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10 Auxiliary selection

Abstract: Auxiliary selection is a complex interface phenomenon that has been claimed to be sensitive to factors ranging from (in)transitivity, argument structure (cf. unaccusativity vs. unergativity), lexical semantics, and *Aktionsart* to tense, modality, clausal aspect, and subject person. Such a variety of factors has led different authors to approach this topic from a syntactic perspective or from a semantic one. There are also a few authors who have argued for a unified analysis of the morpho-syntactic and the semantic factors involved in auxiliary selection. Indeed, there appears to be an impressive range of variation attested in Romance languages in terms of how the selection works and what it is sensitive to. In this chapter, I give a survey of the different auxiliary splits attested in Romance languages (section 1) and then provide an overview of some relevant syntactic and semantic approaches (section 2). The conclusion is that the two theoretical perspectives are not to be regarded as incompatible. Although I concentrate on the synchronic aspects of auxiliary selection in Romance, some diachronic issues are also taken into account (section 3). Finally, this chapter contains some concluding remarks (section 4).

Keywords: auxiliary selection, auxiliary splits, unaccusativity, argument structure, lexicon-syntax interface

1 The empirical evidence

As is well known, in Romance languages like Italian and French (or in Germanic languages like German or Dutch), there is an important division or split in the formation of compound forms of verbs: Transitive verbs and some intransitive verbs select auxiliary HAVE (e.g. It. *avere*, Fr. *avoir*), while other intransitive verbs select auxiliary BE (e.g. It. *essere*, Fr. *être*). Consider some relevant examples from Italian: transitive verbs like *vedere* ‘see’ or *salutare* ‘greet’ in (1), intransitive verbs like *lavorare* ‘work’, *ballare* ‘dance’ or *rintoccare* ‘ring’ in (2), and intransitive verbs like *arrivare* ‘arrive’, *arrossire* ‘blush’ or *esistere* ‘exist’ in (3).

- (1) It. a. Gianni ha visto Maria.
Gianni has seen Maria
‘Gianni saw Maria.’
- b. Gianni l’ha vista.
Gianni her.has seen.F.SG
‘Gianni saw her.’

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- c. Gianni li ha salutati.
Gianni them.M.PL has greeted.M.PL
'Gianni greeted them.'
- (2) It. a. Gianni ha lavorato molto.
Gianni has worked a-lot
'Gianni worked a lot.'
- b. Gianni ha ballato per ore.
Gianni has danced for hours
'Gianni danced for hours.'
- c. La campana ha rintoccato
the bell has tolled
'The bell rang.'
- (3) It. a. Maria è arrivata.
Maria is arrived.F.SG
'Maria arrived.'
- b. Maria è arrossita.
Maria is blushed.F.SG
'Maria blushed.'
- c. L'unicorno è esistito.
the unicorn is existed.M.SG
'The unicorn existed.'

Transitive verbs consistently select HAVE in Italian, whereby there is no variation in this respect.¹ In striking contrast to this, there appears to be great variation involved with the intransitive verbs: For example, as pointed out by traditional grammarians like Battaglia/Pernicone (1987, 186), “per i tempi composti nella forma attiva dei verbi intransitivi, non si possono dare norme sicure: alcuni prendono *avere*, altri *essere*, e l'insegnamento può venire solo dall'uso, dalla lettura dei buoni scrittori, dalla consultazione del vocabolario”².

In the following sections other factors and splits are presented that have been claimed to be relevant to auxiliary selection in Romance: lexicosemantic and lexico-aspectual factors (section 1.1), reflexives (section 1.2), subject person (section 1.3), and tense, clausal aspect, and modality (section 1.4).

¹ As we will see below, in some Italian dialects where the auxiliary split is sensitive to other factors (e.g. person and number of the subject), BE (It. *essere*) can also be found with transitive verbs.

² “For the compound tenses in the active form of intransitive verbs, one cannot provide absolute rules: some take HAVE, others BE, and only usage, the reading of good authors, and the consultation of the dictionary can teach one how to use them.”

1.1 Lexicosemantic and lexicoaspectual factors

In spite of the abovementioned quote, certain intuitive patterns have been claimed to emerge when dealing with intransitive verbs: Basically, It. *essere* ‘be’ is selected with the predicates where the subject is a theme that undergoes a change of location (3a) or a change of state (3b) or where the subject is a static theme (3c), whereas It. *avere* ‘have’ is selected with the predicates that do not express a directed change but rather an action or internal process (be it agentive, cf. 2a and 2b, or not, cf. 2c). HAVE selection with intransitive verbs is often associated with agentivity in the literature, but examples like (2c) or (4) make it clear that this association is not accurate enough. This notwithstanding, an interaction between agentivity and auxiliary selection has been claimed to be involved in contrasts like the one exemplified in (5), drawn from Sorace (2000).

- (4) It. Maria {è caduta / *ha caduto} apposta.
 Maria is fallen.F.SG / has fallen on-purpose
 ‘Maria fell on purpose.’
- (5) It. a. Il pilota {ha / ?è} atterrato sulla pista di emergenza.
 the pilot has / is landed on-the runway of emergency
 ‘The pilot landed on the emergency runway.’
- b. L’aereo {?ha / è} atterrato sulla pista di emergenza.
 the plane has / is landed on-the runway of emergency
 ‘The plane landed on the emergency runway.’

However, as we will see below, it is the internal creation process (Hale/Keyser 2002; Mateu 2002), rather than agentivity, that determines the structural meaning of the intransitive verbs that select *avere*: That is, what is semantically construed as relevant in (5a) is not the change of location/state of the pilot but rather the action carried out by him (i.e. making a landing), whereas what is semantically construed as relevant in (5b) is the result of the process.

Similarly, the following examples in (6) show that agentivity *per se* does not determine auxiliary selection since that notion could in principle be applied not only to (6a) but also to (6b).

- (6) It. a. Gianni ha corso (per ore).
 Gianni has run for hours
 ‘Gianni ran (for hours).’
- b. Gianni è corso a casa (in tre minuti).
 Gianni is run.M.SG to home in three minutes
 ‘Gianni ran home (in three minutes).’

A paradigmatic contrast like the one exemplified in (6) has often been taken to show the relevance of *Aktionsart* (i.e. lexical aspect) in BE-selection: The addition of a telic PP in (6b) determines *essere* selection. As is well known, telicity has been argued to be an aspectual notion that turns out to be crucially relevant when determining BE-selection with intransitive verbs (e.g. cf. Zaenen 1993; Sorace 2000, or van Hout 2004).

