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The syntax of Romance auxiliaries

0. Introduction*

The tense system of many modern European languages, including Germanic and Romance, is formally heterogeneous: it uses inflection for some tenses, and a combination of inflection and syntactic constructions for others, called "compound tenses". The latter are made up of *two* verbs, called "auxiliary" and "main verb" respectively. Similar constructions are characteristic of passive sentences. In spite of this formal similarity, the compound tenses and the passive are seldom investigated from an integrative perspective. This is, of course, not surprising, since there are striking functional differences between the compound tenses and the passive. One might even think that there is no common aspect on which an integrative perspective can be based. But the lexicalist approach to syntax, and especially the recent interest in all kinds of untypical verbs (light verbs, restructuring verbs, verbs in complex predicates) reveal such an aspect: in fact auxiliaries are untypical verbs of a specific kind, and we can jointly analyze the syntax of compound tenses and of the passive as the syntax of auxiliaries.

In this paper, I am going to look at the auxiliary syntax of Spanish, Italian and French, in that order. Spanish, in this respect, is quite simple: it presents the phenomena which are central to auxiliary syntax and can thus be used in order to discuss issues which are fundamental also for Italian and French (and other languages, which will not be discussed here). Italian, on the other hand, is very complex. It has a rich inventory of auxiliaries, and, for each auxiliary, there are restrictions of use, the nature of which is not obvious. French will be discussed only briefly, because its basic features are not different from those encountered in Spanish and Italian. Its analysis, however, will support some of the results of the previous sections.

1. Spanish

As has been said above, the syntax of Spanish auxiliaries is relatively simple. There are only two auxiliaries, one for tense and another one for the passive. The main verb is a participle, identical in form for both auxiliaries, except the fact that it shows agreement only when used in passive constructions; in compound tenses it is invariable.

Auxiliaries may have, and in fact mostly have, non-auxiliary counterparts, as is the case for

* I want to thank Bruce Mayo, who checked the English text, and Vieri Samek-Lodovici, who checked and completed my Italian data. I am also grateful to both for stimulating discussion.- The lexical entries and rules which I will propose have all been tested on the Constance LFG workbench, which has been developed by Bruce Mayo.

have and *be* in English. This is clearly the case for the Spanish passive auxiliary, *ser*, which is phonologically and morphologically identical with the copula-verb *ser* 'to be'¹. The Spanish tense auxiliary *haber*, however, is different from the verb for 'to have', which is *tener*. It is true that there is another verb *haber*, which is an impersonal verb of existence, but this verb is morphologically different from the copula, since, besides its defective paradigm, it has the form *hay* where the auxiliary has *ha*. It can thus be said that Spanish has a specialized tense auxiliary.

The problems raised by the Spanish auxiliaries are the following:

- What are the c-structures and the f-structures of verb phrases which contain auxiliaries?
- How does the tense value arise from structures containing the temporal auxiliary?

These questions will be treated in the following sections.

1.1 The structure of auxiliary verb phrases

1.1.1 The lexical category of auxiliaries

Morphologically, Spanish auxiliaries are verbs; *ha* in (1) is the present indicative of *haber*, *será* (2) is the future of *ser* :

- (1) Pedro ha visto el castillo
'Pedro saw the castle'
- (2) El castillo será vendido
'The castle will be sold'

They also behave as such in c-structure:

- They agree with the subject in number and person.
 - They combine with clitic forms and with the particle of negation just as other verbs do:
- (3) Pedro lo ha visto
'Pedro saw it'
- (4) El castillo no será vendido
'The castle will not be sold'

They combine with a participle, the (lexically given) subject or object of which is represented by the subject of the sentence. We will therefore need a c-structure rule of the following kind.

¹The other Spanish copula verb, *estar*, is specialized for the expression of aspect (cf. Lema 1995); it is not used in genuine passive sentences. When it occurs with what looks like a passive participle, as in *La puerta está abierta*, the participle has been converted into an adjective, and the sentence means 'the door is open'.

- (5) VP → V VP
 ↑=↓ ↑=↓

Of course the functional information contained in the lexicon must make sure that V is an auxiliary, that the head of VP is a participle and that the auxiliary and the participle match with each other.

1.1.2 Auxiliaries and grammatical functions

The relationship between the subject of the sentence and the (covert) subject or object of the participle may suggest an analysis in terms of complementation and control, a solution which has actually been proposed for French compound tenses by Schwarze 1990: 10f and by Berman & Frank 1996: 123. Abeillé 1993: 94, 263 also discusses this possibility, but she correctly points out that the participle does not behave as a complement, inasmuch as it cannot be replaced by a pronoun. This holds also for Spanish; cf.:

- (6) ver el castillo, *lo* quiere
 '[to see the castle]_i, CLITIC-OBJECT-PRONOUN_i he wants'
- (7) *¿qué* quiere? - ver el castillo
 '[what]_i does he want? - [to see the castle]_i'
- (8) *visto el castillo, *lo* ha
 '[seen the castle]_i, CLITIC-OBJECT-PRONOUN_i he has'
- (9) **¿qué* ha? - visto el castillo
 'what_i has he? - [seen the castle]_i'

It must be added that one can make analogous observations regarding the passive auxiliary; the participle with which it combines is not a complement, since it cannot be replaced with a pronoun:

- (10) Despues de cenar será rezado el rosario
 'After dinner the rosary will be prayed'
- (11) *Despues de cenar lo será el rosario
 'After dinner CLITIC-OBJECT-PRONOUN was the rosary'
- (12) **¿*Despues de cenar, qué será el rosario? - Rezado.
 'After dinner, [what]_i will be the rosary? - [Prayed]_i'

