match *lui*, but mismatch *si* instead, i.e. of taking *se* to be 3rd person after all. This alternative interpretation of (29b) is excluded, however, by the cross-linguistic distribution described in (31) (adapted from Burzio 1991).

(31)

Antecedent for <i>se</i> type:	Impersonal	3 rd	1 st , 2 nd
Slavic	✓	✓	✓
Romance, Germanic	✓	✓	
French <i>soi</i>	✓		

The distribution in (31) points to universal implicational relations whereby viability of 1st, 2nd person antecedents for *se*-type reflexives implies viability of 3rd person, which in turn implies viability of impersonal antecedents. Implications in alternative directions are false. The idea that *se* in (29b) is a match for *lui* but a mismatch for *si* is thus excluded because it incorrectly predicts a language in which a reflexive of the *se* type should be possible with 3rd person but not with impersonal antecedents. No such language is known to exist, while French non-clitic reflexive *soi* instantiates exactly the opposite situation, as in *On/ *Jean_i n'aime que soi_i* 'One/ *Jean loves only self' (Burzio 1991 and references). Hence, the conclusion in (30) stands.

The characterization in (30) is also consistent with the fact that reflexives, unlike pronouns, have no independent reference, although there are reflexives, like those of English, that are overtly inflected and yet do not independently refer either. The universal property of reflexives, absence of independent reference, can thus be taken to follow automatically under the conditions of (30), but to be possible also otherwise.

The general distribution of reflexives and its complementarity to that of pronouns can then be accounted for by taking a reflexive to be the preferred option under a principle of Referential Economy as in (32a), while the agreement hierarchy in (32b) as well as locality and other conditions I consider below can cause this option to default, resulting in a pronoun.

(32) a. **Referential Economy Principle (REP):** Reflexive > Pronoun (Avoid Pronoun)

b. **Approximate Agreement:** *1st, 2nd-*se* >> *3rd-*se* >> *Impersonal-*se*

The difference between (24) and (25) above can then be characterized as in (33a, b).

(33) a.	/Gianni _i ha fatto da x _i /	*1 st , 2 nd - <i>se</i>	REP	*3 rd - <i>se</i>
	☞ se			*
	lui		*	
b.	/(Tu) _i hai fatto da x _i /	*1 st , 2 nd - <i>se</i>	REP	*3 rd - <i>se</i>
	se	*		
	☞ te		*	

The Russian behavior in (27) can be easily captured by re-ranking the two top constraints in (33) for that language. This approach accounts for the noted fact that reflexives and pronouns have massively complementary distributions across languages, small areas of overlap notwithstanding, as I discuss below. Separate principles for pronouns and reflexives as in Chomsky (1981) and much subsequent work would incorrectly predict independent distributions. That there cannot be a specific principle for pronouns other than the REP is also clear from the fact that variation in the cross-linguistic distribution of pronouns correlates with variation in the morphology of reflexives, not that of pronouns. For instance, the ungrammaticality of English **You did it by you* compared with the grammatical Italian counterpart in (33b) follows from the fact that English reflexives are inflected and thus do not agree by approximation. As a result, they are immune to Approximate Agreement (32b), which in turn results in the reflexive candidate winning in the English equivalent to (33b). In contrast to this totally transparent difference between English and Italian reflexives, there is no known difference between the pronouns into which one could ground some form of explanation for different principles ‘B’ à la Chomsky (1981).

In sum, the Referential Economy Principle (32b) favors reflexives over pronouns, while the agreement hierarchy in (32b) penalizes reflexives like *si*, *se* in a way that depends on the person of the antecedent.

Before concluding this subsection, I will note further that, as argued in Burzio (1991), the agreement hierarchy in (32b) will also unravel the long-standing mystery in (34).

- (34) a. I Rossi_i ‘*si* inviteranno t_i domenica
the Rossi’s Impers. will invite-3rd PL Sunday
- b. *Noi_i *si* inviteremo t_i domenica
we Impers. will invite-1st PL Sunday

As is known (Rizzi 1976a, b, Burzio 1986, Manzini 1983, 1986, among others), impersonal constructions allow a direct object to move to subject and trigger verb agreement similarly to passive constructions, as in (34a). However, unlike in passive constructions, this is not possible when the object is 1st or 2nd person, as shown in (34b). This asymmetry will now follow from the agreement hierarchy in (32b), by simply assuming that impersonal *si* enters into verb agreement even when an object is preposed, as argued in Burzio (1992), (2000a). If the verb agrees with both preposed object and *si* simultaneously, the latter will effectively have to agree with one

another. The case in (34b) is then ruled out by the same factors that rule out the same sentence in its reflexive reading ‘We will invite ourselves’, namely (32b).

3.2 The Reflexive-Impersonal Relation

The above discussion brought out a certain affinity between impersonal *si* and reflexive *si, se*. There are good reasons to believe that, at the appropriate level of abstraction, this affinity is in fact identity, namely that impersonal *si* and reflexive *si* are contextual variants of the same element, as argued in Castelfranchi and Parisi (1975), Parisi (1976), Manzini (1983), (1986), Burzio (1992). Those reasons are as follows. First, the two *si*'s have the same form and share other properties like lack of person ((28), (29) above). Second, they are in complementary distribution, like two allomorphs of the same morpheme. Thirdly, the same reflexive/ impersonal bifurcation is attested with other elements as well, like so called ‘PRO’, the anaphoric possessive *proprio*, and other anaphoric elements in various languages, like Russian possessive *svoj* (Rappaport 1986).

Concerning the complementary distribution, *si* receives an impersonal interpretation only as the subject of a tensed clause, hence exactly where reflexive interpretation is notoriously blocked (**He thought that himself would win*). Following Rizzi (1989), I assume, as in Burzio (1996), that what blocks subject anaphors in tensed clauses is the constraint in (35).

(35) ***Anaphor-Agreement**: An anaphor is excluded in a position that triggers verb-agreement

If antecedent-anaphor relations involve agreement as suggested above, (35) could be seen as a Relativized Minimality effect of sorts (Rizzi 1990), the more local subject-verb agreement excluding the more remote relation with an antecedent. The correct distribution of reflexive and impersonal interpretations will then obtain if the constraint in (35) competes with the one in (36).

(36) Reflexive > Impersonal: Reflexive interpretation takes precedence over Impersonal

Putting aside its exact nature for the moment, (36) must be dominated by (35). Then, where (35) is not at work, (36) will force a reflexive interpretation, while in subjects of tensed clauses (35) will be active, forcing a violation of (36) and resulting in an impersonal interpretation.

Turning to the nature of the impersonal interpretation, we have seen in the discussion of (21), (23) above that it approximates that of 1st PL *ci/ noi*. This may seem to contradict the claim that *si* is just featureless, but an apparent contradiction exists independently in (23) above *Si_i è contenti quando ci_i scrivono*, as indicated in (37).

(37) Agreeing element:	Verb: <i>è</i>	Adjective: <i>contenti</i>	Pronoun: <i>ci</i>
Features induced by Impers. <i>si</i> :	3 rd SG	MASC PL	1 st PL

Clearly, these agreements cannot be reduced to a single set of features. As noted in Burzio (1992), however, other similar cases exist, including Italian *Professore, lei sembra stanco/*

**stanca* ‘Professor-MASC, you-polite (lit.: ‘she’) seem tired-MASC, and French *Monsieur, vous êtes liberal/ *liberaux* ‘Sir, you-polite (lit.: you-PL) are-PL liberal-SG. One is thus forced to the conclusion that two different sets of features can coexist, with different types of agreement able to tap into different sets. We can regard one set of features as strictly grammatical/ morphological, based on the set of morphological contrasts, and the other interpretive/ semantic. In this respect, impersonal *si* can be regarded as grammatically featureless as argued above, while interpretively bearing the features displayed in the scheme in (38), based on Calabrese (1995).

(38)

	Semantics:	[speaker inclusive]	[participant]	[person]	
Morphology:	1	+	+	+	
	2		+	+	
	3			+	
	Zero person (<i>si, se</i>)				
	Impersonal interpretation	+	+		+ plural

On this analysis, the 3rd SG verb agreement of (37) would be produced by approximation to the zero-person morphology of *si* as argued earlier, while the 1st PL pronoun agreement and PL adjective agreement would result from approximation to the interpretive features in the shaded row, which differ from true 1st PL elements just by one feature. Specifically, the approximation would be attained by syncretic extension of 1st PL *ci* to impersonals as argued earlier. We take MASC adjective agreement in (37) to be by default.

The cases in (39) and (40) verify that the element PRO and the possessive form *proprio* also allow both reflexive and impersonal interpretation like *si*, and that their impersonal interpretation in (40) is consistent with the features in (38).

- (39) a. Gianni_i vuole PRO_i essere felice
Gianni wants to be happy-SG
- b. Gianni_i ha espresso il proprio_i bisogno di essere felice
Gianni_i expressed (his) own_i desire to be happy-SG
- (40) a. È difficile PRO_i essere contenti quando non ci_i scrivono
(it) is difficult to be happy-PL when they do not write to us
- b. Il proprio bisogno di essere felici ...
(one's) own need to be happy-PL ...

It could be argued that the reflexive/ impersonal dichotomy is inherent to all elements that are grammatically featureless in the sense of (30) above. However, non-clitic *se* excludes an impersonal interpretation. I will not attempt a formal account of this restriction, but the reasons could perhaps be sought in the semantics-morphology link discussed in section 4 below.

The set of relationships tying together reflexive *si*, impersonal *si* and 1st PL *ci* postulated above

complementary distribution; and the existence of the same dichotomy elsewhere, as in (39)-(40). Impersonal interpretation must therefore come from a general default procedure rather than the specific lexical content of *si*. The close proximity of that interpretation to 1st PL was taken to account for the Modenese-type syncretism in (41b) and its mirror image in Italian in special situations, while the Piemontese case in (41a) required combining properties of reflexive and impersonal *si*, indirectly confirming their unity. Proximity with 1st PL was also taken as the basis for the last-resort nature of the impersonal interpretation of *si*.

Space will forbid discussion of several related issues, including how the class of ‘arbitrary’ null objects of Rizzi (1986b) might bear on the issues of this subsection and how it might be integrated into the characterization of the pronominal system of Italian. Further discussion of the interpretive properties of impersonal *si* is provided in Cinque (1988), D’Alessandro (2007).

3.3 Possessives

Cross-linguistically, possessives exhibit the same complementarity effect as objects, with reflexive forms taking precedence over pronouns, as in the Latin case in (42).