Similarly, the addition of a reflexive pronoun (It. *si*) to a verb like It. *bruciare* ‘burn’ changes its *Aktionsart*: The atelic reading in (7a) is associated with *avere*, whereas the telic one in (7b), which is claimed to be determined by the addition of the reflexive, is associated with *essere* (cf. Sorace 2000; 2004; Jezek 2003). Similar facts are also discussed by Labelle (1990; 1992) for French (e.g. cf. (8)). As pointed out by Labelle (1990, 309), “the intransitive construction states what the subject does. So, one can say it focusses on the process itself. In contrast, the reflexive construction states what is happening to the object. Thus, it focusses on the result of the process”.

(7) It. a. La carne ha bruciato (per alcuni minuti).
 the meat has burned for some minutes
 ‘Meat has burned for some minutes.’

 b. La carne si è bruciata (#per alcuni minuti).
 the meat SI is burned.F.SG for some minutes

(8) Fr. a. Le poulet a cuit pendant 3 heures.
 the chicken has cooked for 3 hours

 b. Le poulet s’es cuit en exactement 3 heures.
 the chicken REFL.is cooked.M.SG in exactly 3 hours

Nonetheless, the relevance of telicity at the lexicon-syntax interface has been called into question. For example, Levin/Rappaport Hovav (1995) point out that there are *atelic* intransitive verbs that select BE, contrary to what is predicted by telicity-based approaches to BE-selection: For example, indefinite change of state verbs select *essere* in Italian (and *zijn* ‘be’ in Dutch); cf. (9a) and (9b).³ In spite of this, the aspectual approach can be claimed to account for the fact that these verbs in French do not select *être*, but *avoir*; cf. (9c).

³ Indefinite change of state verbs are also referred to in the literature on aspect as “degree achievements” (cf. Dowty 1979 and Bertinetto/Squartini 1995).

- (9) It. a. Maria è cresciuta / ??ha cresciuto molto quest'anno.
 Maria is grown.F.SG / has grown a lot this year
- Dutch b. Haar baby is / *heeft deze maand enorm gegroeid.
 her baby is / has this month enormous grown
- Fr. c. Marie a grandi / *est grandie depuis l'an dernier.
 Marie has grown / is grown.F.SG since the year last

Furthermore, telicity-based approaches to BE-selection run into nontrivial problems when dealing with stative verbs. Although these approaches could be said to account for the fact that stative verbs in French select *avoir*, once again their predictions are not borne out in Italian; cf. (10a) and (10b).

- (10) Fr. a. Les dinosaurs ont existé.
 the dinosaurs have existed
- It. b. I dinosauri sono esistiti.
 the dinosaurs are existed.M.PL

Moreover, dative psychological verbs of the *piacere* class (cf. e.g. Belletti/Rizzi 1988) also offer potential counterexamples to aspectual approaches to auxiliary selection; e.g. cf. (11).

- (11) It. a. Questo film mi è piaciuto molto.
 this film me.DAT is pleased.M.SG a-lot
- Dutch b. Dat is mij bevallen / tegengevallen.
 that is me.DAT pleased / disappointed

Finally, the existence of (admittedly exceptional) telic intransitive verbs that select HAVE in Romance languages is also problematic for aspectual approaches to auxiliary selection. For example, consider the English examples in (12), which involve verbs of birthing (Hale/Keyser 1993). The existence of these verbs is especially relevant when dealing with auxiliary selection in French, where *être* has been argued to be mainly related to telicity (cf. e.g. Sorace 2000): Atelic intransitive verbs typically select *avoir* in French (cf. 9c and 10a), which is consistent with the claim that telicity is relevant in this Romance language. However, despite their telicity, intransitive verbs like Fr. *pouliner* 'to foal' do not select *être* but *avoir* (13a). *Avere* is also selected for this class of verbs in Italian (p.c. Paolo Lorusso); cf. (13b).

- (12) a. The mare foaled {in / ??for} two hours.
 b. The cow calved {in / ??for} two hours.
- (13) Fr. a. La jument {a pouliné / *est poulinée} en / ??pendant
 the mare has foaled / is foaled.F.SG in / for
 deux heures.
 two hours
 ‘The mare foaled in/??for two hours.’
- It. b. La giumenta {ha figliato / ??è figliata} in / ??per
 the mare has foaled / is foaled.F.SG in / for
 due ore.
 two hours
 ‘The mare foaled in/??for two hours.’

All in all, the challenge to be drawn from the present discussion on the relevance of thematic properties (e.g. agentivity) or aspectual properties (e.g. telicity) in auxiliary selection in Romance is how one should cope with (i) the apparently contradictory facts briefly reviewed above (e.g. *telicity* is (ir)relevant to auxiliary selection with intransitive verbs) and (ii) the nontrivial crosslinguistic differences involved. We will come back to this issue in section 2.

1.2 Reflexives

As is well known, the presence of the reflexive element (It. *si*) correlates with the selection of *essere* quite systematically, as shown in some relevant examples in (14) through (17). For example, consider the following readings associated with *si*: reflexive in (14), anticausative in (15), impersonal in (16), or passive in (17).

- (14) It. a. Gianni *si* è pettinato.
 Gianni SI is combed.M.SG
 ‘Gianni combed himself.’
- b. Gianni e Carlo *si* sono guardati.
 Gianni and Carlo SI are looked.M.PL
 ‘Gianni and Carlo looked at each other.’
- c. Gianni *si* è comprato una macchina.
 Gianni SI is bought.M.SG a car
 ‘Gianni bought himself a car.’

- (15) It. a. Il bicchiere si è rotto. (cf. *Gianni ha rotto il bicchiere*)
 the glass SI is broken.M.SG
 ‘The glass broke.’
- b. Maria si è svegliata. (cf. *Gianni ha svegliato Maria*)
 Maria SI is woken.F.SG
 ‘Maria woke up.’
- c. Maria si è arrabbiata. (cf. **Gianni ha arrabbiato Maria*)
 Maria SI is angered.F.SG
 ‘Maria got angry.’
- (16) It. a. Li si è salutati.
 them.ACC SI is greeted.M.PL
 ‘One has greeted them.’
- b. Si è andati al mare.
 SI is gone.M.PL to.the sea
 ‘One went to the seaside.’
- c. Si è camminato molto ieri.
 SI is walked a-lot yesterday
 ‘One walked a lot yesterday.’
- (17) It. Le camicie si sono lavate a secco.
 the shirts SI are washed.F.PL to dry
 ‘The shirts have been dry-cleaned.’

Some comments are in order. First, it is important to point out that the presence of reflexive *si* is not incompatible with an accusative object, i.e. with a transitive construction (e.g. cf. the reflexive construction in (14c) and the impersonal one in (16a)). So it appears that the notions of transitivity and voice (Manzini/Savoia 2011, 197, gloss *si* as a “middle-passive” marker) cannot be collapsed; for example, (16a) is not an intransitive construction, even though it has been said to be “middle” (e.g. cf. Manzini/Savoia 2011, 198).