This property of auxiliaries may be interpreted as a consequence of another, more general fact, namely, that auxiliaries are not predicates. In fact, there are other differences between control constructions and auxiliary verb phrases. In control constructions, semantic restrictions on the subject depend on the controller as well as on the non finite verb of the construction, whereas in sentences with auxiliaries semantic restrictions on the subject never depend on the auxiliary. Furthermore, in control constructions, conditions for consistency and completeness are defined with respect to the controller, whereas in sentences with auxiliaries, these conditions

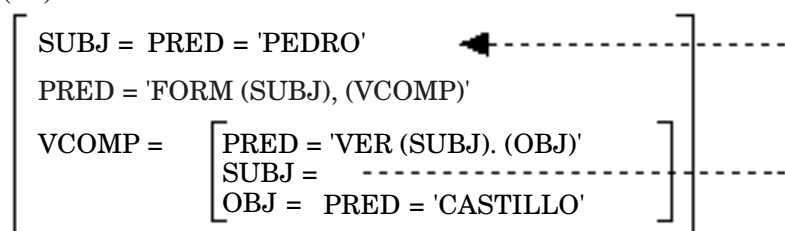
depend on the participle, never on the auxiliary².

We will therefore claim that control verbs must be predicates (thus making explicit a condition on control verbs which is obviously implied in Bresnan 1982c) and, more generally, that only those verbs which are predicates may govern grammatical functions.

There is an additional reason not to represent auxiliary verb phrases as control constructions. If we represent the tense auxiliary as an empty predicate FORM which governs a SUBJECT and a VCOMP, then we get f-structures in which the predicate of the main verb is encapsulated in the value of VCOMP, as in (13) and (14):

(13) Pedro ha visto el castillo

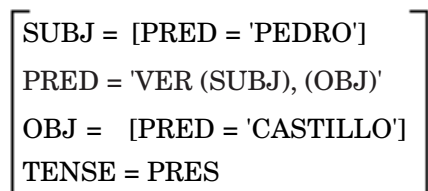
(14)



This means that sentences with compound tenses and sentences with simple tenses would have completely different functional structures; cf. (14) and (16):

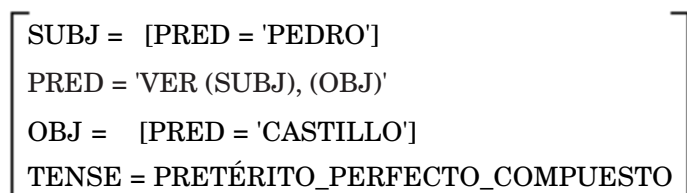
(15) Pedro ve el castillo

(16)



But since the functional difference between (13) and (15) is merely a difference of tense, this difference should be expressed only by the value of the attribute TENSE, not by a difference of hierarchy. This means that for (13) we want to get an f-structure like (17):

(17)



Now, if we postulate that only predicates may govern grammatical functions, and if it is true

²The fact that auxiliaries are not predicates was already implied in Schwarze 1990, but this idea was obscured by the way it was expressed: auxiliaries were represented by an empty predicate FORM, which, although it had no semantic arguments, could have grammatical functions in its lexical form.

that auxiliaries are not predicates, then an auxiliary cannot have a subject. Consequently, the subject of the sentence is the subject of the main verb, i.e. of the participle, and the functional relationship between the auxiliary and the subject is just agreement³.

1.1.3 The participle

Spanish, like other languages which have compound tenses and an analytical passive, collapses two functionally different verb forms in a morphologically identical participle. Thus, just as with the finite forms of the verb *saludar* 'to greet', the form *saludado* may govern a subject that represents an agent and an object, representing a patient. Used in this way, the form is a past participle. The form *saludado* may also govern a subject which is a patient; in this use, it is a passive participle. We represent these facts by an attribute PART(ICIPLE) which has the values PAST and PASS(IVE). (Being interested in the syntax of auxiliaries, we will not discuss the nature of the relationship between both participles; instead we will take them as given.)

In order to account for the fact that the two Spanish auxiliaries select different participles, we write lexical entries which contain the following information:

- the identity of the auxiliary
- its agreement features
- the kind of participle it selects

To illustrate this, here are some examples of lexical entries. (18) and (19) are entries for inflected forms of the auxiliaries *haber* and *ser*:

(18) ha, V,
 (↑ AUX) = HABER
 (↑ SUBJ NUM) = SG
 (↑ SUBJ PERS) = 3
 (↑ PART) =c PAST

(19) es, V,
 (↑ AUX) = SER
 (↑ SUBJ NUM) = SG
 (↑ SUBJ PERS) = 3
 (↑ PART) =c PASS

As examples for participles, consider the lexical entries for *llegado* 'arrived' (20), which, being an intransitive verb, can only be a past participle, and for *visto* 'seen', which may be a past (21) or a passive participle (22):

³I am indebted to Miriam Heintzeler (oral doctoral thesis), who, as a reaction to Schwarze 1990, proposed a representation of French temporal auxiliaries analogous to (17). - Butt et al. 1996 advocate an analogous analysis of temporal auxiliaries in English, French and German.