- (42) Pater_i [_j filium suum_i / *eius_i] amat et diligentiam *suam_j/ eius_j laudat
 ‘The father_i loves [_j his_i son] and praises his_j diligence’

As a derivative of *se*, Latin *suum* of (42a) shared the latter’s anaphoric properties, requiring a subject as an antecedent. This condition is satisfied for the first possessive in (42), thus excluding the pronoun *eius*, but is violated for the second possessive, thus licensing the pronoun. As noted in Burzio (1996), reflexive possessives share properties of long-distance (LD) anaphors. In particular, like LD anaphors, reflexive possessives exist only in the *se* variety of (42), and not as instances of the English-type, local, reflexives, hence the contrast in (43).

- (43) John loves [*himself’_s/ his son]

As in Burzio (1996), I take the distinguishing property of LD anaphors to be lack of overt agreement with the antecedent, i.e. the same property stated in (30) above, pending discussion of the strictly local character of clitic *si*, which also shares that property. In (42), *suum*/*sua* are inflected to agree with the head noun, but not with the antecedent, thus being like Italian (and Latin) *se*/*si* in this regard, while English reflexives are inflected, and hence strictly local.

The LD character of possessive anaphora is confirmed by the fact that it interacts with the Agreement hierarchy of (32b) above similarly to LD anaphora proper, as shown below (examples (44a, b), (45a) from Timberlake 1979).

- (44) Russian LD anaphora

- a. On_i dal [ej umyt’ sebja_i/ *ego_i i vypil kružku moloka]
he let her wash self/ him and drank mug milk
 ‘He_i let her wash him_i and drank down a mug of milk’

- b. .. vy_i dadite u sebj_a_i/ vas_i perenocevat'?
 ...you let by self/ you stay overnight
 '... will you_i let (us) stay overnight with you_i?'

(45) Russian possessive anaphora

- a. On_i uže rasskazal mne o [svoej_i / *ego_i žizni]
 he already tell me about self's/ *his life
 'He_i had already told me about his_i life'
- b. Ty uže rasskazal mne o [svojei/ ?tvoej žizni]
 you already tell me about self's/ your life
 'You have already told me about your life'

The cases in (44) show an improvement of the pronoun when the antecedent changes from 3rd to 2nd person. There is no such improvement in strictly local environments, as was shown by (27) above. We interpret this as the conjunction of two effects that degrade the reflexive in (44b), one lack of clause boundedness (I turn to this in the next subsection), the other the agreement hierarchy in (32b). The reflexive-pronoun overlap in (44b), (45b) (and other cases) can be understood as co-optimal options, the overall disharmony of the reflexive comparing with a violation of the REP (32a) by the pronoun. The point at hand is that the possessive cases in (45) duplicate the behavior of the LD cases in (44), not that of the strictly local anaphora in (27). It is argued in Burzio (1996) that the quasi-LD character of possessive anaphora is an effect of the relation of the possessive with the head noun, manifested by either agreement or Case assignment, an effect similar to that of the *Anaphor-Agreement prohibition of (35), but qualitatively weaker.

With these considerations as background, we now turn to Italian, comparing its inventory of possessives to that of Latin as in (46), where I give only the singular, nominative, masculine forms.

	Latin		Italian	
	pron.	refl.	pron.	refl.
1 st SG	meus		mio	
PL	noster		nostro	
2 nd SG	tuus	suus	tuo	proprio
PL	vester		vostro	
3 rd SG	eius	suus	suo	proprio
PL	eorum		loro	

The Latin 3rd person *eius* series in (46) represents genitive forms of lost 3rd person pronoun *is, ea, id* 'he, she, it' mentioned in sect. 2.1 above. By contrast, *suus* is an adjective on a par with 1st and 2nd person possessives, agreeing in Case, gender and number with the head noun (as in (42)). Consistently with the characterization of *se* reflexives in (30) above, *suus* exhibits no overt agreement with the antecedent, in contrast to the person, number distinctions exhibited by the

pronouns in (46). Like *se*, *suus* received only 3rd person (and, presumably, impersonal) antecedents, as would be expected from (32), (33) above. Its Latin ancestry notwithstanding, Italian *suo* in (46) is a clearly a pronoun, as shown in (47).

- (47) a. Gianni_i parla spesso della sua<sub>(i) / propria_i famiglia
Gianni_i speaks often about his_{(i) / (his)own_i family}</sub>
- b. Si_i parla spesso della *sua<sub>i / propria_i famiglia
*Impers._i speaks often about *his_{i / (his)own_i family}*</sub>

First, in (47a) *sua* need not take *Gianni* as an antecedent, showing that it cannot be an anaphor. Second, in (47b) *sua* fails to corefer with impersonal *si*, like 3rd person pronouns. The contrasts in (47) are in fact just like the ones in (29) (Parisi 1976). An analysis of both asymmetries is provided in terms of person mismatches being tolerated in antecedent-anaphor relationships, but not with independently referring elements, as discussed above. The change of status in the *suus* > *suo* evolution stems from the wholesale demise of the *is*, *ea*, *id* series already noted and the ensuing need for a replacement. In the present analysis that change would consist of adding the single feature [+person] as per (38) above. The introduction of the number distinction *suo/loro* contrasting with invariant *suus* is significant in the present context, confirming the correlation between morphological invariance and reflexive status. The form *loro* in (46) originates from the *ille* paradigm of (4) above, like other 3rd person pronouns, and specifically from genitive plural *illorum*. As a genitive nominal like *eius* of (46) or English possessives, *illorum* did not agree with the head noun, a property that *loro* maintains, as in *il loro libro/ i loro libri* ‘Their book/ Their books’, versus *il suo libro/ i suoi libri* ‘His book/ His books’.

Turning to *proprio* in (46), its reflexive status established by (47) is consistent with the lack of SG/ PL distinction relative to its antecedent. Its morphology is again adjectival like that of *suo* rather than nominal like that of *loro*, whence its agreement with the head as in *il proprio libro/ i proprii libri* ‘(His) own book/ (His) own books’. Its exclusive applicability to impersonal and 3rd person antecedents follows again from the analysis in (32)-(33). A striking fact about this element, however, is that, unlike other reflexives, it does not pre-empt the use of a corresponding pronoun as shown in (47a) (compare with Latin (42)). This can be accounted for by noting that *proprio* and *suo* are unequal relative on the weak/ strong dimension of (1) above, as shown by (48).

- (48) Gianni_i è il *suo<sub>i / proprio_i medico
*Gianni_i is *his_{i / (his) own_i doctor}*</sub>

As I discuss in sect. 4 below, (48) is semantically irreflexive, a situation that requires morphologically strong forms (like English *his own*). *Proprio* can be reconciled with morphological strength by taking it to be elliptical for *suo proprio*, which is also well-formed in (48), i.e. to have the abstract morphological structure [e]-*proprio*. The lack of competition in (47a) is therefore because *suo* and *proprio* have different ranges of interpretation. Notice that when *proprio* occurs with an overt pronoun it is not excluded from 1st or 2nd person (*mio proprio*, *tuo proprio*, ‘my own, your own’, etc.) any more than its English counterpart *own*. What excludes elliptical [e]-*proprio* from 1st or 2nd person is the absence of antecedent features, thus calling for Approximate Agreement (32b).

As Giorgi (1984) showed in seminal work, reflexive possessive *proprio* is a LD anaphor. This is now automatically predicted by the above discussion. Since *proprio* is a possessive anaphor as shown by (47b), and since possessive anaphora is a subcase of LD anaphora as shown by (44)-(45), *proprio* must be a LD anaphor, a property to which I return below.

In sum, languages that have ‘weak’ reflexive possessives in their inventories exclude bound pronouns in structures like *John_i loves his_i family* (except for languages like Korean and Japanese to which I will return). Italian is like English in this respect, lacking such reflexive possessives, though for different historical reasons. English reflexives arose from *pronoun-self* combinations (van Gelderen 2000). As such, they overtly agree with their antecedent, which is the factor that excludes them from LD anaphora (Burzio 1996). Since possessive anaphora must be regarded as LD, English reflexives will then automatically be banned as possessives. On the other hand, the ancestor to Italian *suo* was a bona fide possessive anaphor, but the loss of the corresponding pronoun caused *suo* to be recruited into the pronominal series, a consequence of which was the acquisition of a plural counterpart *loro*. Finally, *proprio* does not undercut 3rd person *suo* in cases like (47a), because it is interpretively not equivalent as shown in (48), its behavior as a strong anaphor being expected under the analysis [*e*]-*proprio*.

3.4 Competing for Antecedency

The above discussion has suggested that the distribution of pronominal elements is governed by a set of violable constraints. The fundamental argument for this view is what Prince and Smolensky (1993, ch.4) call the ‘except when’ effect, namely situations in which complex patterns of exceptions reduce to outranking by independently motivated constraints. For instance, we have just noted that the structure *John_i loves his_i family* is ungrammatical in many languages. One could, for those languages, postulate a principle banning pronouns in this context, but the question will then be how to adapt that principle to English and Italian, where that structure is grammatical. If one took the ban to be violable (in the present analysis, just the REP (32a)), and the structure of the inventory to function as a higher-ranked constraint, then the English and Italian cases will follow automatically from their lack of reflexive counterparts to the possessive pronoun. Similarly, to exclude (*A proposito di Gianni*) **ho visto lui ieri* ‘(Concerning Gianni) I saw him yesterday’ one would say that presupposed information requires a clitic form like *lo* rather than *lui*, but what about English, where the same structure is grammatical? or Italian (17) above ... *sono andato da lui ieri* ‘I went to(see) him yesterday’? The obvious factor is the extent to which a clitic option is available in each language. If either the language lacks clitics (English), or cliticization is blocked (Italian *da lui* case), then -it appears- the full pronoun is grammatical. A framework based on violable constraints will accommodate these exceptions automatically. One based on inviolable constraints (Chomsky 1981, Reinhart and Reuland 1993, and others) one would need to explicitly state these exceptions, only to find that they duplicate independent properties of the language. For concurring conclusions see also Menuzzi (1999).

While Optimality Theory (OT) thus seems well suited as a general model, there are nonetheless two challenging areas. One is the existence of conjunctive effects. Consider that both locality and antecedent agreement can disqualify a reflexive thus licensing a pronoun, respectively as in *Gianni_i dice che Maria lo_i aspetta* ‘Gianni_i says that Maria awaits him_i,’ and *Io mi vedo* ‘I see me

(myself)’. However, we have also seen that both effects can combine in degrading the reflexive and correspondingly promoting the pronoun as in the Russian cases in (44b), (45b) compared with (27). OT does not automatically express conjunctive effects of this sort, due to its underlying assumption of ‘strict domination’. The latter would predict incorrectly that, where the REP (32a) dominates each of the locality and the agreement constraints involved, their combined violation should have no further consequence. Conjunctive effects have been treated as the exception rather than the rule in OT and have been attributed to ‘constraint conjunctions’ –a special provision. While space prevents me from addressing the issue in detail, here I will simply depart from the OT framework and assume instead that constraints have continuous numerical values such that their effects are naturally additive. This is consistent with Smolensky’s (1986) precursor to OT, ‘Harmony Theory’, as well as the ‘entailment’ based framework of Burzio (2005) that underlies the present approach, or the constraint-based approach of Burzio (1994b).