Second, it is also interesting to note that many authors have related BE-selection in the reflexive reading (e.g. (14a)) to the fact that the pronoun *si* is a clitic. The fact that the auxiliary selected in the Germanic counterpart of (14a) is not BE but HAVE is often attributed to the fact that Ger. *sich* or Dutch *zich* have nonclitic status. For example, according to Reinhart/Siloni (2005), the different auxiliary selection with It. *si* and Dutch *zich* is due to their different clitic vs. nonclitic status, respectively (cf. also Haider/Rindler-Schjerve 1987). However, Manzini/Savoia (2011, 198–200) show that this proposal is not correct. For example, these Italian linguists point

out that in Romance varieties such as Soazza, the pronoun found in reflexive, anticausative, or impersonal constructions has a clitic status (s), but this clitic does not influence auxiliary selection.⁴ For example, as can be seen in the following data drawn from Manzini/Savoia (2011, 199), in Soazza auxiliary selection in impersonal constructions (e.g. cf. (18a–b) with (16b–c)) is determined by verb class (cf. (19)).

- (18) Soazza a. S a sempro dormit ben.
 SI has always slept well
 ‘One has always slept well.’
 b. S e sempro rivo tart.
 SI is always arrived late
 ‘One has always arrived late.’

- (19) a. O dormit.
 I.have slept
 ‘I have slept.’
 b. Som {rivo / rivada}.
 I.am arrived.M.SG / arrived.F.SG
 ‘I have arrived.’

Manzini/Savoia (2011, 200) also point out that “Soazza has the same perfect participle agreement system as standard Italian, even if the auxiliary is *have*, for instance in

⁴ Cf. also Kayne (1993) and Cennamo/Sorace (2007) for discussion of some Italo-Romance varieties (e.g. Paduan) which allow HAVE with reflexive clitics. Interestingly, Cennamo/Sorace (2007) show that for those speakers of Paduan who accept both auxiliaries in anticausative constructions, the alternation may reflect different semantic conditions. According to them, “the auxiliary HAVE in (ia) would be appropriate if the event resulted from an external Causer, whereas BE would be used if no external Causer is implied (ib) and the door opened by itself, or by virtue of an inanimate (and unexpressed) causer (e.g. the wind). This is clearly shown in (ii)” (p. 90).

- (i) Paduan a. La porta se ga verto de colpo.
 the door SI has opened suddenly
 ‘The door has suddenly opened.’
 b. La porta se ze verta de colpo.
 the door SI is opened.F.SG suddenly
 (ii) Paduan a. Go provà metare la chiave ma la porta no se ga verto.
 I.have tried put.INF the key but the door not SI has opened
 ‘I tried to put the key in but the door didn’t open’ (i.e. I did not manage to open it).
 b. Go provà metare la chiave ma la porta no *se ze verta.
 I.have tried put.INF the key but the door not SI is opened.F.SG

the reflexive in (20). In other words, *perfect participle agreement is entirely independent of the selection of have and be* [emphasis mine]. Cf. also Loporcaro (1998) for further discussion.

- (20) Soazza El/la s a lavo / lavada.
 he/she SI has washed.M.SG / washed.F.SG
 ‘He/she has washed himself/herself.’

In contrast, in Standard Italian *avere* is only allowed in reflexive constructions when a reflexive clause is constructed with the nonclitic version *se stesso* in place of the clitic *si*; cf. (21) with (14a).

- (21) It. Gianni ha pettinato se stesso.
 Gianni has combed himself
 ‘Gianni combed himself.’

1.3 Person-based splits

Another pattern of the *have* vs. *be* split found in some (nonstandard) Italian dialects is the one which opposes the 1st and 2nd person with *be* to the 3rd person with *have* (cf. Kayne 1993; Cocchi 1994; 1995; D’Alessandro/Roberts 2010; Manzini/Savoia 2011). This classic split, which is the most common one, is oblivious to both verbal class and reflexive marker *si*. For example, cf. the following data in (22), drawn from a dialect of Neapolitan (Ledgeway 2000).

- (22) Neapolitan a. So’visto a Ciro. / So arrevato.
 am.seen ACC. Ciro / am arrived
 ‘I have seen Ciro. / I have arrived.’
 b. Ha visto a Ciro. / Ha arrevato.
 has seen ACC. Ciro / has arrived
 ‘He has seen Ciro. / He has arrived.’

It is important to point out that there is no intrinsic association of *be* with 1st and 2nd person and of *have* with 3rd person. In fact, as pointed out by Manzini/Savoia (2011, 202), some varieties present a different pattern, which is less robustly attested, i.e. the 1st and 2nd person are associated with *have*, while the 3rd is associated with *be*, as in Morcone (Campania).

1.4 Tense, clausal aspect, and modality splits

Auxiliary selection according to tense is also well attested in the Italian dialects. For example, as pointed out by Ledgeway (2000, 202f.), in the dialect of San Leucio del

Sannio, HAVE has generalized in the present perfect to all verb classes (the passive excluded); e.g. cf. (23a) and (23b). In contrast, in the pluperfect, BE is the universal auxiliary with all verb classes; e.g. cf. (24a) and (24b).

- (23) San Leucio a. Eggio (*so') fatto tutto quello
 have.PRS.1SG be.PRS.1SG done all which
 ch'eggio pututo.
 that have.PRS.1SG be.able.PTCP
 'I have done all that I could.'
- b. Iti (*siti) venuto priesto?
 have.PRS.2PL be.PRS.2PL come early
 'Did you arrive early?'
- (24) San Leucio a. Illu era (*aveva) venuto priesto.
 he be.PST.3SG have.PST.3SG come early
 'He had come early.'
- b. Erem' (*avevamo) auta dice quello
 be.PST.1PL have.PST.1PL must.PTCP say that
 che dicono loro.
 which say.PST.3PL they
 'We had had to say what they said.'

Tense splits found in some Italo-Romance dialects often interact with sensitivity to person and number. Manzini/Savoia (2005) make the important observation that the majority of dialects which show person-driven auxiliary selection in the present perfect do not show it in the pluperfect or in counterfactual tenses, either HAVE or BE being consistently found here (cf. e.g. Tuttle 1986; Ledgeway 2000 and D'Alessandro/Roberts 2010 for further discussion).

Splits according to clausal aspect are also well attested and can be exemplified with the contrast in (25) from Romanian, drawn from Dragomirescu/Nicolae (2009). These linguists show that this contrast can be explained from an aspectual point of view: The regular HAVE variant expresses a completed action, an action which took place in the past. In contrast, the BE variant expresses an action which started in the past and may continue at the moment of the utterance. In particular, these authors point out that the former means 'John left at a certain moment and maybe he came back', whereas the latter means 'John left at a certain moment and he definitely has not returned yet.'