- (20) *llegado*, V
 (↑ PRED) = "Llegar<(↑ SUBJ)>"
 (↑ PART) = PAST
- (21) *visto*, V
 (↑ PRED) = "Ver<(↑ SUBJ), (↑ OBJ)>"
 (↑ PART) = PAST
- (22) *visto*, V
 (↑ PRED) = "Ver<(↑ SUBJ)>"
 (↑ SUBJ NUM) = SG
 (↑ SUBJ GEN) = MAS
 (↑ PART) = PASS

It should be noticed that these entries also account for facts of agreement: in Spanish, the past participle is invariable, whereas the passive participle must agree with the subject.

The preceding analysis of the structure of auxiliary constructions remains to be completed in such a way that interaction between auxiliaries is possible, but correctly restricted, like in (23):

- (23) *El torador ha sido herido*
 'The bull-fighter has been wounded'

We will not go into the details of this question; it may suffice to say that ungrammatical combinations can be prevented, as a side-effect, by the way in which we will treat tense in the following section.

1.2 Tense

Unlike what holds for all other verbs, the tense of the temporal auxiliary is not the tense of the sentence: *ha* e.g. is in the present tense and *habrá* in the future, but the tense of (24) is the "compound perfect" (in the Spanish terminology: *pretérito perfecto compuesto*), and the tense of (25) is the "compound future" (the *futuro perfecto*):

- (24) *Pedro ha visto el castillo*
 'Pedro saw the castle'
- (25) *Pedro habrá visto el castillo*
 'Pedro will have seen the castle'

One could think of various ways of resolving this problem. Let us consider first a solution which has been proposed for English by Falk 1984: 498. Falk assumes that the auxiliary *have* is in the present tense, i.e. is characterized by the equation TENSE=PRESENT. Hence there is no difference in tense between the auxiliary *to have* and its non-auxiliary counterpart. He further assumes that auxiliary *to have* represents a predicate, 'perfect', i.e. that it has the lexical form (↑PRED) = 'PERF <(VCOMP)(SUBJ)'. Thus f-structures of sentences containing auxiliary *have* contain the equations TENSE=PRESENT and PRED='PERF...', which seem to allude to the traditio-

nal English term "present perfect". However adequate this analysis may be for English, it is not transferable to the analysis of Spanish. Such f-structures imply that *to have* is some kind of an aspect verb, comparable to verbs like *to begin*, *to continue* etc., and may therefore represent a predicate. We have tried to show, however, that Spanish auxiliaries are not predicates. And there is another reason not to apply Falk's analysis to Spanish: functionally, the Spanish compound tenses have the same status as simple tense forms. They may convey aspectual information, but this also holds for simple tense forms, like the imperfect⁴.

A second way to resolve the contradiction between the tense of the temporal auxiliary and the tense of the sentence is to assign the sentence tense directly to the auxiliary⁵. This amounts to stating, e.g., that a form like *había* is an imperfect when it is not an auxiliary, as in (26), and a compound imperfect (*pretérito pluscuamperfecto*) when it is, as in (27):

- (26) Había gente en la playa
'There were people on the beach'
- (27) Don Quijote había perdido el juicio
'Don Quixote had lost his judgment'

This solution may be satisfactory with respect to semantic interpretation, but it is far less so with respect to inflectional morphology. One could say, without exaggerating, that it amounts to ignoring the very nature of morphology. A morphological system, as a matter of fact, defines well-formed grammatical words and assigns them functional information. These assignments are very regular and largely unambiguous, except in cases of idiosyncrasy, like English *fish*, which is both singular and plural, or when a given morphological segment is ambiguous, like Spanish *-amos*, which can be both present and past (*pretérito perfecto simple*), *cantamos* meaning 'we sing' and 'we sang'. However, the tense problem with temporal auxiliaries derives neither from idiosyncrasy nor from general ambiguity of a segment.

A third solution becomes possible, if we adopt a distinction between morphological tense, derived in inflectional morphology, and functional tense, derived in the syntax. Morphological tense is a property of the verb, it is generated by rules or directly encoded in the lexicon, depending on whether the verb is regular or irregular. Functional tense is a property of the simple sentence. It may have various sources: if there is an ordinary tensed verb, functional tense equals morphological tense. If there is no tensed verb, as in languages where the copula is optional, it is introduced by default or inferred from the context. And if there is a temporal auxiliary,

⁴Schwarze 1990 proposes an attribute ASPECT, which is independent from the attribute TENSE and also different from the predicate of genuine aspect verbs. It has the values IMMINENT, PROGRESSIVE, ACCOMPLISHED and accounts for French aspect periphrases like *aller faire qc*, *être en train de faire qc*, *venir de faire qc*. A similar analysis may be made for Sp. aspect periphrases such as *voy a marcharme* 'I am going to leave'.

⁵A similar proposal was made by Bierwisch for German in a talk given on a conference "On Time" at the Max Planck Institute for Psycholinguistics in Nijmegen in February 1996: He analyses *habe* in a sentence like *ich habe gelesen* as perfect tense.

functional tense must be created by syntax. Within the present framework, this can easily be done: functional tense can be derived by annotations in c-rules, as in (28), which generates the compound perfect:

$$(28) \quad \text{VP} \rightarrow \begin{array}{c} \text{V} \\ \uparrow = \downarrow \\ (\uparrow \text{ TENSE}) = \text{PPCOMPUESTO} \\ (\uparrow \text{ AUX}) =_{\text{c}} \text{HABER} \\ (\downarrow \text{ MORPH_TENSE}) = \text{PRES} \end{array} \quad \text{VPX} \\ \uparrow = \downarrow$$

The annotations to the V node state that the functional tense is the compound perfect (*pretérito perfecto compuesto*), if the verb is the auxiliary *haber* and if the morphological tense of *haber* is the present. An analogous rule must be formulated for each of the four compound tenses of Spanish. And of course there must be some mechanism which collapses morphological and functional tense for all other verbs.