The second challenge for OT is that in certain cases, optimization turns out to be too much of a good thing. Specifically, consider that, as argued in Burzio (1996), (1998), locality conditions on reflexives appear to reduce to competition over antecedency along the lines of (49).

- (49) OPTIMAL ANTECEDENT: Interpret an anaphor as bound by the most prominent element, where ‘prominence’ is defined by an appropriate combination of (a-c) below.
- a. Thematic prominence: Agent, Experiencer >> Theme
 - b. Morphological prominence (Type of inflection agreeing with the antecedent): Indicative >> Subjunctive >> Infinitive >> Small clause
 - c. Syntactic prominence: Proximity to the anaphor

While I return below to exact reasons for this formulation, consider its account of (50).

- (50) Gianni_i dice che [Maria_j parla sempre di se_{*i/ j}]
*Gianni_i says that Maria_j talks always about self_{*i/ j}*

In (50), remote antecedent *Gianni* is not optimal because, while it is not more prominent than the local one *Maria* by either of (49a, b), it is less so by (49c). The problem is that when the optimization based on (49) is combined with the one based on the REP (32a) above, an incorrect result ensues, as in (51).

(51) /Gianni_i dice che Maria_j parla sempre di x_i/

	OPT. ANT.	REP
se _i	*	
* se _j		
lui _i		*
lei _j		*

In (51), the input is a structure with the intended meaning ‘Gianni says that Maria always talks about him (Gianni)’, but the output has the meaning ‘Gianni says that Maria always talks about herself’. The reason is that REP (32a) favors more economical *se* over the pronouns, while OPT. ANT. (49) will at the same time assign the local reading to *se*. Clearly, these two ingredients must

not mix, lest a sentence like (51) should incorrectly be inexpressible in any language that has reflexives. This type of problem for OT has been addressed in Wilson (2001a). In the rest of this subsection, I will first briefly review the evidence for the Optimal Antecedent theory in (49) and its application to Italian, and then examine Wilson's solution to the problem in (51).

In relating locality effects on anaphora to the role of local antecedents, we first need to consider that not all locality effects correspond to viable local antecedents. In particular, I have claimed in (35) above following Rizzi (1989) that the inability of anaphors to occur as subjects of tensed clauses results from a blocking effect due to verb agreement. I have argued further that possessives suffer from a related though weaker blocking effect due to their relation with the head noun. Yet neither verb agreement nor head nouns are possible antecedents. Note further, however, that this type of problem is not very different from that of a case like **John considered Mary fond of himself*, where Mary would be a blocker and yet is not a possible antecedent to *himself*. Rather than taking such cases to derail the general approach based on (49), it seems reasonable to take them to merely require that (49) apply at the correct level of abstraction, which excludes consideration of various specific properties. While I will not attempt to identify that level, I will just note that this problem is similar to that of (51), where calculations of different aspects of the representation must not interact. Whatever the correct solution to (51), it will then hopefully guide a solution to the issues just considered. Here, I will just put such residual issues for (49) aside, turning to the reasons favoring it. Drawing on Burzio (1996), I list the main reasons in (52), in the form of parallel observations concerning blockers and antecedents, suggesting blockers are in fact competing antecedents.

- (52) a. In LD anaphora, only subjects or experiencer objects can be antecedents.
- a'. Blocking effects also involve subjects or experiencer objects but not other objects.
- b. Across languages, complement types are gradiently opaque to LD anaphora according to the hierarchy below, where higher-ranked complements are more opaque:
- Indicative >> Subjunctive >> Infinitive >> Small clause
- Antecedents rank on the same scale, with subjects of higher-ranked complements
- b'. serving as better antecedents in LD anaphora.

The generalization in (52a) is well-known from the literature. Giorgi (1984) has shown in particular that while possessive *proprio* can have a non-experiencer object antecedent locally, as in (53a), it cannot do so in a LD relation, as shown in (53b) (my example).

- (53) a. Gianni_i ha ricondotto Maria_j alla propria_{i/j} famiglia
 'Gianni brought Maria back to (his/ her) own family'
- b. Gianni_i ha informato Maria_j [di aver parlato colla propria_{i/*j} famiglia]
 'Gianni informed Maria of having spoken with (his/ *her) own family'

With regard to (53a), I propose in sect. 4 below that, because of the low thematic prominence of

non-experiencer objects stated in (49a), such object antecedency constitutes a type of coreferential degeneracy comparable to that of (48) above, which we have seen requires stronger anaphoric forms. This would be why object antecedents are tolerated by English reflexives and by Italian *se-stesso*, but not by *se*, as observed by Giorgi (1984). Possessive *proprio* is consistent in behaving like a strong anaphor, whence both (48) above and (53a). This property of *proprio* is insufficient to rescue the object antecedent in (53b), however. The reason is that the terms of the competition are different. In (53a) the competing antecedent *Gianni* is thematically more prominent but no more local, and arguably less so. By contrast, in (53b) the covert subject of the infinitive (PRO) is both thematically more prominent under (49a) and more local satisfying (49c). The grammaticality of both variants of (53a) is consistent with (49), if we assume co-optimality as we did in other cases. Here, both antecedents would be co-optimal when all the factors are weighed in, including *proprio*'s just noted ability to partially rescue a weaker antecedent.

The extension of (52a) to experiencers is illustrated in (54a) from Giorgi (1984), while the role of experiencers as blockers is illustrated in (54b) from Graffi (1988).

- (54) a. A Maria_i sembrava che Gianni fosse innamorato della propria_i sorella
 ‘It seemed to Maria that Gianni was in love with (her)own sister’
- b. ? Pietro_i dice che (?*a Paolo) sembra che i propri_i antenati non siano stati degli eroi
 ‘? Pietro_i says that it seems (?*to Paolo) that (his)own_i ancestors were not heroes’

In (54a) the experiencer *Maria* can act as a remote antecedent, while in (54b) an intervening experiencer blocks a LD relation which would otherwise be only a bit marginal. (On the role of experiencers, see also Huang and Tang 1991).

The generalization and hierarchy in (52b) is also well-known from the literature. Cross-linguistically, any language allowing LD anaphora at one point of the hierarchy will automatically also allow it on all points to the right, though languages vary somewhat on the cutoff point. The examples in (55), from Burzio (1996 and refs.) illustrate the behavior of Italian *se*, showing improvement in progressing down the scale, while the pronominal option worsens, highlighting the the usual complementarity.³

- (55) a. Gianni_i diceva [che i giornali parlavano di *sé_i/ lui_i] (Indicative)
*Gianni_i said that the newspapers talked about *self_i/ him_i*
- b. Gianni_i sperava [che i giornali parlassero di ??sé_i/ lui_i] (Subjunctive)
Gianni_i hoped that the newspapers would talk about ??self_i/ him_i
- c. L'oratore_i persuase la folla [a venire verso di sé_i/ lui_i] (Infinitive)
the speaker_i persuaded the crowd to come towards self_i/ him_i

³ This discussion simplifies matters slightly since different types of small clauses behave differently. See Burzio (1996) for details.

- d. Manuel_i vide [il toro sopra di sé_i/ ?*lui_i] (Small clause)
*Manuel_i saw the bull upon self_i/ ?*lui_i*

The hypothesis of (52b') that the same hierarchy holding of blocking effects also holds for antecedents is defended in Burzio (1996). Supporting evidence includes a solution to an otherwise puzzling variation concerning possessives. Languages that do not feature subject-verb agreement like Chinese, Japanese and Malayalam exhibit a reflexive-pronoun overlap in cases like (56), contrasting with the reflexive-only pattern of Latin (42) and Russian (45a) above.

- (56) Chinese (Huang 1983) Zhangsan_i kanjian-le [ziji_i/ ta_i de shu]
Zhangsan_i saw self's_i/ his_i book

Burzio (1996) argues that the difference is due to the role of verb inflection/ agreement in contributing to the prominence of the antecedent, and that when this factor is controlled for, the cross-linguistic difference all but disappears, as shown by the Russian example in (57), from Timberlake (1979).

- (57) Roditeli proposili Serežu_i ne slušat' [svoju_i/ ?ego_i rakovinu] ...
parents ask Sereza not listen to self's_i/ ?his_i shell

The case in (57) differs from the one in (45a) above by the prominence of the antecedent, which is the subject of a tensed, inflected verb in (45a), versus the (PRO) subject of an uninflected infinitive in (57). Since (56) also features an uninflected verb, as is true of Chinese and other languages of that group quite generally, it then appears that the behavior of reflexive possessives is consistent across all languages, reducing to the competition between a local blocking effect as discussed above and an antecedent whose prominence varies on the scale in (52b).

While further cross-linguistic evidence for the role of the antecedent is given in Burzio (1996), the following Italian examples involving *proprio*, based in part on Giorgi (1984), (1991), also provide such evidence.

- (58) a. Ho visto [il professore_i accanto ai propri_i studenti]
I saw the professor_i near (his) own_i students
- b. *Ho visto [il professore_i accanto agli studenti [che seguivano il proprio_i corso]]
**I saw the professor_i near the students who were taking (his) own_i course*
- c. Il professore_i parlava agli studenti [che seguivano il proprio_i corso]
the professor_i spoke to-the students who were taking (his) own_i course

In (58a, b) *il professore* is the subject of a prepositional small clause complement, and hence a weak antecedent by (52b'). This results in ungrammaticality in (58b), where there is a competing local antecedent, the subject of the relative clause, but it has no effect in (58a) where there is no such competition. This paradigm is familiar from (53), where the weak antecedent was an object. The case in (58c) resolves the competition differently as (49b) predicts, because *Il professore* is now the subject of a tensed clause, and hence no longer a weak antecedent. The examples in (59) (adapted from Giorgi 1984, 322) show the similar effects of the 'thematic' prominence (49a).

- (59) a. Un figlio irresponsabile_i preoccupa (*coloro che amano) la propria_i madre
*an irresponsible son_i worries (*those who love) (his) own_i mother*
- b. Un soldato valoroso_i combatte coloro che minacciano il proprio_i paese
a brave soldier_i fights those who threaten (his) own_i country

In the case in (59a), where the antecedent is a ‘theme’ (and the anaphor is contained within the experiencer), grammaticality obtains only for the local variant, hence paralleling (58a, b). In (59b), however, where the antecedent is an agent, a comparable LD relation is grammatical.

In sum, while not all blocking effects represent viable antecedents, like the one due to verb agreement (35), there is considerable isomorphy between the two notions, as both respond to the thematic hierarchy of (52a, a’), and the morphosyntactic hierarchy of (52b, b’), strongly suggesting anaphor interpretation is a matter of identifying the most prominent element.