- (25) Rom. Ion {a / e} plecat.
 Ion has / is left
 'Ion left.'

It seems then that the auxiliary selection in (25) depends on which kind of perfect is being expressed, i.e. the Experiential Perfect or the Perfect of Result (cf. e.g. Iatridou/Anagnostopoulou/Pancheva 2003; McFadden 2007; McFadden/Alexiadou 2010). According to McFadden (2007), “the Experiential Perfect describes an eventuality which occurred previous to some reference time (which is equivalent to the speech time in a present perfect), often an experience that the subject has had. The Perfect of Result, on the other hand, describes a state holding at the reference time, which is the result of the underlying eventuality described by the VP”. For example, *I have been sick before* expresses an Experiential Perfect, whereas *I have lost my cellphone (Could you help me find it?)* expresses a Perfect of Result.

A similar pattern is also found in Quebec French, as shown in (26) (from Manente 2009):

- (26) Quebec Fr. a. Jean a arrivé / parti / entré à huit heures.
 Jean has arrived / left / entered at eight hours
- b. Jean est arrivé (= là) / parti (= absent) / entré (= dedans).
 Jean is arrived (= there) / left (= absent) / entered (= inside)

The use of BE in Romanian (25) and in Quebec French in (26b) can be related to the stative resultative interpretation that McFadden/Alexiadou (2010) attribute to Earlier English *I am come*. For example, the contrast in (27) given by Manente (2009, 43) can be accounted for on the basis that BE is related to a perfect-of-result reading where the target state holds of the subject, as in Earlier English.

- (27) Quebec Fr. Maintenant qu’il {*a / est} arrivé chez lui,
 now that.he has / is arrived at.his.house,
 il ne voudra plus jamais ressortir.
 he not want.FUT any longer exit

Finally, modality has also been shown to play a role in auxiliary selection in Romance languages like Romanian and Old Neapolitan. For example, Avram/Hall (2007) show that HAVE is the regular auxiliary for perfects in Romanian, except in irrealis clauses, where BE is used instead (cf. 28a). In contrast, as shown by Ledgeway (2003), the opposite pattern is found in Old Neapolitan, where HAVE was favoured over BE in irrealis clauses (cf. 28b). But cf. Cennamo (2002) for some relevant qualifications.

- (28) Rom. a. Ar fi plecat.
 would.3SG be left
 ‘S/he would have left.’
- ONeapolitan b. Se illo avesse arrivato in Grecia, ...
 if he had.3SG arrived in Greece
 ‘If he had arrived in Greece, ...’

To conclude, we have seen that auxiliary selection in Romance languages is a complex interface phenomenon that is sensitive to factors ranging from (in)transitivity, lexical semantics, and *Aktionsart* to subject person, tense, clausal aspect, and modality (cf. also McFadden 2007 for a recent review). For reasons of space, in this section I have only been able to provide an outline of the existing variation and comment on the most important factors on the basis of some relevant examples.

2 Theoretical approaches

In this section, we will see that the different factors reviewed above have led different authors to approach auxiliary selection from syntactic perspectives (e.g. cf. Burzio 1986; Perlmutter 1989; Kayne 1993; Hoekstra 1994, among many others) or from semantic ones (e.g. cf. Shannon 1990; Centineo 1996; Sorace 2000; Aranovich 2003; Bentley/Eythórsson 2003, among many others). Furthermore, there are a few descriptive attempts where a unified account of the morphosyntactic and semantic factors involved in auxiliary selection has been pursued (e.g. cf. Legendre/Sorace's 2003 and Legendre's 2007 O(ptimality)T(heory)-based accounts). In this section, I provide an overview of some relevant theoretical approaches –of course, a review of all syntactic and semantic approaches is impossible– and I will concentrate on showing where both perspectives, the syntactic and the semantic one, can be reconciled. Since both syntactic and semantic factors have been shown to be involved in the analysis of the complex phenomenon of auxiliary selection in Romance, it seems to be natural to try to find an interface strategy that allows one to incorporate the insights from both perspectives. Crucially, when dealing with the semantic factors, we will see that purely conceptual ones are not involved in auxiliary selection but only those that encode “structural meaning”, a domain that is not oblivious to syntax (cf. e.g. Hoekstra 1999; Mateu 2002 for some relevant discussion).

2.1 Syntactic approaches

The starting point of many syntactic analyses of auxiliary selection is the so-called *Unaccusative Hypothesis*, initially formulated by Perlmutter (1978) in the Relational Grammar framework and later developed by Burzio (1981; 1986) in the Government and Binding framework. According to this hypothesis, intransitive verbs (or clauses; cf. Perlmutter 1978) divide up into two classes on the basis of which status is assigned to their argument: The argument of *unergatives* is just like the subject of transitives, whereas the argument of *unaccusatives* is more like an object in important respects, though it may look like a subject on the surface. Burzio (1981; 1986) attributes to them two different D(eep)-structure configurations. Unergative verbs

like It. *lavorare* ‘to work’, *telefonare* ‘to phone’, *dormire* ‘to sleep’, *giocare* ‘to play’ etc. occur in the syntactic frame in (29a), while unaccusative verbs like It. *venire* ‘to come’, *uscire* ‘to go out’, *salire* ‘to go up’, *morire* ‘to die’ etc. enter into the configuration in (29b), where [_{NP} e] expresses an empty NP subject. There is an important single split represented in (29): Unergatives have an external argument (i.e. the NP is *external* to VP), while unaccusatives have their argument internal to VP.

- (29) a. [NP [_{VP} V]]
 b. [[_{NP} e] [_{VP} V NP]]

Perlmutter (1978) and Burzio (1981; 1986) argue that the grammatical behaviour of unaccusative verbs (clauses), which can be defined through characteristics such as BE-selection in Dutch or in Italian, *ne*-cliticization in Italian or their lack of impersonal passivization in Dutch, can be explained in a uniform way by postulating an underlying structure in which their surface subject originates in an internal argument position (cf. 29b).