This rule also allows for interaction between the two auxiliaries: Since the annotation to the VP node only requires that there be a past participle, it does not exclude a VP with *sido* 'been', the participle of the passive auxiliary. On the other hand, ungrammatical sequences of tense auxiliaries as in (29) can be prevented by not characterizing *habido*, the morphological participle of *haber*, as a tense auxiliary:

(29) *Pedro ha habido visto
lit. 'Pedro has had seen'

We have thus concluded the analysis of Spanish and can go on to Italian and French, commenting on them only where they differ from Spanish.

2. Italian

With respect to the syntax of auxiliaries, Italian is much more complex than Spanish. It has two temporal and three passive auxiliaries, and all auxiliaries have non-auxiliary counterparts; cf. the following table⁶:

⁶Compare the inventory of Spanish auxiliaries and their non auxiliary counterparts:

<i>verbs</i>	<i>auxiliaries</i>		<i>full verbs</i>		
	temporal	passive	'to be' (copular)	'to have'	'to be' (aspectual)
<i>haber</i>	+				
<i>tener</i>				+	
<i>ser</i>		+	+		
<i>estar</i>					+

(30) verbs	auxiliaries		full verbs			
	temporal	passive	'to be'	'to have'	'to come'	'to go'
<i>avere</i>	+			+		
<i>essere</i>	+	+	+			
<i>venire</i>		+			+	
<i>andare</i>		+				+

The way in which the choice between these auxiliaries takes place will be discussed in the following sections⁷.

2.1 The selection of the temporal auxiliary

In Italian, descriptively speaking, the choice between *avere* 'have' and *essere* 'be' as temporal auxiliaries is mainly determined by two factors: verbs lexically select either 'have' or 'be', and all verbs have 'be' when they are reflexivized. Additionally, lexically encoded selection may be overridden by processes of restructuring. I will discuss some⁸ of these facts in detail.

2.1.1 Unaccusativity and auxiliary selection

With respect to the selection of the temporal auxiliary, Italian verbs fall into two classes. The larger class is made up of those verbs which always take *avere*, unless they are reflexivized. The vast majority of Italian verbs belong to this class; it is the unmarked case. The second class comprises verbs which must or may take *essere*. These verbs, most of which are listed in Salvi 1988, are more than 90 in number⁹; they obviously are the marked case. Almost half of these verbs show what Levin & Rappaport 1995 call "various behavior": they may have a direct object, and in this use they select *avere*. It has repeatedly been pointed out (Schwarze 1990: 14ff, Abeillé 1993, Berman & Frank 1996, all with regard to French) that facts of this kind can be treated by appropriate features which must unify within the verb phrase¹⁰.

⁷Another difference from Spanish concerns agreement: Italian has optional agreement between the past participle and the direct object. We will not discuss this in the present paper.

⁸I will not discuss auxiliary selection in complex predicates with restructuring verbs such as *potere*, *volere*, *andare*, *venire*, since it has been thoroughly analyzed in the LFG framework; cf. Andrews & Manning 1993: 42f, 60f.

⁹Completing Salvi's list, I counted 92 verbs which must or may take *essere*, but there certainly are more, especially de-adjectival verbs with the prefix *in-*, a group also mentioned by Salvi.

¹⁰For the sake of illustration, I will just give lexical entries for two past participles, *arrivato* 'arrived' and *nuotato* 'swum':

<i>arrivato</i> , V,	(↑ PRED) = "Arrivare<(↑ SUBJ)>"
	(↑ SUBJ NUM) = SG
	(↑ SUBJ GEN) = MAS
	(↑ PART) = PAST
	(↑ AUX) = ESSERE
<i>nuotato</i> , V,	(↑ PRED) = "Nuotare<(↑ SUBJ)>"
	(↑ PART) = PAST
	(↑ AUX) = AVERE

The attribute AUX also appears in the entries of the auxiliaries, analogously to what has been said for Spanish in

But treating auxiliary selection only as an agreement feature may seem to be an unsatisfactory solution. It is well known (cf. Salvi 1988: 49ff) that the selection of *essere* is one of the properties of the so-called unaccusative verbs. In fact, the selection of *essere* correlates with other properties, e.g. the grammaticality of:

- *ne* related to postverbal subjects (*ne sono arrivati molti* 'many of them have arrived')
- the past participle as a modifier of its subject (*le lettere arrivate ieri* 'the letters which arrived yesterday')
- the past participle and its subject as an absolute construction (*partiti gli amici, me n'andai anch'io* 'the friends having gone, I also left').

It is also generally accepted that the unaccusative analysis applies to reflexivized verbs. But for an analysis of the syntax of auxiliaries, there would be a risk of begging the question by just saying: unaccusative verbs take *essere*. Even Salvi 1988: 50, who strongly advocates the unaccusative analysis, remarks that the copula verb *essere*, which takes *essere* as its auxiliary, is not an unaccusative verb. It is necessary to look at the verbs independently of the unaccusative analysis in order to find out if there is a general explanatory rule or principle for auxiliary selection.

The following considerations are based upon the hypothesis that auxiliary selection in Italian is triggered by lexical semantics, and, more precisely, that it depends on the role properties of argument structure. My approach is thus similar to the attempt of Levin & Rappaport Hovav 1995 to derive grammatical functions from argument structures by so-called linking-rules. But unlike these authors, I will not take it for granted that the selection of *essere* is a criterion for unaccusativity. Instead, I consider linking rules and auxiliary selection as independent, parallel relationships. Both linking rules and auxiliary selection take argument structures as their input, but the output is different in nature, and the criteria may not be fully identical, even if there is no doubt that they overlap.