While the formulation in (49) is incomplete as it stands and would require quantifying precisely the respective contributions to prominence from each of (49a, b, c), the alternative of defining locality conditions without reference to the properties of the antecedent (Chomsky 1981, Reinhart and Reuland 1993 and others) would seem excluded by the facts just reviewed. Rather, such facts support a model along the lines of Rizzi’s (1990) ‘Relativized Minimality’ (RM), where elements of the same type compete, with the local one winning out. The exact formulation argued for departs even from RM, though, by treating locality as just one contributor to prominence, thus making the notion of competition all the more central.

As mentioned earlier and following Burzio (1996) I take the defining property of strictly local anaphors like English reflexives to be their overt agreement with the antecedent. It seems plausible that, unlike the covert agreement of *se*-type reflexives, overt agreement enhances the locality effect. In the context of (49), this would consist of greater weight assigned to (49c) for those reflexives, such that the effects of (49a, b) would be outweighed altogether and made irrelevant. Under these specific circumstances, (49) would thus reduce to the ‘Specified Subject Condition’ of Chomsky (1973), a local subject always winning over a more remote antecedent.

As we have noted, beside being strictly local, English reflexives are also not subject oriented, but we have also already seen that this conjunction of properties is not necessary. Due to the greater prominence of subjects over objects (by (49a, b)), subject orientation is the default case, but I have proposed that morphologically strong anaphors like English reflexives can make up for some degree of semantic deviancy, including object antecedency. The independence of the two properties is established by Italian *proprio*, which is a LD anaphor consistently with its lack of antecedent agreement, but is not subject-oriented, consistently with its being morphologically strong. Its ‘becoming’ subject oriented in LD contexts is just a further consequence of (49), as a remote (non-experiencer) object can evidently never be more prominent than a local subject.

Finally, I will note that clitic *si*, like all its Romance counterparts, totally excludes LD relations, a fact that I tentatively attribute to the special relation between clitics and verb inflection (see Anderson 2005), assuming that this is what forces the clitic to take the element related to that inflection, i.e. the local subject, as its antecedent.

Having thus concluded that Optimal Antecedent (49) is the correct general approach to locality conditions on anaphora, we return to the original problem of avoiding the incorrect interaction that would turn any structure like ‘Gianni says that Maria always talks about him (Gianni)’ into ‘Gianni says that Maria always talks about herself’ by simultaneous satisfaction of the REP (32a) (self > him) and the Optimal Antecedent (49) (local > remote) as in (51) above.

Wilson (2001a) has proposed that optimization must in this case proceed along two different directions independently, an approach he termed ‘Bidirectional Optimization’. Its application to the problem at hand is reviewed below, beginning with (60).

(60) Interpretive Optimization

a. /Gianni _i dice che Maria _j parla sempre di se _i /	OPT. ANT.	IO-FAITH
Gianni _i ... se _i	*	
☞ Maria _j ... se _j		*

b. /Gianni _i dice che Maria _j parla sempre di lui _i /lei _j /	OPT. ANT.	IO-FAITH
☞ Gianni _i ... lui _i		
☞ Maria _j ... lei _j		

The optimization on (60) takes the form for granted and finds its optimal interpretation. In (60a) the form features *se* and this receives a local interpretation due to Optimal Antecedent (49). If the LD interpretation were given in the input as in (60), it will nonetheless be overridden under the given ranking. In (60b), on the other hand, there is a different input, featuring a pronoun. Whatever interpretation, local or LD, is given in the input, it will win since Optimal Antecedent is irrelevant to pronouns as expressed by the shading. (60b) abstracts away from pronominal agreement, and thus simply adapts the gender of the pronoun (M *lui*/ F *lei*) to the interpretation.

The other optimization in the model is referred to as ‘Expressive’. In this case interpretation is taken for granted and the optimal expression of that interpretation is found by evaluating all the candidates that have that interpretation as previously determined by the Interpretive Optimization of (60), as in (61).

(61) Expressive Optimization

a. /Gianni _i dice che Maria _j parla sempre di x _i /	REP	IO-FAITH
☞ Gianni _i ... lui _i	*	

b. /Gianni _i dice che Maria _j parla sempre di y _j /	REP	IO-FAITH
☞ Maria _j ... se _j		*
Maria _j ... lei _j	*	

In the case of the LD interpretation of (61a), the candidate *Gianni_i... lui_i* is the only candidate and is thus automatically optimal despite a violation of Referential Economy, as the potentially alternative candidate *Gianni_i... se_i* was ruled out in (60a). In the local interpretation of (61b), however, there are two candidates that passed the optimization in (60), and the one with *se* will win by Referential Economy. The IO-FAITH violation in (61b) pertains to an input that would contain a pronoun, and does not affect the outcome.

Bidirectional Optimization has had an extensive following in the literature and a variety of applications (see Blutner 2000, Hendriks and de Hoop 2001, Beaver and Lee 2003, among others). However, motivated by a related issue in Phonology, Wilson (2000), (2001b) has since formulated a different variant of OT called ‘Targeted Constraints’ OT (TCOT). The motivating issue in Phonology is derivational opacity. For instance, the apocopated variant of Italian *venír(e) domani* ‘to come tomorrow’, exhibits a counterfeeding relation between apocope and stress assignment, seemingly requiring the order ‘stress assignment, apocope’. Orderless OT fails to express such relations, as would be easy to show, incorrectly predicting regular penultimate stress **vénir*. This problem bears conceptual similarity to the one just discussed, where the effects of the REP must be prevented from feeding those of Optimal Antecedent. TCOT solves the opacity problem by restricting candidate sets in principled ways (see Burzio 2000b for a synopsis) and is arguably more principled than the above Bidirectional Optimization, where the optimization order ‘Interpretive, Expressive’ of (60), (61) appears stipulated. An application of TCOT to the problem at hand has not been attempted, however, and space prevents such an attempt here. A preliminary investigation suggests that full applicability requires certain amendments to the original formulation, but see also Wilson (2006) for an independently amended version that may be applicable.

To conclude this section, I have argued that the expression of reflexivity is controlled by competition between the REP (32a) and various factors inhibiting reflexives some of which are tied to their exact morphology. Invariant reflexives like *si*, *se*, *proprio* restrict the person of their antecedent according to the hierarchy in (32b) and, aside for the clitic subset (*si*), they also function as LD anaphors. Reflexive possessive *proprio* breaks the usual complementarity with the corresponding pronoun *suo*, because it belongs to the morphologically ‘strong’ series as further discussed in the next section, and therefore has a different interpretive range than morphologically weaker *suo*. I have argued further that locality conditions on reflexives reduce to competition in terms of Optimal Antecedent (49), a more prominent antecedent prevailing over a less prominent one, where syntactically defined locality is a type of prominence, thematic prominence and morphological prominence of an agreeing inflection also contributing. I have hypothesized that the overt agreement of English-type reflexives and likewise Italian *se-stesso* enhances the role of syntactically defined locality, thus excluding LD relations with such reflexives. I have taken subject orientation to be automatic under Optimal Antecedent, while morphologically strong anaphors like English reflexives and Italian *proprio* can subvert it by seeking semantically disfavored interpretations. Finally, I have noted two challenges to the OT formal machinery, summation effects, and the need to segregate the effects of Optimal antecedents from those of the REP, reviewing the ‘Bidirectional Optimization’ solution to the latter problem, and hinting at the possibility of an alternative approach in terms of ‘Targeted Constraints’.

4. The Strong-Weak Dimension

4.1 The Weak Anaphora Principle

Burzio (1994a) identifies a correlation between the semantics of coreference and the form of a pronominal element, stated as in (62), where morphological strength is defined by the scale in (63).

(62) **Weak Anaphora Principle (WAP):** Inherent coreference \Leftrightarrow Weak morphology

(63) **Scale of Morphological strength:**

- | | | | |
|----------------|-------------------|---------------------|------------------------------------|
| 1. \emptyset | 2. clitic
(si) | 3. Argument
(sé) | 4. Argument-adjunct
(se-stesso) |
|----------------|-------------------|---------------------|------------------------------------|

This is of course highly reminiscent of the clitic-weak-strong scale discussed above for pronouns and identified by Cardinaletti and Starke (1999) (C&S). This resemblance is no accident, as I will argue below. C&S identify one more point, represented by the *egli/esso* series as well as by a-prepositional dative *loro*, which would be intermediate between 2 and 3 in (63), while points 1 and 4 are additional to their scale.

The WAP (62) is seen at work in the cases in (64), a paradigm due to Zribi-Hertz (1980).

- | (64) | Italian | French |
|------|---|--|
| a. | Vittorio ha tutta la squadra con sé (*stesso) | Victor a toute l'équipe avec lui (*même) |
| | ‘V. has the whole team with him’ | |
| b. | Vittorio ride di sé (stesso) | Victor rit de lui (même) |
| | ‘V. laughs at himself’ | |
| c. | Vittorio chiacchiera con sé ??(stesso) | Victor bavarde avec lui ??(même) |
| | ‘V. chatters with himself’ | |

The predicate in (64) ‘x has y with z’ is inherently reflexive in the sense that its semantics implies ‘x = z’. By contrast, the predicate in (64c) ‘x chatters with y’ is inherently irreflexive (one normally chatters with others). Plausibly, the predicate in (64b) is neutral. The variation in (64) thus reveals that morphological strength is complementary to the semantic bias towards coreference, as (63) states. At the same time, the comparison between Italian and French reveals that the effect is orthogonal to the distinction between pronouns and reflexives, Italian using reflexive *sé*, while French, which restricts the equivalent form *soi* to impersonal antecedents (as noted in (31) above), uses pronoun *lui*. The French, pronoun-based paradigm is of course duplicated in Italian for persons 1 and 2, which we have seen employ pronouns across Romance, hence *me (stesso)*, etc. Nonetheless, it appears that cross-linguistically, elements like *stesso/même*, possessives *proprio* and English *own* are inherently anaphoric, resulting in an anaphor

even when attached to a pronoun, this attachment being the historical source of English reflexives as was noted above (van Gelderen 2000).

The independence of the WAP (63) from the reflexive-pronoun distinction is also evident in the Italian/ English parallelism in (65).

- | | | | |
|---------|---|--|----------------------------|
| (65) a. | Gianni (*si) apre gli occhi
Gianni (*to self) opens the eyes | | John opens his (*own) eyes |
| b. | Gianni *(si) taglia i capelli
Gianni *(to self) opens the eyes | | John cuts his (own) hair |

Both Italian and English resort to a weaker option on the scale in (65a), which is inherently reflexive in the sense that it expresses an ‘action from within’, compared with the semantics of (65b), which admits external agents. While it is not clear why the two languages employ different intervals of the scale in (63), aside from the fact that Italian expresses inalienable possession with a dative, while English does so with a possessive, these facts show that the effect is not specific to either pronouns (English case) or reflexives (Italian case). English cases patterning like (65a) also include inherently reflexive idioms like *John lost his (*own) cool*, or *John was in his (*own) twenties* while at the opposite pole are inherently irreflexive idioms like *John_i was getting on his_i *(own) nerves*. English too features the ‘zero’ option analogously to Italian ‘the eyes’ of (65a) in cases like *I hit him on the head*, the expression ‘hit x on y’s head’ inherently implying ‘x = y’, though the variant ‘...his head’ is also attested.