Burzio points out that the pattern of auxiliary selection in Italian is parallel to that of the distribution of *ne*-cliticization, and that it reflects the different D(eep)-structure configurations of unaccusative verbs (cf. 29b) vs. unergative ones (cf. 29a). Unaccusative verbs select the auxiliary *essere*, while nonunaccusatives (i.e. both unergatives and transitives) select the auxiliary *avere*. Burzio (1986, 30) points out that “*ne*-cliticization is possible with respect to all and only direct objects” and defines unaccusative verbs as those verbs whose subject can be substituted for the direct object clitic *ne*. Two related facts are then accounted for: First, the contrast between unergatives (e.g. *telefonare* ‘to phone’) in (30a) and unaccusatives (e.g. *arrivare* ‘to arrive’) in (30b) (NB: Burzio renamed Perlmutter’s unaccusatives as “ergatives”) and, in addition, the parallelism between the unaccusative subject in (30b) and the transitive object in (30c). As expected, *ne*-cliticization fails with unaccusative verbs if the pronominalized NP is in subject position (cf. 30d). Finally, as pointed out by Perlmutter, it seems more convenient to use “unaccusative” as applied to structures (or clauses) rather than to verbs; for example, the passive construction can also be analysed as unaccusative (cf. (30f) and (30b)).

- (30) It. a. *Ne hanno telefonato tre. (cf. *Hanno telefonato tre ragazze*)
 PART.CL have.3PL phoned three (cf. have.3PL phoned three girls)
 ‘Three of them have phoned.’
 b. Ne sono arrivate tre. (cf. *Sono arrivate tre ragazze*)
 PART.CL are.3PL arrived.F.PL three (cf. are.3PL arrived.PL three girls)
 ‘Three of them have arrived.’
 c. Ne hanno comprato tre. (cf. *Hanno comprato tre macchine*)
 PART.CL have.3PL bought three (cf. have.3PL bought three cars)
 ‘They have bought three of them.’

- d. *Tre ne sono arrivate.
 three PART.CL are.3PL arrived
 ‘Three of them have arrived.’
- e. *Tre ne hanno {comprato due macchine / telefonato}.
 three PART.CL have.3PL bought two cars / phoned
 ‘Three of them have {bought two cars / telephoned}.’
- f. Ne saranno comprate molte (di macchine).
 PART.CL be.FUT.3PL bought.F.PL many (of cars)
 ‘Many of them will be bought.’

Burzio (1986, 55–56) formulates the rule in (31) for *essere* assignment as follows:

- (31) The auxiliary will be realized as *essere* when a binding relation exists between the subject and a nominal contiguous to the verb (where ‘a nominal contiguous to the verb’ is a nominal which is either part of the verb morphology, i.e. a clitic, or a direct object).

Although impressive, Burzio’s syntactic account based on distributional arguments and on binding principles has been said to present some shortcomings (cf. e.g. Centineo 1996 for a critical review). For reasons of space, next I will concentrate on Burzio’s important correlation between *essere* selection and *ne*-cliticization, which has been called into question in the literature.

Consider the relevant examples in (32b) and (32d), taken from Lonzi (1985) and also revisited by Levin/Rappaport Hovav (1995, 276–277, ex. (106)–(107)). These data have been claimed to be counterexamples to Burzio’s (1986) claim that ergative (i.e. unaccusative) verbs are the only monadic verbs that admit *ne*-cliticization of their argument. Following Lonzi (1985), Levin/Rappaport Hovav (1995, 275) point out that “a variety of verbs that take the auxiliary *avere* ‘have’ do permit *ne*-cliticization, but only when they are found in a simple tense; *ne*-cliticization is not possible when these verbs are found in a complex tense in which the auxiliary is expressed”.

- (32) It. a. *Di ragazze, ne hanno lavorato molte nelle fabbriche di Shanghai.
 of girls, PART.CL. have.3PL worked many in.the factories of Shanghai
- b. Di ragazze, ne lavorano molte nelle fabbriche di Shanghai.
 of girls, PART.CL. work.3PL. many in.the factories of Shanghai
 ‘There are many girls working in the factories of Shanghai.’
- c. *Di ragazzi, ne hanno russato molti nel corridoio del treno.
 of boys PART.CL have.3PL snored many in.the corridor of.the train
- d. Di ragazzi, ne russavano molti nel corridoio del treno.
 of boys, PART.CL snored many in.the corridor of.the train
 ‘There were many boys snoring in the corridor of the train.’

Levin/Rappaport Hovav (1995, 277) conclude that “phenomena said to involve ‘surface unaccusativity’ (...) are not unaccusative diagnostics strictly speaking, but rather to a large extent receive their explanation from discourse considerations” (cf. also Lonzi 1985 and Maling/Calabrese/Sprouse 1994 for similar remarks). In particular, they point out that “unergative verbs are found in this construction under circumstances similar to those that sanction the appearance of English unergative verbs in locative inversion –that is, in contexts where the verb describes a characteristic activity or process of the entity it is predicated of” (p. 276).⁵

This said, it is important to realize that Levin/Rappaport Hovav’s (1995) discourse-based observation does not account for the fact that *avere*-selection is not allowed in the examples in (32a) and (32c). Such a restriction is not found in the Romance languages that have lost auxiliary selection; for example, HAVE is possible in their Catalan counterparts (e.g. cf. 33).⁶

- (33) Cat. a. De dones, a les fàbriques, n’hi {treballen /
of women, in the factories, PART.LOC. work.3PL /
han treballat} moltes.
have.3PL worked many
‘There are many women working/who have worked in the factories.’
- b. N’hi {treballen / han treballat} moltes.
PART.LOC.CL work.3PL / have worked many
‘Many work/have worked there.’

One could claim that Levin/Rappaport Hovav’s (1995) remark on Italian only holds for imperfective tenses, since these can be regarded as the idoneous ones for expressing habitual activities. However, the following triplet from Centineo (1996, 230–231, fn. 6) shows that this is not the case, since in the so-called *passato remoto* (lit. ‘remote past’) these alleged unergative verbs are also compatible with *ne-cliticization*; cf. (34c).

- (34) It. a. Ce ne nuota tanta di gente, in quella piscina.
there PART.CL swims much of people in that pool
‘Lots of people swim in that swimming pool.’

⁵ But cf. Culicover/Levine (2001) for a critical review of Levin/Rappaport Hovav’s (1995) discourse-based analysis of locative inversion. According to the former, the traditional unaccusative diagnostic provided by locative inversion must again be accepted once this unaccusative construction is separated from heavy NP inversion constructions with unergative verbs.

⁶ The locative marker *hi* ‘there’ is obligatory in this existential construction (cf. Rigau 1997; Mateu/Rigau 2002).

- (i) Cat. *En {treballen / han treballat} moltes.
PART.CL work.3PL / have worked many

- b. ??Ce ne ha nuotato molta di gente in quella piscina.
 there PART.CL has swum much of people in that pool
- c. Ce ne nuotò molta di gente in quella piscina.
 there PART.CL swam much of people in that pool
 ‘Lots of people swam in that swimming pool.’