2.1.2 A clear situation: agentless role configurations

If we consider exclusively role configurations in argument structures, there seems to be just one clear rule for the selection of *essere*. It may be formulated as follows:

1.1.3 above, and according. Rule (28) must be adapted for Italian in such a way that it allows for two temporal auxiliaries; it runs as follows:

$$\begin{array}{ccc}
 \text{VP} \rightarrow & & \text{VPX} \\
 & \text{V} & \uparrow = \downarrow \\
 & \uparrow = \downarrow & \\
 (\uparrow \text{ TENSE}) = \text{PASSATO_PROSSIMO} & & \\
 (\uparrow \text{ AUX}) & & \\
 (\downarrow \text{ MORPH TENSE}) = \text{c PRES.} & &
 \end{array}$$

The rule of agentless role configurations:

If the role configuration of an argument structure does not contain an agent, the auxiliary is *essere*.

This rule captures lexical selection to a large extent: it accounts for the lexical auxiliary selection of

- one- or two-place verbs the subject of which refers to an entity which just undergoes a process or is just a term in a relation: *appartenere a*, 'to belong to' *arrossire* 'to blush', *cicatrizzare* 'to heal', *crescere* 'to grow', *dipendere da* 'to depend on', *impallidire* 'to become pale', etc.
- all copula verbs: *essere* 'to be', *rimanere*, *restare* 'to stay', *diventare*, *divenire*, 'to become', *sembrare*, *parere* 'to seem'
- all verbs of existence and presence: *esistere* 'to exist', *nascere* 'to be born', *morire* 'to die', *apparire*, *comparire* 'to appear', *scomparire* 'to disappear'
- all impersonal verbs, i.e. verbs which only have a proposition and optionally a dative: *bastare* 'to be enough', *bisognare* 'to be necessary', *accadere*, *capitare*, *succedere* 'to happen', *convenire* 'to be suitable'

The rule also largely accounts for variation of auxiliary selection. There are 'be'-verbs which vary between intransitive and transitive, such as *affondare* 'to sink', *annerire* 'to blacken', *aumentare* 'to increase', *avanzare* 'to advance', *cambiare* 'to change', *cessare* 'to cease', *cominciare* 'to begin' etc. These verbs all require *avere* in their transitive variant, which, in fact, always implies an agent; cf. e.g.:

(31) La nave è affondata
'the ship sank'

(32) Un sommergibile ha affondato la nave
'a submarine sank the ship'

It also accounts for some cases in which the variation between *essere* and *avere* is not related to transitivity; cf. (33), where the subject is not an agent, and (34), where it is:

(33) Il temporale {era, *aveva} cominciato a notte fonda
'the storm had begun in the middle of the night'

(34) Il panettiere {aveva, *era} cominciato a lavorare a notte fonda
'the baker had begun to work in the middle of the night'

Finally, the rule captures the auxiliary selection of one of the semantic types of reflexivized verbs, namely those reflexivized transitive verbs the lexical subject, i.e. the agent of which has been deleted, such as *sciogliersi* 'to melt, thaw, liquefy', *rompersi* 'to break', *staccarsi* 'to

unfasten' etc.¹¹

2.1.3 Unclear situations

But the rule of agentlessness does not capture all relevant phenomena. We can distinguish three kinds of unclear situations: conflated roles, unspecified agents and argumentless situations.

2.1.3.4 Conflated roles

On the level of purely cognitive concepts one argument may be associated with a cluster of roles. In fact, agent and theme may be merged, as in truly reflexive or reciprocal events, where agent and theme are identical. Likewise, the directional locative may also be the theme of a motion event.

In these cases, language must resolve the problem by ignoring one of the clustered roles. When agent and theme are merged, Italian ignores the agent. Therefore true reflexive and reciprocal constructions may be said to ignore the agent aspect of their subjects.

In the case of Path verbs (cf. Talmy 1985); Levin & Rappaport Hovav 1995 use the term "verbs of directed motion") the problem is resolved in the same way: the agent aspect of their subjects is ignored, and they take *essere*. Manner verbs, however behave differently, according to whether there is a directional locative or not. If there is one, they behave like Path verbs and ignore the agent, if not, they ignore the theme and behave like normal agent verbs; cf.:

- (35) La macchina è slittata nel fosso
'the car slid into the ditch'
- (36) La macchina ha slittato in modo pericoloso
'The car slid dangerously'

Still with regard to motion events, when the directional locative and the theme are clustered, the former is ignored, such that the theme survives; it triggers *avere* and links with a direct object; cf.:

- (37) Sono passati sotto il ponte
'they crossed under the bridge'
- (38) Hanno passato il ponte
'they crossed the bridge'¹²

¹¹This group comprises also some inherently reflexive verbs: *accorgersi di* 'to become aware of', *arrabbiarsi* 'to become angry', *pentirsi* 'to regret'. But inherently reflexive verbs may have an agent, e.g. *arrampicarsi* 'to climb upwards'. - For a list of Italian inherently reflexive verbs cf. Salvi 1988: 49.

¹²*Cadere* 'to fall', which is a Manner rather than a Path verb, only takes *essere*. This is in accordance with the conclusion I will draw at the end of this section, namely that auxiliary selection is not completely rule guided.