English and Italian pattern even more closely in the already noted *Gianni_i is his_i *(own) doctor* of (48) above, while comparison with Russian (66a) and Icelandic (66b), both using a reflexive rather than a pronoun reveals once again the irrelevance of the reflexive-pronoun distinction for the WAP (62).

- | | |
|---------|---|
| (66) a. | Ivan svoj *(sobstvennyj) vrach
<i>Ivan (is) self's *(own) doctor</i> |
| b. | Jón er sinn *(eiginn) læknir
<i>Jón is self's *(own) doctor</i> |

In addition, the effect obtained with pronoun *suo/ his* in (48) can be duplicated with reflexive *se* in the manner of (67a), while (67b) shows that there is no comparable WAP effect (clitic and non clitic being both well-formed) when there is no coreferential relation.

- | | |
|---------|---|
| (67) a. | Gianni era stato il medico di sé ??(stesso)
<i>Gianni had been the doctor of self ??(same)</i> |
| b. | Gianni era stato il medico di lei/ ne era stato il medico
<i>Gianni had been the doctor of her/ of-her had been the doctor</i> |

The semantic deviancy that triggers the use of stronger forms in (48), (65), (67a) is evidently due to making a DP coreferential with one of its parts, the predicate nominal in these examples

having the structure [_i *his_i doctor*] or [_i *the doctor of self_i*]. This coreference results from transitivity of coreference, the pronoun or reflexive being coreferential with the subject, while the subject is also coreferential with the whole predicate by the predicational relation ‘x is y’.

Several other cases of inherent irreflexivity where the WAP (62) can be seen at work are reviewed next, while further cases of inherent reflexivity are considered in the next subsection. The case in (68) involves a kind of near-identity.

- (68) Gianni non **si* è piú / non è piú sé ??(stesso)
*Gianni not *self-is anymore not is anymore self ??(same)*
 ‘Gianni is no longer himself’

In order for identificational sentences like (68) to be informative, one has to be able to entertain two independent entities *x*, *y*, the sentence stating that in fact *x* equals, or not, *y*. Anaphora is quasi-paradoxical in such contexts because it implies that *x* equals *y* independent of the semantic content of the sentence, thus pre-empting it. Stronger form *se-stesso* is the only grammatical option in (68), clitic *si* being sharply ungrammatical, though perhaps for partly independent reasons (see discussion of (84) below). We see here again that English reflexives behave consistently as stronger forms, as in (64c) above⁴.

Another case of inherent irreflexivity brought to light and analyzed in a different perspective by Giorgi (1991) is illustrated in (69).

- (69) Gianni ha messo Maria_i contro ??di sé_i / contro se-stessa_i / contro la propria_i famiglia
Gianni has set Maria_i against ??self_i / against self-same_i / against (her) own_i family

The WAP (62) can explain the need for the stronger form *se-stesso*, based on the observation that preposition *against*, like all transitive prepositions, is inherently irreflexive, the expression ‘x (is) against y’ normally entailing ‘x≠y’. The grammaticality of *proprio* in (69) is consistent with its status as a stronger anaphor, but it follows more trivially from the fact that the irreflexivity of ‘x against y’, is inapplicable to the subconstituent of *y* as *proprio*, which has its own reference.

Cases like (70), discussed in Jackendoff (1992) also involve a type of imperfect coreference, and are thus arguably similar to the case in (68).

- (70) Ringo fell on himself
Interpretation: ‘Ringo Starr, the famous Beatle, fell on the wax statue of himself at the London M.me Tussaud’s Wax Museum’

As noted in Burzio (1994a), Italian counterparts are possible at a comparable level of

⁴ There is, however, one residual difference between English and Italian which I will not attempt to unravel, which is that pronoun *lui* is also reported as quasi-grammatical in a context like (68) (Cordin and Calabrese and 1988; Burzio 1994a), more so than English *him*, as in *John is no longer him?*(self)*.

marginality, only with stronger anaphor *se-stesso*, and not with weaker options, as shown in (71), where ‘S’ subscripts refer to *surrogate* coreference, like reference to a statue of *x*, where *x* is the antecedent.

- (71) a. ? Ringo cadde su *se-stesso_S*
 ‘Ringo fell on himself_S’
- b. ?? Ringo cadde su di *sé_S*
 ‘Ringo fell on himself_S’
- c. * Ringo *si_S* è sputato addosso
 ‘Ringo spat on himself_S’
- d. * Ringo *si_S* è rotto un braccio
 ‘Ringo broke his_S arm’

We can verify in this case as well that the issue is not specific to reflexives, clitic pronouns also excluding surrogate coreference, in contrast to non-clitics, as shown in (72).

- (72) ?* Ringo temeva che lo_S portassero via / ?... che portassero via anche lui_S
 ‘Ringo feared that they would take him_S away/ ... that they would take him away
 too’

So called ‘PRO’, understandable as a case of null morphology in (63), also sharply excludes surrogate coreference., as shown in (73).

- (73) * Ringo never turns the heat on without PRO_S beginning to melt

Giorgi (2007) has shown that, by contrast, possessive *proprio* does tolerate surrogate coreference, but only in local contexts, as shown in (74).

- (74) a. Ringo ammirò il *proprio_S* viso
 Ringo admired (his)own_S face
- b. Ringo temeva che i visitatori danneggiassero il *proprio_(*S)* viso
 *Ringo feared that visitors may damage (his)own_(*S) face*

From the present perspective, the asymmetry in (74) is totally parallel to the one in (53). As a morphologically stronger anaphor (in the proposed analysis [*e*]-*proprio*), possessive *proprio* behaves like English reflexives both in taking an object antecedent as in (53a), and in expressing surrogate coreference as in (74a). Both cases require stronger anaphors under the WAP (62) because of the degeneracy of the antecedent, either because of the thematic scale in (49a), or because of the deviancy inherent in surrogate coreference. Both cases are blocked in LD relations as in (53b), (74b), for the same reason. A degenerate antecedent will always lose in the competition with a local antecedent. As Giorgi (2007) notes, LD anaphora *always* excludes

With this characterization of the WAP in mind including the fact that it makes no specific reference to anaphors or pronouns, we now take up the properties in (77) ((9) above), which were taken as diagnostic of weak pronoun status following Cardinaletti and Starke (1999) (C&S).

(77) **Properties of weak pronouns**

- | | | | |
|------------------------|---------------------------|-----------------------------|------------------------------|
| a. No coordination: | *Egli e Maria | ‘He and Maria’ | (cf.: Lui e Maria) |
| b. No new information: | Chi è? *Egli | ‘Who is it? Him’ | (cf.: Lui) |
| c. No modification: | *Solo egli... | ‘Only he...’ | (cf.: Solo lui...) |
| d. [-human] referents | Con esso (quell’asse) ... | ‘With that (that board)...’ | (cf.: Con lui (*quell’asse)) |

Although C&S attempt to derive (77a-d) from the specific syntactic structure that they attribute to weak pronouns, a point to which I return, I will first attempt to relate them to the WAP (62). It is immediately obvious that (77b) is within the scope of the WAP. Information that is ‘new’ is by definition not entailed by contextual semantics, making new-information contexts relevantly analogous to inherently irreflexive contexts, thus requiring strong forms. Indeed, reflexives seem to respond similarly to the pronouns in (77b), *Chi ha riconosciuto Gianni nella foto? ??sé/ se-stesso* ‘Who did Gianni recognized in the picture? ??self/ self-same’. Consider too that Topicalizations also represent a type of new information, replicating the pattern of (77b), **Egli/ Lui, non cederà mai* ‘He(*weak/ strong), will never give in’. Cordin (1988, 495) has independently noted that topicalizations prefer stronger *se-stesso* over *sé*. It seems safe to conclude, then, that (77b) is relatable to the WAP (62).

Turning to the ban on modification (77c), consider that typical contexts like ‘only he, ‘even he’, etc. involve implicit reference to a set of individuals (‘only x’ meaning ‘for all x, there is only one x such that...’). If a set constitutes the interpretive background, then strong forms are plausibly needed to single out the individual relative to that background. This interpretation of modification (77c) helps come to grips with coordination (77a) as well. The reason is that coordination rather obviously also involves a set of individuals, hence plausibly requiring strong forms of pronouns for the same reasons as modification. The behavior of reflexives seems consistent with that of pronouns in (77a), but is perhaps less clear-cut. Clitic *si* resists both modification and conjunction like all clitics, while Cordin (1988, 596) argues that, indeed, *se-stesso* is preferred over *sé* in coordinations. As for modification, it is not categorically banned with *sé*, witness *Gianni parla solo di sé (stesso)* ‘Gianni talks only about self (same)’, though many contexts seem to prefer *se-stesso*, e.g. *Nella foto, Gianni ha riconosciuto solo sé??(stesso)* ‘In the photo, ‘Gianni recognized only self ??(same)’. However, this may be a case where pronouns and reflexives differ for principled reasons. Given the proposed interpretation of modification and coordination as individuation within a set, reflexives may well differ from pronouns since their individuation is mediated by an antecedent. I will tentatively assume this to be on the right track, turning to the last point (77d). Here, it is clear that pronouns and reflexives differ, reflexives showing no animacy restriction, witness (78).

- (78) *Nell’incidente, l’auto girò su di sé/ su se-stessa*
in the accident, the car spun on self/ on self-same

To account for this difference, it will be sufficient to simply follow C&S's analysis. They argue that strong pronouns like *lui* differ from weaker pronouns like *esso* or clitic *lo* by having a degree of autonomous reference, independent from antecedents, and that [+human] is the default value for such reference. Since reflexives are *not* independently referring by definition, such default assignment will automatically be irrelevant to reflexives, whence (78).

In sum, the properties diagnosed by (77) intersect with those that the WAP (62) aims to capture. The contexts in each of (77a-c) are evidently such as to require greater expenditure of morphological resources on a par with the various inherently irreflexive contexts reviewed previously. The most direct similarity to inherent irreflexivity was found to hold for the 'new information' case (77b), while some link can also be plausibly established with the 'coordination' and 'modification' cases (77a, c). Neither the WAP (62) nor C&S's rather similar 'Economy of Representations' principle make any specific reference to either pronouns or reflexives, predicting parallel behaviors of the two classes. While we have seen this to be generally true, we have also seen some partial divergence in contexts (77a, c) plausibly attributable to the different functions played by antecedents with the two classes, while the effect in (77d) seems totally dependent on lack of antecedency, and hence not pertinent to reflexives for that reason.