The ungrammaticality of (32a,c) and (34b) is actually predicted by Burzio’s (1986) correlation between *ne*-cliticization and unaccusativity. Indeed, there is some evidence that points to the fact that the constructions in (32) and (34) are unaccusative. *Avere* would not then be the expected auxiliary in (34b) if the Italian existential construction in (34) turns out to be unaccusative. In this sense, notice Centineo’s (1996, 231, fn. 6) remark: “[It] must also be added that some of the native speakers consulted about these data attempted to use *essere* as the auxiliary for (iv)” (= 34b). Indeed, assuming that the construction in (34b) is unaccusative, one wonders why *essere*-selection was only “attempted”. This requires further research.

Furthermore, as pointed out by Rigau (1997) and Mateu/Rigau (2002), a Romance language like Catalan also offers an interesting piece of evidence for the unaccusative status of existential constructions. A well-known crosslinguistic generalization is that bare NP plurals cannot be postverbal subjects of unergative verbs in free inversion contexts (e.g. cf. 35b) but are only possible as postverbal subjects of unaccusatives (e.g. cf. Cat. *Vénen joves*, lit. ‘Come boys’, i.e. ‘There come boys’) or as direct objects of transitive verbs (e.g. Cat. *Les drogues maten joves* ‘Drugs kill boys’). Given this, the existential construction in (35c) should be unaccusative. As expected, the postverbal bare subject in (35c) is pronominalized by partitive *ne*; cf. (35d).

- (35) Cat. a. Els joves canten.
 the boys sing.3PL
- b. *Canten joves.
 sing.3PL boys
- c. (En aquesta coral) hi canten joves.
 in this choir LOC.CL sing.3PL. boys
 ‘There are boys singing (in this choir).’
- d. (En aquesta coral), (de joves) n’hi canten molts.
 in this choir of boys PART.CL.LOC.CL sing.3PL many
 ‘There are many boys singing (in this choir).’

Such a syntactic flexibility or “elasticity” is not expected under a lexicalist account à la Levin/Rappaport Hovav (1995), who, following Lonzi (1985), argue that some Italian examples similar to (35c) and (35d) are not unaccusative. However, following

Torrego (1989), Rigau (1997) argues that the unaccusativity of the existential construction in (35c) or (35d) is possible because of the presence of the obligatory locative marker *hi* ‘there’. Similarly, as is well known (cf. e.g. Hoekstra 1999; Sorace 2000, and Mateu/Rigau 2002), the presence of a directional PP like *into the hall* has been shown to be crucial in the explanation of why the constructions in (36b) and (37b) are unaccusative (cf. e.g. BE-selection in (37b)). The German data in (37) are adapted from Sorace (2000, 876, ex. (40)).

- (36) a. They danced (for hours).
 b. They danced into the hall.
- (37) Ger. a. Hans und Rita haben getanzt.
 Hans and Rita have danced
 ‘Hans and Rita danced.’
 b. Hans und Rita sind *(in den Saal) getanzt.
 Hans and Rita are into the hall danced
 ‘Hans and Rita danced into the hall.’

As pointed out by Rigau (1997) and Mateu/Rigau (2002), an even clearer piece of evidence for the unaccusativity of the existential constructions in (35c) and (35d) can be found in the Northwestern variety of Catalan, where there is no agreement between the indefinite argument *joves* ‘boys’ and the verb; cf. (38b). Indeed, the lack of agreement in (38b) would be unexpected if the bare plural NP were the subject/external argument of an unergative verb/construction (cf. the unaccusativity of the example in (39b)).

- (38) NW Cat. a. Els joves canten.
 the boys sing.3PL
 b. (En aquesta coral) hi canta joves.
 in this choir LOC.CL sings boys
 c. (En aquesta coral), (de joves) n’hi canta molts.
 in this choir of boys PART.CL.LOC.CL sings many
- (39) Central Cat. a. Vénen (els) joves.
 come.3PL (the) boys
 NW Cat. b. Ve joves.
 comes boys

Drawing on Hale/Keyser’s (1993) configurational theory of argument structure, Mateu/Rigau (2002) claim that the syntactic analysis of the agentive unergative structure in

(35a) or (38a) is the one depicted in (40a), whereas that of the existential unaccusative structure in (35c) or (38b) is the one shown in (40b).

- (40) a. [_{vP} Els joves [_v DO vCANT-]]
 b. [_{vP} [_v vCANT- HAVE (=BE+ Prep_{CCR})] [_{PP} hi [Prep_{CCR} joves]]]
- ↑
└──┘

Following Hale/Keyser (1993; 2002), the formation of unergatives can be argued to involve *conflation* of a nominal (or a simple root, e.g. vCANT- ‘s[*o*ng’),⁷ which occupies the complement position in (40a), with a null light verb (e.g. an agentive DO); cf. *sing* – *DO song*.

The formation of the unaccusative argument structure in (40b) is quite different: A null possessive light verb HAVE, which is conceived of as the result of conflating a null P with the more basic light verb BE (cf. Kayne 1993 and Rigau 1997, among others, for the proposal that HAVE = BE + Prep), subcategorizes for a Small-Clause-like PP as complement: The Preposition that expresses a Central Coincidence Relation (P_{CCR}) in (40b), which is crucial when dealing with possessive relations (cf. Hale 1986 and Hale/Keyser 2002, chap. 7, among others), is conceived of as a birelational element that relates a possessor (*hi* ‘there’)⁸ with a possessee (*joves* ‘boys’).⁹

⁷ *Conflation* is understood as a local operation whereby the phonological matrix of a head is transmitted to its phonologically defective sister head (cf. Hale/Keyser 2002 for more discussion). Thus, for instance, in (40a) the phonological matrix of the root *v* cant conflates into its phonologically defective (null) sister node *v*, giving rise to the verb *cantar*.

⁸ Cf. Mateu/Rigau (2002) for the claim that the locative clitic *hi* ‘there’ acts as an impersonalizer in (40b). As predicted, Nominative case is then impossible in unaccusative existential constructions, e.g. **Hi ha(n) ells* ‘there are they_{nom}’ (cf. Rigau 1997 for more relevant discussion).

⁹ In (i) are some examples of the *haver-hi* construction; cf. Fr. *Il y a*; Sp. *Hay*; Cat. *Hi ha*. For some prominent syntactic analyses of this existential construction, cf. Hoekstra/Mulder (1990); Moro (1997); and Rigau (1997), among others. The main difference between the examples in (i) and the ones in (ii) is that the latter involve an additional conflation of the root vCANT- with the null light verb HAVE (cf. (40b)).