One might think that this treatment of conflated roles reflects general cognitive strategies. But such an assumption must be viewed with skepticism, since languages with similar problems prefer other solutions, German e.g., which uses the 'have'-Verb *haben* with all reflexivized verbs.

2.1.3.5 Unspecified agent

Among the various semantic types of reflexivized verbs, there is one in which the agent is not deleted, but merely left unspecified:

- (39) *si è chiaccherato di tante cose*
'NULL-SUBJECT chatted about many things'

But the question is whether these constructions select *essere* because the agent is unspecified or because they are reflexivized. When the unspecified agent is represented by a pronoun, such as *qualcuno* 'someone' or by the plural of the third person (cf. Schwarze 1995: 326ff), this has no influence on the lexically encoded auxiliary selection. This also seems to confirm that auxiliary selection has become an autonomous rule for reflexivized verbs.

2.1.3.6 Argumentless situations

Italian weather verbs indifferently select *essere* or *avere*:

- (40) *Quest'anno {è, ha} nevicato parecchio* (quoted from Palazzi-Folena)
'this year it snowed quite a lot'

It can be assumed that, at the level of purely cognitive concepts, weather events have no arguments. Hence the general rule stated above does not apply, but an auxiliary has to be selected. In this case Italian leaves it to the speaker to choose between two strategies. One strategy is based on default: *avere* is the default auxiliary. The other consists in adapting the rule of agentless role configurations to the situation: suppressing the notion of role configuration, the rule can be reformulated as:

The rule of agentless role configurations reformulated:

If a situation does not involve an agent, the auxiliary is *essere*.

This alternative of choices seems to support the hypothesis that auxiliary selection may be derived from conceptual structure. Yet, this is not a principle that can be generalized to languages which are similar to Italian; the weather verbs of French and of German select the 'have'-auxiliary.

2.1.4 Contradictive phenomena

If the analysis I have proposed in the preceding sections is correct, then there is a general rule for auxiliary selection which accounts for a wide range of phenomena, and some additional strategies, such as preferences or rule adaptation, capturing phenomena which *prima facie* seem to invalidate the analysis. But there remain some phenomena which are definitely in contradiction to the whole analysis.

First of all, most transitive verbs require *avere*¹³. This derives from the rule of agentless role configurations: typical transitive verbs have agentive subjects. But there are transitive verbs, such as *avere* 'to have', *ricevere* 'to receive', the subject of which is not an agent, and which take, like the vast majority of transitive verbs, *avere* as temporal auxiliary. This contradiction may be due to the fact that there is a conflict between the rule of agentless role configurations and a very general principle, which we might call the principle of structural homogeneity. This principle seems to be stronger than the rule: the fact that *avere* and *ricevere* are transitive confers upon them a property which is typical of transitive verbs.

Inversely, verbs which normally have no agent and therefore take *essere* may receive agentive interpretations, but still take *essere*; cf.:

- (41) Siamo scomparsi di colpo, stupefacendo tutti
'we suddenly disappeared, baffling everyone'

Thus we must conclude that in Italian, the choice among temporal auxiliaries is related to, but not completely determined by conceptual or argument structure. The rule of agentless role configurations has exceptions.

2.2 The choice among passive auxiliaries

The choice among Italian passive auxiliaries is determined by the interplay of constituency, semantics and discourse pragmatics. We will examine these factors one by one.

2.2.1 Constituency restrictions

Constituent structure restricts the use of *venire* as a passive auxiliary: *venire* cannot be used in compound tenses; cf.:

- (42) Il teatro verrà restaurato l'anno prossimo
'the theater will be restored next year'
- (43) Il teatro è { *venuto, stato } restaurato l'anno scorso
'the theater has been restored last year'

Andare as a passive auxiliary has two readings. It may express necessity or obligation, as

¹³Exceptions are *costare* 'to cost', *durare* 'to last', these verbs have unusual role configurations.

in:

- (44) Il teatro va restaurato
'the theater must be restored'

It may also modify argument structure, excluding or backgrounding the participation of an agent, as in:

- (45) Molti libri sono andati smarriti durante il trasloco (Salvi 1988: 92)
'many books got lost during the move'

Compound tenses are excluded for *andare* in the deontic reading:

- (46) Il teatro {*è andato, ha dovuto essere} restaurato
'the theater had to be restored'

These restrictions can be expressed by not including the corresponding (functional) past participles in the lexicon. Thus the distinction between morphological and functional properties turns out again to be useful: the lexicon must contain the morphological participles *venuto* and *andato*, but *venuto* must not be characterized as an auxiliary, and *andato* must not be described as deontic.

2.2.2 Semantic restrictions

There is another restriction on the use of *andare*: Whereas passive sentences with *essere* and *venire* may contain a constituent which refers to the agent, as in (47), sentences with 'agent-canceling' *andare* cannot contain such a constituent; cf. (48):

- (47) I passeggeri {saranno, verranno} controllati da un finanziere
'the passengers will be checked by a customs officer'
- (48) *Molti libri andranno smarriti da loro (adapted from Salvi 1988: 92¹⁴)
'many books will get lost by them'

This sentence is ungrammatical because it contains a contradiction. In fact, as has been said above, in one of its readings *andare* excludes or backgrounds the agent, which, on the contrary, is foregrounded by the "by-phrase". It must be left to semantics to outrule sentences of this kind; the syntax must only ensure that the relevant information is available to the semantics.