Turning now briefly to C&S's own proposal, they argue that the three-way distinction clitic-weak-strong that they report corresponds exactly to a natural three-way distinction in terms of syntactic structure, with strong forms corresponding to maximal projections, while other forms are reduced projections of various levels. They argue further that the behavior relative to the properties in (77) follows from those specific structural analyses, for example by assuming that only maximal projections can be coordinated (77a). By contrast, the present attempt has been to link semantics with morphological structure directly. While it is beyond present goals to make a detailed comparison between the two proposals and while syntactic differences along C&S's lines would not be particularly inconsistent with the present approach, the evidence presented in this section poses certain challenges to the C&S approach. One is the four-point scale in (63). As I noted, C&S show that it needs one more point, to represent the *esso* and *egli* series. The question then is, given their claim that syntactic structure is well-suited to characterize exactly three options, how could the existence of five options be accommodated? Another question is what role syntactic encoding could play in some of the cases reviewed above. For instance, no known property of syntactic structure could force *sé* to refer exclusively to the remote subject, skipping the local one in (69) above *Gianni_i ha messo Maria contro di sé_i* 'Gianni_i set Maria against self_i', exclude *own* in *John opens his (*own) eyes* of (65a), or exclude surrogate coreference in (71d) *Ringo si è rotto un braccio* 'Ringo broke his arm'. Reference to the semantic relation with the antecedent is necessary in these cases, and a link between semantics and morphology seems sufficient, with little imaginable advantage to a syntactic mediation.

4.2 Unaccusative *si*

Given the above discussion, it goes without saying that tests such as the one in (79) once aimed to establish that certain instances of *si* are not 'true' reflexives no longer hold.

- (79) Gianni *si sbaglia* / *...*sbaglia* Piero / *...*sbaglia se-stesso*
Gianni self-mistakes/ *... *mistakes Piero/* *...*mistakes self-same*

It was argued in Burzio (1986, 39) (see also Cordin 1988, 601; Anderson 2005, 243f.; and others) that clitic *si* in (79) cannot be an argument since it does not alternate with overt arguments. The WAP (62) now voids that conclusion, implying instead that verbs such as the one in (79) are inherently reflexive, just as they are traditionally termed. In this interpretation, ‘to be mistaken’ would be a type of action-from-within, a bit like ‘opening one’s eyes’, which also invokes the WAP as we have seen.

The lists in (80) are a sample of verbs that behave like the one in (79)⁶.

- (80) i. a. accorgersi, ammutinarsi, arrampicarsi, arrendersi, congratularsi, dimenticarsi,
notice mutiny climb-up surrender congratulate forget
 disperarsi, inchinarsi, lagnarsi, pentirsi, ricordarsi, ritirarsi, sentirsi
despair bow complain repent remember withdraw feel
- b. addormentarsi, affaccendarsi, ammalarsi, anneggiarsi, appartarsi, approssimarsi,
fall asleep get busy get sick get foggy move apart approach
 assentarsi, vergognarsi
be absent be ashamed
- ii. a. cambiarsi, dimettersi, disturbarsi, esercitarsi, impantanarsi, iscriversi, licenziarsi,
change resign bother train bog down enroll resign
 permettersi, raccogliersi, riprendersi, sposarsi, vestirsi, radersi, prepararsi,
dare gather recover marry dress shave prepare
- b. affaticarsi, aggravarsi, allarmarsi, ambientarsi, annoiarsi, arricchirsi,
get tired get worse get alarmed get adjusted get bored get rich
 deprimersi, emozionarsi, imbrogliarsi, impaurirsi, impietosirsi,
get depressed get emotional get mixed up get scared take pity
 incuriosirsi, ingannarsi, interessarsi, offendersi, ubriacarsi, stancarsi
get curious be mistaken take an interest take offense get drunk get tired

The subdivisions in (80) reflect the following criteria. Unlike the verbs in (i), those in (ii) have transitive variants, e.g. *cambiare il bimbo* ‘change the kid’ (i.e. his clothes), while still not allowing a non-clitic reflexive **Cambia sé* ‘He changes self’. In each of (i) and (ii), subset (a) has simple intransitive counterparts in English, while subset (b) has periphrastic constructions. Absence of English reflexives in these cases reflects their incompatibility with inherent reflexivity under the WAP.

As argued in Burzio (1994a), the inherent reflexive analysis of the items in (80) is extendable to presumed ‘unaccusatives’ like *rompersi* as in *La finestra si rompe* ‘The window breaks (self)’.

⁶ As noted in Burzio (1994a), alongside of inherently reflexive verbs, there are also inherently reciprocal ones like *incontrarsi* ‘meet (each other)’. As predicted by the WAP, these exclude morphologically complex reciprocal expressions like English *each other* and Italian *l’uno coll’altro* ‘the one with the other’ (studied in Belletti 1982).

thus dispensing with another formerly puzzling use of *si*.⁷ This case is in fact just like the one in (80ii) in allowing a transitive variant (*Gianni rompe la finestra* ‘Gianni breaks the window’), and all of these cases would express actions-from-within on the proposed analysis. Transitive/ inherently reflexive alternations would result from alternations in the semantic role of the subject, varying between an external agent, cause or experiencer (transitive), and an internal one (inherent reflexive). At the same time, the various tests diagnosing unaccusative structures for both inherent reflexives and de-transitive structures like *rompersi* do not challenge the present unification with regular reflexive *si*, since the latter also submits to the same tests, as noted in Burzio (1986, 413). For instance the parallelism of de-transitive *rompersi* and true unaccusatives in participial small-clause relatives, e.g. *Il ramo [rottosi] durante la bufera* ‘The branch (that had) broken-self during the storm’ parallel to unaccusative *Lo studente [arrivato] di recente* ‘The student (who had) arrived recently’ is matched by regular reflexive *L’individuo [accusatosi] di furto* ‘The individual (who had) accused-self of larceny’. One must therefore seek to link reflexive *si* with unaccusativity in general, not just in the inherent-reflexive or de-transitive cases.

A natural way to establish such link with unaccusativity is to take *si* to be deployable only with predicates that either require or tolerate an inherent reflexive reading in accordance with the WAP, and to take such reading to effectively equate the two θ -roles involved (echoing Giorgi 2007), such that the θ -role bearing argument could indifferently appear in either position, subject, or object. Object realization would then yield unaccusative behavior as in the noted small clause relatives, where only object relativization is possible, cf. **Lo studente [telefonatosi] stamattina* ‘The student (who had) phoned-me this morning’ (Burzio 1986, 412f.).

Returning to a comparison with English, like inherent reflexives, de-transitives like *break* also do not appear with reflexives in the latter language (*The window broke (*itself)*), for the same reasons. By contrast, languages that have weaker reflexives on the scale in (63), regularly employ them in both de-transitive and inherent reflexives cases, as shown in (81), despite the fact that these forms are not like the true clitics of the Romance languages (Cardinaletti 1991 and refs.).

- (81) a. (Dutch) Het gerucht verspreiddle zich
 the rumor spread self
- b. (German) Er schämt sich
 he shames self

Note furthermore that, since it was argued above that English pronouns are lower on the scale in (63) than their reflexive counterparts, and that the WAP can force pronouns as in (76b) *John had the whole team with him(??self)*, one might expect **John_i shames him_i* to be a match to German (81b), by parity of reasoning. While incorrect for English, this prediction is nonetheless correct

⁷ Other detransitives do not feature *si*, e.g. *La barca affonda* ‘The boat sinks’. For an attempt to capture the semantic differences between the two classes, see Legendre and Smolensky (to appear).

for its close relative Frisian, as shown in (82), from Everaert (1991).

- (82) a. Hy_i beoardliet himsels_i/ *him_i
*he_i judges himself_i / *him_i*
- b. Hy_i rette himsels_i/ him_i ta foar syn opkommen
he_i prepared himself_i him_i for his performance
- c. Hy_i skammet *himsels_i/ him_i
*he_i shames *himself_i / him_i*

The paradigm in (82) is very much like the one (64), with inherent reflexivity plausibly varying from negative to maximal in going from (a) to (c). The difference is that the progression in (82) also exhibits a cross-over from reflexive to pronoun, due to the weight asymmetry in the two series. While I attempt no formal characterization of the English-Frisian difference, in the present perspective the latter could be seen as due to competition between the REP (32a) that seeks to avoid pronouns, and some restriction on the morphological manipulations required to produce items with reduced θ -grids, like unaccusative *change*, or passive adjectives like *ashamed*. It seems plausible that the latter types of operations are strictly lexical and hence not available with complex expressions like *look around x*, or *have x with y*, leaving the pronoun as the only option in these cases, as in (76) above.

The inherent irreflexivity of cases like (82a) and (64a) above raises the question of whether there is a more general class of inherently irreflexive verbs comparable to the inherently reflexive class in (80). One subclass of the ‘psychological’ predicates studied in Belletti and Rizzi (1988) (B&R) appears to fit this profile. B&R note a strong contrast between two minimally different situations exemplified in (83) and schematically characterized as on the right hand side.

(83)		Antecedent	<i>si</i>
a.	Gianni si teme <i>Gianni self-fears</i>	✓ Experiencer	Theme
b.	*Gianni si è colpito per la sua prontezza <i>*Gianni self-has struck for his quickness</i>	* Theme	Experiencer

The case in (83a) is parallel to *Gianni fears x* with *si* playing the Theme role of *x*, and taking Experiencer *Gianni* as its antecedent. On the other hand, the case in (83b) is parallel to *x struck Gianni (psychologically)*, with *si* playing the Experiencer role and referring back to the Theme *x*. B&R skillfully attempt to reduce the generalization underlying the asymmetry in (83) to an independent generalization to which I return below that *si* is banned with derived subjects, arguing that Theme subjects such as the one in (83b) are always derived from underlying objects, as in passive or unaccusative structures. The present discussion, however, raises the possibility that reflexivity in local cases like (83b) is directly degraded by the lack of thematic saliency of the antecedent, in the same way as happens in LD relations (see (59a) above). The semantically ‘strained’ character of the reflexive relation in (83b) would exclude clitic *si* under the WAP as in

irreflexive cases (82a), (64a). As B&R point out, (83b) becomes grammatical with *se-stesso*, as both the present view and their proposal would predict, while (83b) further contrasts minimally with *Gianni si é colpito con un bastone* ‘Gianni hit himself with a rod’, whose thematic structure is Agent-Theme rather than that of (83b), and is thus grammatical on either account as well.

These remarks can in no way supersede the wealth of evidence that B&R provide in support of their syntactic analysis, but they do suggest the possibility of an alternative pending re-evaluation of the rest of the evidence (for alternatives, see also Pesetsky 1987). In the same exploratory vein, the present approach will also suggest an alternative account of the very generalization to which (83b) would reduce under B&R’s analysis, namely the just mentioned generalization that clitic *si* is excluded with all derived subjects. Consider the cases in (84).