- (i) Central Cat. a. (En aquesta coral) hi han joves {que canten cantant}.
 in this choir LOC.CL have.3PL boys who sing.3PL / singing
 b. (En aquesta coral) hi ha joves {que canten / cantant}.
 in this choir LOC.CL has boys who sing.3PL / singing
 ‘There are boys singing in this choir.’
- (ii) Central Cat. a. (En aquesta coral) hi canten joves.
 in this choir LOC.CL sing.3PL boys
 NW Cat. b. (En aquesta coral) hi canta joves.
 in this choir LOC.CL sings boys
 ‘There are boys singing in this choir.’

As shown by Mateu/Rigau (2002), the conflation of $\sqrt{\text{CANT-}}$ with HAVE depicted in (40b) is similar to that of $\sqrt{\text{DANCE-}}$ with GO involved in the unaccusative structure of *The boys danced into the kitchen*, analysed in (41) (cf. e.g. Hoekstra 1999 for the claim that the unaccusative construction in (41) involves a Small Clause Result (SCR) as complement of the verb). Both (40b) and (41) are unaccusative argument structures, i.e. there is no argument occupying the specifier position of v , the one that corresponds to the external argument of unergatives or transitives.¹⁰

(41) [_{VP} [_v $\sqrt{\text{DANCE}}$ GO] [_{SCR/PP} the boys into the kitchen]]

With this background in mind, it seems natural to consider the Italian examples in (42), which are counterparts of the Catalan existential constructions analysed above, as unaccusative structures. Following the present syntactic analysis of similar data from Catalan (see above), one can then assume that the *clauses/structures* (as in Perlmutter 1978, rather than the verbs, as in Burzio) in (42) are unaccusative; cf. the syntactic analysis in (43a), which involves an obligatory Small-Clause-like PP and a conflation process similar to the one shown in (41). That is to say, in (43a) a root designating an event ($\sqrt{\text{LAVOR}}$ ‘work’) is conflated with a null light unaccusative verb *BE*, which subcategorizes for a Small Clause whose inner predicate has a locative nature.¹¹

10 It is often said that a Romance language like Italian also shows a similar polysemy (e.g. cf. (ia)–(ib)), but at the same time it is clear that it lacks the regular Germanic polysemy, as shown in (ic); cf. e.g. Mateu (2002) and Mateu/Rigau (2010) for further discussion.

- (i) It. a. Gianni ha {corso / ballato} per molte ore.
Gianni has run / danced for many hours
- b. Gianni è corso via / Gianni è corso alla cucina.
Gianni is run away / Gianni is run to.the kitchen
‘Gianni ran away. / Gianni ran to the kitchen.’
- c. *Gianni è ballato via. / *Gianni è ballato alla cucina.
Gianni is danced away / Gianni is danced to.the kitchen
‘Gianni danced away. / Gianni danced to the kitchen.’

11 In fact, things turn out to be more complex. For example, the data in (i), taken from Maling/Calabrese/Sprouse (1994), do not involve any surface locative PP. However Maling/Calabrese/Sprouse (1994, 5) point out that (ib) is possible only on a very specific reading –namely, many people are calling in one specific *place* relevant to the speaker. A similar comment could be argued to be appropriate for (ia). Alternatively, temporal phrases like *domani* ‘tomorrow’ in (ia) or *la domenica* ‘on Sunday’ in (ib) can be claimed to play an important role as well. The relevant conclusion seems to be that a *spatiotemporal* element is compulsory in the syntactic structure in order to license these existential constructions.

- (i) It. a. Domani ne parleranno molti.
tomorrow NE will.speak.3PL many
- b. Ne telefonano molti, di tifosi, la domenica!
NE phone.3PL many of fans on Sunday

- (42) It. a. Di ragazze, ne lavorano molte nelle fabbriche di Shanghai.
of girls, PART.CL work.3PL many in.the factories of Shanghai
- b. Di ragazzi, ne russavano molti nel corridoio del treno.
of boys, PART.CL snored many in.the corridor of.the train
- (43) a. [_{VP} [_V VLAVOR- BE] [_{PP/SC} molte ragazze [_{P'} nelle fabbriche di Shanghai]]]
b. There are many girls in the factories of Shanghai who are working.

Given the unaccusative structure in (43a), which lacks an external argument occupying the specifier position of the *v*(erbal) head, *avere*-selection is expected to be blocked. As noted, this result is compatible with (and actually predicted by) Burzio's (1986) classic analysis. However, as noted above, since the existential construction in (43a) is unaccusative, one wonders why *essere*-selection is not possible. This requires further research.

To conclude, some important theoretical assumptions have been made in this section: Unaccusativity (and argument structure, in general) is not a property of verbs, as argued by proponents of projectionism, but rather of constructions/structures, as argued by proponents of neoconstructionism/constructivism (cf. Marantz 2013 and Mateu 2014 for recent relevant discussion of these two theories of the lexicon-syntax interface). Furthermore, the simpler syntactic structures shown in (44) have developed into the more complex ones represented in (45) thanks to the important work by Hale/Keyser (1993; 2002) and Hoekstra (1988; 1999), among others.

- (44) a. [NP [_{VP} V NP]]
b. [NP [_{VP} V]]
c. [[_{NP} e] [_{VP} V NP]]
- (45) a. [_{VP} NP [_{V'} V_{CAUSE/DO} [_{SC/PP} NP Pred]]] (transitive structure)
b. [_{VP} NP [_{V'} V_{DO} NP]] (unergative structure)
c. [_{VP} [_{V'} V_{BE(COME)} [_{SC/PP} NP Pred]]] (unaccusative structure)

Given the syntactic argument structures in (45), the relevant question with respect to auxiliary selection is why *HAVE* is associated with (45a) and (45b), whereas *BE* is associated with (45c). Hoekstra (1999, 82) points out that the starting point of this endeavour is the observation that the verb *BE* is similar to unaccusatives in a way in which the verb *HAVE* is similar to transitives and unergatives. Notice in passing that Hale/Keyser (1993; 2002) do provide an explicit relation of unergativity with transitivity by claiming that unergatives are underlying transitives as well (cf. Hale/Keyser's unergative structure in 45b with the classic one in 44b).

According to Hoekstra (1994; 1999), the crucial difference between *HAVE* and *BE* is that the former brings in a transitivity feature. There is a debate in the syntactic

approaches to auxiliary selection as to what the exact nature of this feature is. According to Hoekstra (1999, 82), the representation of a HAVE-perfect tense construction would be something like [BE [_{Participial Phrase} ... TF...]], with TF (short for “transitivity feature”; Kayne (1993) suggests it is a determiner/preposition; den Dikken (1994) and Hoekstra (1994) assume it is a preposition, Mahajan (1994) a case-marker) raising to BE, which overtly appears as HAVE. In this sense, there is in fact no selection, but rather the difference between HAVE and BE results from a different make-up of the internal structure of the participial complement of BE. Cf. also Ledgeway (2000) and Manzini/Savoia (2011), after Kayne (1993), for some important syntactic proposals that try to integrate the different morphosyntactic factors involved in the complex phenomenon of auxiliary selection in Italian dialects (cf. section 1).