For deontic *andare*, the facts are less clear. In a sentence like (45) the presence of a governed "by-phrase" causes ungrammaticality:

¹⁴Salvi 1988: 92 classifies this use of *andare* as "aspectual", but on the other hand he points out himself that a sentence like *Il libro fu/venne smarrito* 'the book was lost' implies the existence of someone responsible for the loss of the books, whereas in *Il libro andò smarrito* "nothing is said about this" ("non dice niente a questo riguardo").

- (49) *La camera va spazzata da Carlo tutte le sere
'the room must be swept by Carlo every evening'

The following sentence (50) is better than (49), but less acceptable than (51):

- (50) La camera va spazzata dagli studenti tutte le sere
'the room must be swept by the students every evening'
- (51) La camera va spazzata tutte le sere
'the room must be swept every evening'

These facts seem to question our basic analysis of the passive auxiliary. In our analysis of Spanish we had assumed that the passive auxiliary requires nothing else than a passive participle and that the grammatical functions of the sentence are all governed by the participle, not by the auxiliary. But now an auxiliary seems to exclude a governed function. In fact, (49) becomes immediately grammatical if we replace *va* by *viene*:

- (52) La camera viene spazzata da Carlo tutte le sere
'the room is swept by Carlo every evening'

But this problem can be resolved by having a closer look at the semantics of deontic *andare*. The ungrammatical or doubtful examples given above suggest that it is not enough to say that *andare* denotes necessity: it denotes general necessity. If this is correct, we can explain the oddity of (49) as caused by a semantic contradiction: reference to a specific individual (*Carlo*) is not compatible with generality. And (50) is slightly better than (49) because the definite plural noun phrase *gli studenti* is more general in meaning than *Carlo*. Again, the syntactic component must just provide relevant information for the semantics¹⁵.

2.2.3 Pragmatic restrictions

Since *essere* also is the copula verb, and since most participles may be converted into adjectives, passive sentences with *essere* are systematically ambiguous. For that reason speakers avoid *essere* whenever a sentence could be understood not only as describing an event, but also as defining a state or a property. Hence a sentence like (53) will only be used if it is meant to describe a state:

¹⁵It should be mentioned in this context that there seems to be a slight conceptual difference between the two standard passive auxiliaries: *venire* seems to suggest that the situation described in the sentence is a rather dynamic one; *essere* does not have this nuance; cf. examples (i) and (ii):

- (i) Queste misure {saranno, verranno} capite dagli utenti
'these measures will be understood by the users'
- (ii) Queste misure {saranno, verranno} approvate dal parlamento
'these measures will be approved by parliament'

Both auxiliaries are possible in both sentences, but in (i), which does not denote a dynamic situation, *essere* is better than *venire*. In (ii), which refers to a more dynamic situation (a vote in parliament), both auxiliaries are equally good.

- (53) Queste terre sono abbandonate
'these estates are abandoned'

This means that in (53) *sono* is identified as the copula and *abbandonate* as an adjective¹⁶. Passive *essere* is only used if the context or the tense strongly favor an event reading of the sentence, as in (54) and (55):

- (54) Normalmente, la luce è spenta da chi esce per ultimo
'normally, the light is switched off by the one who leaves last'
- (55) Queste terre furono abbandonate
'these estates were abandoned'

These facts are pragmatic in nature: they follow from the principle of unambiguous expression. Again, syntax has only to make the relevant information available.

This can be done by simply identifying the various passive auxiliaries of Italian by features, as we already did for other purposes. In Italian, the attribute AUX will thus have the values AVERE, ESSERE, VENIRE and ANDARE; for passive *andare* an additional feature is needed in order to distinguish between its deontic and its agent-canceling use; it may be written DEONTIC and have the values "+" and "-". According to the normal procedure, these features are to be specified in the lexicon and passed into the f-structures.

3. French

Regarding complexity of its auxiliary system, French is intermediate between Spanish and Italian. Like Spanish, it has only one passive auxiliary, *être*, which has the copula verb *être* as its non-auxiliary counterpart. Like Italian, it has two temporal auxiliaries, *avoir* and *être*, both of which have non-auxiliary counterparts. The following table is meant to visualize the relative simplicity of this inventory:

(56)

	auxiliaries		full verbs	
	temporal	passive	'to be'	'to have'
<i>avoir</i>	+			+
<i>être</i>	+	+	+	

As in Italian, not only the passive participle, but also the past participle shows agreement with its (lexically defined) direct object. There is, however, a minor difference: the agreement of the past participle is optional in Italian, but obligatory in French¹⁷.

Furthermore, as in Italian, all reflexivized verbs select the 'be'-auxiliary. Those verbs,

¹⁶ This also holds analogously for Spanish and French.

¹⁷ The past participle agrees in gender and number with its direct object, under the condition that the object precedes the participle. Berman & Frank 1996: 133 derive French object agreement by means of a feature UNACC(USATIVE) which interacts with their treatment of word order.

however, which lexically take the 'be'-auxiliary are fewer in French than in Italian¹⁸. In particular, the equivalents of verbs which in Italian show various behavior, generally take *avoir*; cf. the following examples:

(57)	Italian <i>essere</i>	French <i>avoir</i>	
	sono stato	j'ai été	'I was'
	sono riuscito	j'ai réussi	'I succeeded'
	sono arrossito	j'ai rougi	'I blushed'
	{sono, ho} vissuto	j'ai vécu	'I lived'
	{sono, ho} corso	j'ai couru	'I ran'
	{è, ha} piovuto	il a plu	'it rained' ¹⁹

As a consequence of this, the relationship between auxiliary selection and argument structure is much more tenuous in French. Those verbs which select *être* do not have agents in their role configurations, but the reverse does not obtain. As a consequence, not to derive lexical auxiliary selection from anything else, but to directly encode it in the lexicon is not merely a technical solution, but an adequate expression of a structural property of French.