- (84) a. *I ragazzi si sono stati presentati
the children to-each-other-were introduced
- b. *Gianni si sembra intelligente
Gianni to-self-seems intelligent
- c. *Essi si erano fedeli
they to-each-other-were faithful

To account for these cases and others, Rizzi (1986a) proposed the ‘Chain Condition’ in (85), as part of a surface-based theory of θ -role assignment.

- (85) * $NP_i \dots [si_i \dots e_i \dots]$

In (85) e_i represents the trace of the moved NP_i . A coreferential clitic would interfere with the antecedent-trace relation, preventing correct assignment of θ -roles. The cases in (84a, b) would thus be blocked on standard assumptions that they involve NP-movement, as would the case in (84c) on the assumption of Stowell (1978), Burzio (1986) and others that the verb ‘be’ is a Raising verb, like ‘seem’ of (84b).⁸ Consider, however, that the proposed application of the WAP to (83b) will now extend directly to (84a) whose subject is also a Theme. The question is whether it may also extend to (84b, c). This extension would seem problematic, since here the surface subject is not an underlying object, but rather the underlying subject of the complement, which is presumably not a Theme. One would therefore have to define weak antecedency on a derivational basis, such that, in *Gianni seems...*, *Gianni* is a weak antecedent because the

⁸ Note that unaccusative analyses of cases like (79) *Gianni si sbaglia* ‘Gianni self-mistakes’ can be made compatible with (85) despite what may appear to be a ‘derived subject’. Rizzi (1986a) assumes, with others, that *si* is in these cases not a real reflexive, hence immune to the chain condition. In the present framework, these cases can be made consistent with the Chain Condition through some appropriate refinement. In the latter example (79) there is only one empty category, anteceded by *si* but fillable by the subject *Gianni* due to the match of θ -roles as I suggested. In the cases in (84) there are two distinct empty categories, one linked to *si*, the other linked to the subject. The issue is moot under the text suggestion that there is no Chain Condition.

structure is thematically equivalent to *It seems that Gianni...*, where *it* cannot properly antecede. With such a thematically deficient antecedent, the WAP will then work as in (84a) or (83b), excluding morphologically weak *si*. As Rizzi shows, morphologically stronger forms yield grammaticality, as we would expect. This approach would effectively recast the properties of (85), which also keeps track of derivation by reference to the trace, into semantic terms. This maneuver may seem gratuitous, aimed solely at accommodating the WAP. In fact, it is well motivated, as I show next.

Contrasts such as the one in (86) led Belletti and Rizzi (1988, 322) to formulate the restriction in (87) (adapting Giorgi's 1984 analysis).

- (86) a. Gianni_i sembra [e_i essere efficiente] ai proprii_i colleghi
Gianni_i seems to be efficient to (his)own_i colleagues
- b. *Gianni_i sembra [e_i essere efficiente] a chiunque sostenga la propria_i candidatura
Gianni_i seems to be efficient to anyone who supports (his)own_i candidacy

(87) A LONG DISTANCE (LD) anaphor must be bound from a θ -position.

The provision in (87) would exclude the LD case in (86b), but let the local case in (86a) stand. Aside from the stipulated reference to LD relations, the condition in (87) is exactly parallel to the just proposed definition of weak antecedency. Positions with no underlying θ -roles give rise to weak antecedents. The point of relevance is that the effect targeted by (87) does not reduce to the Chain Condition (85). The reason is that in structures like (86b) the anaphor is not intervening between the trace and its antecedent. Hence the Chain Condition (85) is insufficient and (87) is necessary. By contrast, the present version of (87) will be sufficient, hence dispensing with the Chain Condition altogether. In the present analysis, Weak antecedency will thus have two automatic reflexes. One is via the WAP (62). A semantically/ thematically weak antecedent makes reflexivity not inherent to the sentence's semantics, forcing strong anaphors. The other reflex is via Optimal Antecedent (49). Weak antecedency and LD relations do not mix, because local antecedents have an edge as stated in (49c).

In sum, the literature has shown certain restrictions, listed in (88) to hold for both clitic anaphors and LD anaphora, the case in (88c) being due to Giorgi (2007) in particular.

(88) ***si/ *LD anaphora**

- | | | |
|----|--|------------------|
| a. | Thematically weak antecedents (Themes) | See (83b), (59a) |
| b. | Antecedents in non- θ positions | See (84b), (86b) |
| c. | Surrogate coreference | See (71d), (74b) |

I have suggested that each of these cases makes a reflexive relation semantically weak, simultaneously excluding *si* by the WAP, and LD anaphora by Optimal Antecedent. By contrast, while the B&R analysis of psychological verbs reduces the case in (88a) to the one in (88b) (theme subjects are moved), Rizzi's (1986a) Chain Condition accounts only for half of (88b), requiring (87) above for the other half. It also does not account for (88c). Reference to semantic conditions thus seems necessary, and I have suggested it will once again be sufficient.

It is possible that the WAP (62) may be the basis for the noted fact that only clitic *si* and not *se* can receive an impersonal interpretation, since the latter interpretation represents a semantic default rather than being induced by specific morphosyntactic features. This suggestion remains speculative, however. Another important fact will remain without a formal account altogether in the present context, namely the ability of clitic *si*, but not *se* to receive a reciprocal interpretation. For a proposal, see Kayne (2000, 8.2.2)

5. Conclusion

In this chapter, I have argued that the behavior of the Italian pronominal and anaphoric system can be characterized successfully only via a system of violable constraints, since the distribution of each element is controlled by competition. At the level of the inventory, I have argued that members compete over paradigmatic space, whence the various pattern of syncretism (e.g. (20) above). As for the use of each element in context, I have argued that pronouns compete with reflexives, while morphologically weak forms compete with morphologically strong ones, incorporating the basic claims of Cardinaletti and Starke (1999). The first competition is controlled by a principle of referential economy that favors reflexives, interacting with several factors that disqualify them, including gaps in the inventory (as with possessives), person-agreement conditions, and locality conditions on the interpretation of reflexives, which I have argued substantially reduce to competition among antecedents. The second type of competition was argued to be controlled by a construction's semantic biases, with a bias in favor of a coreferential relation demanding morphological economy, while a bias against it will demand morphologically stronger or more explicit forms. Just like referential economy, morphological economy is also regularly superseded by inventory gaps (e.g. absence of clitic forms, as in English). It can also be superseded by syntactic conditions on the use of clitics as we have seen. A system of inviolable constraints would meet insurmountable challenges given these types of interaction.

References

- Anderson, Stephen (2005) *Aspects of the Theory of Clitics*, Oxford.
- Aranovich, Raúl (2007) 'Optimizing Verbal Agreement in Mordvin', *Studia Linguistica* 61(3) pp. 185–211.
- Baerman, , Matthew (2005) 'Typology and the formal modelling of syncretism' in Geert Booij and Jaap van Marle (eds.) *Yearbook of Morphology 2004*. Springer, Dordrecht, 41-72.
- Beaver, David and Hanjung Lee (2003) 'Form-Meaning Asymmetries and Bidirectional Optimization'. In J. Spenader, A. Eriksson and Osten Dahl (eds.), *Variation within Optimality Theory*, University of Stockholm, pp. 138--148.
- Belletti, Adriana (1982) 'On the Anaphoric Status of the Reciprocal Construction in Italian', *The Linguistic Review*, 2.2, 101-137.
- Belletti, Adriana and Luigi Rizzi (1988) 'Psych-Verbs and Theta Theory' *Natural Language and Linguistic Theory* 6.3, 291-352.
- Blasco Ferrer, Eduardo (1984) 'L'estensione del pronome riflessivo *SE* in Sardo e nelle lingue romanze', *Revue de linguistique romane* 43 12-35.
- Blutner, Reinhard (2000) 'Some aspects of optimality in natural language interpretation'. *Journal of Semantics* 17: 189–216.

- Brandi, Luciana and Cordin, Patrizia 1981. 'Dialecti e italiano: un confronto sul parametro del soggetto nullo', *Rivista di grammatica generativa* 6: 33-87.
- Bresnan, Joan (2001) 'Explaining Morphosyntactic competition', in M. Baltin and C. Collins (eds.), *Handbook of Contemporary Syntactic Theory*, 11-44. Oxford: Blackwell.
- Burzio, Luigi (1986) *Italian Syntax: A Government-Binding Approach*, Reidel.
- Burzio, Luigi (1989) 'Prosodic Reduction,' in C. Kirschner and J. Decesaris eds. *Studies in Romance Linguistics*, 51-68. John Benjamins, Amsterdam.
- Burzio, Luigi (1991) 'The Morphological Basis of Anaphora', *Journal of Linguistics* 27, 81-105.
- Burzio, Luigi (1992) 'On the Morphology of Reflexives and Impersonals', in Christiane Lauerfer and Terrell Morgan, eds. *Theoretical Analyses in Romance Linguistics (LSRL XIX)*, John Benjamins, Amsterdam, 399-414.
- Burzio, Luigi (1994a): 'Weak Anaphora', in G. Cinque, J. Koster, L. Rizzi and R. Zanuttini, eds. *Paths towards Universal Grammar. Studies in honor of Richard S. Kayne*, Georgetown University Press, 59-84.
- Burzio, Luigi (1994b) *Principles of English Stress*, Cambridge University Press.
- Burzio, Luigi (1996) 'The Role of the Antecedent in Anaphoric Relations', in Robert Freidin, ed. *Current Issues in Comparative Grammar*, Kluwer, Dordrecht, 1-45. 1998
- Burzio, Luigi (2000a): 'Anatomy of a Generalization,' in Eric Reuland, ed. *Arguments and Case: Explaining Burzio's Generalization*, John Benjamins, Amsterdam. 195-240.
- Burzio, Luigi (2000b) 'Segmental Contrast meets Output-to-Output Faithfulness', *The Linguistic Review* 17, 2-4, 368-384.
- Burzio, Luigi (2005) 'Sources of Paradigm Uniformity', in Laura J. Downing, T. A. Hall, Renate Raffelsiefen, eds. *Paradigms in Phonological Theory*. Oxford: Oxford University Press: 65-106.
- Burzio, Luigi (2007) 'Phonologically conditioned syncretism', in *Selected Proceedings of the 5th Décembrettes: Morphology in Toulouse*, ed. Fabio Montermini, Gilles Boyé, and Nabil Hathout, 1-19. Somerville, MA: Cascadilla Proceedings Project.
- Burzio, Luigi and Niki Tantalou (2007) 'Modern Greek Accent and Faithfulness Constraints in OT', *Lingua*, Vol 117/6 pp 1080-1124.
- Calabrese, Andrea (1995) 'Syncretism Phenomena in the Clitic systems of Italian and Sardinian Dialects and the Notion of Morphological Change' *Proceedings of the North East Linguistic Society* 25, vol. 2, 151-174. GSLA, U. Mass. Amherst.
- Calabrese, Andrea. (1998). Some remarks on the Latin case system and its development in Romance. In José Lema and Esthela Treviño (eds.) *Theoretical analyses on Romance languages*. Amsterdam/Philadelphia: John Benjamins. 71-126.
- Cardinaletti, Anna (1991) 'On Pronoun Movement: The Italian Dative *Loro*', *Probus* 3.1, 127-185.
- Cardinaletti, Anna, and Michal Starke. (1999). 'The typology of structural deficiency: A case study of the three classes of pronouns'. in Henk van Riemsdijk (ed) *Clitics in the Languages of Europe. Empirical Approaches to Language Typology*, Mouton de Gruyter, 145-233.
- Cardinaletti, Anna and Lori Repetti (2008) 'Proclitic vs Enclitic Pronouns in Northern Italian Dialects and the Null-Subject Parameter', in: *Syntactic Variation: The Dialects of Italy*, Roberta D'Alessandro, Adam Ledgeway, Ian Roberts, eds. Cambridge: CUP.
- Castelfranchi, Cristiano, and Domenico Parisi (1975) 'Per un solo *si*' in *Studi per un modello del linguaggio*, 195-227 Roma.
- Chomsky, Noam (1973) 'Conditions on Transformations,' in S.R. Anderson and P. Kiparsky,

- eds. *A Festschrift for Morris Halle*, Holt, Rinehart and Winston, New York, 232-286.
- Chomsky, Noam (1981) *Lectures on Government and Binding*. Foris, Dordrecht.
- Cinque, Guglielmo (1988) "On *Si* Constructions and the Theory of Arb" *Linguistic Inquiry*, 19.4. 521-581.
- Cordin, Patrizia (1988) 'I Pronomi Riflessivi', in Lorenzo Renzi, ed. *Grande grammatica italiana di consultazione*. Il Mulino, Bologna. Volume I, 595-603.
- Cordin, Patrizia and Andrea Calabrese (1988) 'I Pronomi Personali', in Lorenzo Renzi, ed. *Grande grammatica italiana di consultazione*. Il Mulino, Bologna. Volume I, 535-592.
- D'Alessandro, Roberta (2007) *Impersonal si constructions*, Berlin/New York: Mouton de Gruyter.
- Dardano, Maurizio, and Pietro Trifone (1985) *La Lingua Italiana*. Zanichelli, Bologna.
- Downing, Laura J., T. A. Hall, Renate Raffelsiefen, eds (2005). *Paradigms in Phonological Theory*. Oxford: Oxford University Press.
- Everaert, Martin (1991) 'Contextual Determination of the Anaphor/Pronominal Distinction', in Koster, Jan and Eric Reuland, eds., *Long Distance Anaphora*, Cambridge University Press, 77-118.
- Giorgi, Alessandra (1984) 'Towards a Theory of Long Distance Anaphors: A GB approach', *The Linguistic Review* 3. 307-361.
- Giorgi, Alessandra (1991) "Prepositions, Binding and θ -marking," in Koster, Jan and Eric Reuland, eds., *Long Distance Anaphora*, Cambridge University Press.
- Giorgi, Alessandra (2007) 'On the nature of long distance anaphors,' *Linguistic Inquiry*, 38.2 321-342.
- Gelderen, Elly van (2000) *A History of English Reflexive Pronouns*, John Benjamins.
- Graffi, Giorgio (1988) 'Structural Subject and Thematic Subject', *Linguisticae Investigationes* XII:2 397-414.
- Grimshaw, Jane (2001) 'Optimal Clitic Position and the Lexicon in Romance Clitic Systems.' In G eraldine Legendre, Jane Grimshaw, and Sten Vikner (eds.), *Optimality-Theoretic Syntax*. MIT Press, Cambridge. 205-240
- Halle, Morris, and Alec Marantz (1993) 'Distributed Morphology,' in Kenneth Hale and Samuel J. Keyser, eds. *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*. MIT Press, 111-176.
- Halle, Morris, and Alec Marantz (1994) 'Some Key Features of Distributed Morphology,' in Andrew Carnie and Heidi Harley (eds.) MIT Working Papers in Linguistics 21, MIT Press, 275-288.
- Hebb, Donald O. (1949) *The Organization of Behavior: A Neuropsychological Theory*, John Wiley and Sons.
- Hendriks, Petra and Helen de Hoop. (2001) 'Optimality Theoretic semantics', *Linguistics and Philosophy* 24: 1-32.
- Huang, James (1983) "A Note on the Binding Theory," *Linguistic Inquiry*, 14.3, 554-551.
- Huang, James and Jane Tang (1991) 'The Local Nature of the Long-Distance in Chinese', in Koster, Jan and Eric Reuland, eds., *Long Distance Anaphora*, Cambridge University Press, 263-282.
- Jackendoff, Ray (1992) 'Mme. Tussaud Meets the Binding Theory', *Natural Language and Linguistic Theory* 10, 1, 1-31.
- Kayne, Richard (2000) *Parameters and Universals*, Oxford.
- Maiden, Martin (2000) 'Phonological Dissimilation and Clitic Morphology in Italo-Romance', in Lori Repetti (ed.) *Phonological Theory and the Dialects of Italy*, John Benjamins,

- Amsterdam, 169-189.
- Manzini, Maria Rita. (1983) *Restructuring and Reanalysis*. Unpublished Ph.D. dissertation, MIT.
- Manzini, Maria Rita. (1986) 'On Italian *Si*', *Syntax and Semantics 19: The syntax of pronominal clitics* ed. Hagit Borer, 241-262. New York: Academic Press.
- Manzini, Maria Rita and Savoia, Leonardo M. (2005). *I dialetti italiani e romanci. Morfosintassi generativa*, Alessandria: Edizioni dell'Orso.
- Meillet, André, (1973) *Introduction à l'Etude Comparative des Langues Indoeuropéennes*, University of Alabama Press.
- Menuzzi, Sergio (1999) *Binding Theory and Pronominal Anaphora in Brazilian Portuguese*, Holland Academic Graphics, The Hague.
- Parisi, Domenico (1976) 'Lo sta a suo come si sta a proprio' *Rivista di Grammatica Generativa* 1, 99-102.
- Pescarini, Diego (2005) 'Types of Syncretism in the Clitic Systems of Romance', paper presented at BIDE '05, Bilbao-Deusto University. *International Journal of Basque Linguistics*, in press.
- Pesetsky, David (1987) 'Binding Problems with Experiencer Verbs,' *Linguistic Inquiry* 17.126-140.
- Prince, Alan, and Paul Smolensky (1993) *Optimality Theory: Constraint Interaction in Generative Grammar*, Report no. RuCCS-TR-2. New Brunswick: Rutgers University Center for Cognitive Science. Published (2004): Blackwell.
- Rappaport, Gilbert C. (1986) 'On Anaphor Binding in Russian,' *Natural Language and Linguistic Theory*, 4, 97-120.
- Reinhart, Tanya and Eric Reuland (1993) 'Reflexivity,' *Linguistic Inquiry* 24, 657-720.
- Riemsdijk, Henk van (1999) 'Clitics: A state-of-the-art report', in Henk van Riemsdijk (ed) *Clitics in the Languages of Europe. Empirical Approaches to Language Typology*, Mouton de Gruyter, 1-30.
- Rizzi, Luigi (1976a) 'Ristrutturazione', *Rivista di Grammatica Generativa*, 1, 1-54.
- Rizzi, Luigi (1976b) 'La 'Montée du sujet', le *si* impersonnel et une règle de restructuration dans la syntaxe italienne', *Recherches Linguistiques*, 4, 158-184.
- Rizzi, Luigi (1986a) 'On Chain Formation,' in Borer, Hagit, ed. *The Syntax of Pronominal Clitics, Syntax and Semantics # 9*, Academic Press, New York, 63-95.
- Rizzi, Luigi (1986b) 'Null Objects in Italian and the Theory of *pro*,' *Linguistic Inquiry*, 17.3, 501-557.
- Rizzi, Luigi (1986c) 'On the Status of Subject Clitics in Romance,' O. Jaeggli and C. Silva-Corvalan (eds.) *Studies in Romance Linguistics* 391-419.
- Rizzi, Luigi (1989) 'On the Anaphor-agreement effect,' *Rivista di Linguistica* 2,1, 27-42.
- Rizzi, Luigi (1990) *Relativized Minimality*, MIT Press.
- Rohlf, Gerhard (1969) *Grammatica Storica della Lingua Italiana e dei Suoi Dialetti*, Einaudi, Torino.
- Smolensky, Paul (1986) 'Information processing in dynamical systems: foundations of Harmony theory. In D.E. Rumelhart and J.L. McClelland (Eds.) *Parallel Distributed Processing: Exploration in the Microstructure of Cognition. Volume 1. Psychological and Biological Models*:194-281. MIT Press.
- Steriade, Donca (1999) 'Lexical Conservatism in French Adjectival Liaison,' in B.Bullock, M. Authier and L. Reed (eds.) *Formal Perspectives in Romance Linguistics*, John Benjamins, pp. 243-270.

- Stowell, Timothy (1978) 'What was there before *there* was there?' in D. Farkas, W. Jakobson and K. Todrys (eds), *Papers from the Fourteenth Regional Meeting*, Chicago Linguistics Society.
- Tekavčić, Pavao (1980) *Grammatica Storica dell'Italiano*, Il Mulino, Bologna
- Timberlake, Alan (1979) 'Reflexivization and the Cycle in Russian' *Linguistic Inquiry* 10.1. 109-141.
- Wayment, Adam, Luigi Burzio, Donald Mathis, Robert Frank (2007) 'Harmony versus Distance in Phonetic Enhancement', in Emily Elfner and Martin Walkow (eds), Proceedings of NELS 37. GLSA Publications, Amherst. MA.
- Wilson, Colin (2000) *Targeted Constraints: An Approach to Contextual Neutralization in Optimality Theory*, Ph.D. Dissertation, Johns Hopkins University.
- Wilson, Colin (2001a) 'Bidirectional Optimization and the Theory of Anaphora', in Géraldine Legendre, Jane Grimshaw, and Sten Vikner (eds.), *Optimality-theoretic Syntax*, MIT Press, Cambridge, MA, 465-507.
- Wilson, Colin (2001b) 'Consonant Cluster Neutralization and Targeted Constraints', *Phonology* 18.1, 147-197.
- Wilson, Colin (2006) 'Unbounded spreading is myopic', ms. UCLA.
- Zribi-Hertz, Anne (1980) 'Coréférences et pronoms réfléchis: notes sur le contraste *lui/ lui-même* en français,' *Linguisticae Investigationes* IV:1, 131-179.