4. Summary and conclusion

I have tried to give an analysis of auxiliaries as a special kind of light verbs. The auxiliaries of the three languages under discussion are real verbs with respect to morphology and c-structure. They differ from normal verbs on the level of functional structure: they do not represent predicates, but only agreement features regarding the subject and the main verb. In addition, temporal auxiliaries differ from all other verbs in that their morphological tense is not the functional tense of the sentence. In spite of their functional "lightness", auxiliaries are not completely devoid of meaning. For that reason, they must be identified in f-structures. (In this respect, they resemble case-markers.)

Our analysis of temporal auxiliary selection in Italian and French has shown, first, that the facts can be related to, but not entirely derived from conceptual structure and, second, that the strength of the correspondence between conceptual properties and grammatical features may vary from one language to another.

This lead me to a more general reflection, which I will briefly summarize as follows: Linguistic theories diverge with respect to the question of whether or to what extent linguistic

¹⁸Grevisse 1993: 1179 gives the following list: *aller* 'to go', *arriver* 'to arrive', *décéder* 'to decede', *devenir* 'to become', *échoir* 'to devolve upon', *entrer* 'to enter', *mourir* 'to die', *naître* 'to be born', *partir* 'to leave', *rester* 'to stay', *retourner* 'to return', *sortir* 'to move out', *tomber* 'to fall', *venir* 'to come'. Grevisse 1993: 1181 gives a list of about 60 further verbs which can have *avoir* or *être* depending on whether they denote an action (*avoir*) or the result of that action (*être*). But, as Grevisse himself supposes, these seem to be, not compound tenses, but adjectivized participles with the copula verb *être*.

¹⁹In French there is no variation of temporal auxiliaries triggered by the formation of complex predicates; cf. e.g.: It. *ho potuto andarci* and *ci sono potuto andare* 'I have been able to go there'; Fr. *j'ai pu y aller*, **j'y suis pu aller*.

form is autonomous. The facts we have discussed seem to be contradictory with respect to this question. On the one hand, auxiliary selection can clearly be related to conceptual structure, as in Italian. On the other hand, this relationship can be weakened, as in French, or completely disappear, as in Spanish, and the selection can be rigidly tied to another grammatical feature, as the selection of 'be' for all kinds of reflexives in Italian and French. This contradictory situation becomes understandable if it is viewed with respect to learnability: learnability may be guaranteed by both mapping between linguistic form and conceptual structure, and homogeneity of given structural properties. For a given domain, such as the syntax of auxiliaries, the proportion between these two factors of learnability may vary and may be an object of linguistic change.

Literature:

ABEILLÉ, Anne, 1993, *Les nouvelles syntaxes. Grammaires d'unification et analyse du français*. Paris: Armand Colin, 94f, 263f

ANDREWS, Avery D. & MANNING, Christopher D., 1993, *Information Spreading and Levels of Representation in LFG.*, Center for the Study of Language and Information, Report No. CSLI-93-176

BERMAN, Judith & FRANK, Anette, 1996, *Deutsche und französische Syntax im Formalismus der LFG*, Tübingen: Niemeyer, *Linguistische Arbeiten* 344

BRESNAN, Joan (ed.), 1982 a, *The Mental Representation of Grammatical Relations*. Cambridge etc.: The MIT Press

BRESNAN, Joan, 1982b, *The Passive in Lexical Theory*, in: Bresnan 1982 a, 3-86

BRESNAN, Joan, 1982c, *Control and Complementation*. in: Bresnan 1982a, 282-390

BUTT, Miriam, NIÑO, María-Eugenia & SEGOND, Frédérique, 1996, *Multilingual Processing of Auxiliaries within LFG*, in: KONVENS (forthcoming)

FALK, Yehuda N., 1984, *The English Auxiliary System: A Lexical-Functional Analysis*. *Language* 60, 483-509

GREVISSE, Maurice, 1993, *Le bon usage, grammaire française, refondue par André Goosse*, 13me éd. revue, Paris/Louvain-la-Neuve: Duculot

- LEMA, José, 1995, Distinguishing Copular and Aspectual Auxiliaries: Spanish *ser* and *estar*, in: John Amastae et al. (eds.), *Contemporary Research in Romance Linguistics*, Amsterdam/Philadelphia: Benjamins, 257-274
- LEVIN, Beth & RAPPAPORT HOVAV, 1995, Malka, Unaccusativity. At the Syntax-Lexical Semantics Interface. The MIT Press
- SALVI, Giampaolo, 1988, La frase semplice, in: Lorenzo Renzi (a c. di), *Grande grammatica italiana di consultazione*, Bologna: Il Mulino, vol. I, 29-113
- SCHWARZE, Christoph, 1990, Pour une grammaire lexicale des périphrases verbales en français: les temps composés, le passif, *aller* et *venir* semi-auxiliaires, Fachgruppe Sprachwissenschaft der Universität Konstanz, Arbeitspapier Nr. 21
- SCHWARZE, Christoph, 1995, *Grammatik der italienischen Sprache*, 2. verb. Aufl., Tübingen: Niemeyer
- TALMY, Leonard, 1985, Lexicalization Patterns: Semantic Structure in Lexical Forms, in: Shopen, T. (ed.), *Language Typology and Syntactic Description*, Cambridge University Press, vol. 3, 57-149

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