2.2 Semantic approaches

The proponents of semantic approaches to auxiliary selection often concentrate on distinctions based on thematic and aspectual properties (cf. section 1.1); e.g. cf. Shannon (1990; 1995), Van Valin (1990), Zaenen (1993), Centineo (1996), Lieber/Baayen (1997), Sorace (2000; 2004), Aranovich (2003), Bentley/Eythórsson (2003), and Stolova (2007), among others.

The most influential semantic approach to auxiliary selection in Romance is the one pioneered by Antonella Sorace and her colleagues, who take the systematic linguistic variation to suggest that unaccusativity is determined by a semantic notion whose components are organized along a (proto)typicality scale ranging from core to periphery. Sorace (2000; 2004) argues that a more nuanced descriptive approach than a simple two-way split is needed in order to account for the attested variation.

In particular, Sorace (2000; 2004) shows that in Italian some intransitive verbs (e.g. the ones in 46a–b and 46k) select an auxiliary more categorically than other verbs do (e.g. the ones in 46c through 46j). The former are called ‘core verbs’, while the latter are ‘noncore verbs’.¹²

- (46) It. a. Gianni è / *ha arrivato.
Gianni is / has arrived
- b. Gianni è / *ha morto.
Gianni is / has died
- c. La pianta è fiorita / ha fiorito due volte quest’anno
the plant is blossomed.F.SG / has blossomed twice this year

¹² It is interesting to point out that similar ideas can already be found in the literature on auxiliary selection in Germanic languages. For example, consider Shannon’s (1990, 476) proposal: “[in German and Dutch] verbs closely approximating the transitive prototype take HAVE, whereas clear mutatives take BE. However, the farther away from the prototypical extremes we get, the more room for variation we find.”

- d. I miei nonni sono sopravvissuti / ?hanno
 the my grandparents are survived.M.PL / have
 sopravvissuto al terremoto.
 survived to-the earthquake
- e. La guerra è durata / ?ha durato a lungo.
 the war is lasted.F.SG / has lasted for long
- f. I dinosauri sono esistiti / ??hanno
 the dinosaurs are existed.M.PL / have
 esistito 65 milioni di anni fa.
 existed 65 million of years ago
- g. Il nuovo ballo brasiliano è / ha attecchito anche in Italia.
 the new dance Brazilian is / has taken-root also in Italy
- h. La campana ha rintoccato / ?è rintoccata.
 the bell has tolled / is tolled.F.SG
- i. Maria ha corso / è corsa velocemente.
 Maria has run / is run.F.SG fast
- j. È corsa / ?ha corso voce che Maria si sposa.
 is run.F.SG / has run rumor that Maria REFL marries
- k. Gianni ha lavorato / *è lavorato.
 Gianni has worked / is worked

As shown by Sorace, both native and nonnative speakers of Italian can have more doubts when establishing auxiliary selection grammaticality judgements of non-prototypical intransitive verbs (e.g. verbs of appearance and existence) than when establishing those of prototypical verbs (e.g. verbs of telic change of location/state). In (47) the relevant Auxiliary Selection Hierarchy (ASH) is depicted, as argued for by Sorace (2000, 863; 2004) and Keller/Sorace (2003). It basically embodies two main factors: telicity and agentivity.¹³

(47) Auxiliary Selection Hierarchy (ASH)

CHANGE OF LOCATION	selects BE	– least variation
CHANGE OF STATE		
CONTINUATION OF A PRE-EXISTING STATE		
EXISTENCE OF STATE		
UNCONTROLLED PROCESS		
CONTROLLED PROCESS (MOTIONAL)		
CONTROLLED PROCESS (NONMOTIONAL)	selects HAVE	– least variation

¹³ Zaenen (1993) and van Hout (2004), among others, also argue that telicity is the main semantic notion that is characteristic of unaccusative verbs in Dutch.

In particular, Keller/Sorace (2003, 60f.) explain the ASH as follows:

verbs at the BE end of the ASH are core unaccusatives and denote telic change; verbs at the HAVE end are core unergatives and denote agentive activity in which the subject is unaffected. Intermediate verbs between the two extremes incorporate telicity and agentivity to lesser degrees, and tend to have a less specified (basically stative) event structure (...). Core verbs are those on which native grammaticality judgments are maximally consistent, and are acquired early by both first and second language learners. In contrast, intermediate verbs are subject to crosslinguistic differences and exhibit gradient auxiliary selection preferences.

Sorace claims that the crosslinguistic variation depends on the location of the relevant cut-off point along the ‘Auxiliary Selection Hierarchy’ (ASH) in (47). For example, the main cut-off point in Italian can be empirically claimed to be drawn between the lexical semantic class expressing ‘existence of state’ and the one expressing ‘uncontrolled process’, whereas the main cut-off point in French can be drawn between telic changes and the rest of the lexical semantic classes, as shown in (48).

(48) CHANGE OF LOCATION	selects BE – least variation
TELIC CHANGE OF STATE	
-----	“cut-off point” (French)
ATELIC CHANGE OF STATE	
CONTINUATION OF A PRE-EXISTING STATE	
EXISTENCE OF STATE	
-----	“cut-off point” (Italian)
UNCONTROLLED PROCESS	
CONTROLLED PROCESS (MOTIONAL)	
CONTROLLED PROCESS (NONMOTIONAL)	selects HAVE – least variation

Sorace’s (2000) work on the ASH has influenced other accounts of auxiliary selection like the semantic one put forward by Bentley/Eythórsson (2003) and the O(ptimality) T(heory) proposal by Legendre/Sorace (2003). This OT account is especially valuable since these authors try to argue for a unified analysis of the morphosyntactic ingredients (e.g. the reflexive clitic) and the semantic factors (e.g. telicity, stativity or control) involved in auxiliary selection in French. In order to deal with the systematic *être* selection in reflexive constructions the authors posit a constraint against linking morphosyntactic reflexives as unergatives. This crucially outranks all the semantic constraints, ensuring that reflexives will always select *être*, no matter what their semantics.

Despite their descriptive insights, the formal limits on the semantic ingredients involved in auxiliary selection are not provided by Sorace (2000; 2004) nor by Legendre/Sorace (2003). In the next section this issue will be examined by using a syntactic theory of the structural meaning that is systematically associated with the

argument structure configurations (cf. e.g. Hale/Keyser 1993; Mateu 2002; Hoekstra 1999 or Marantz 2013 for the relevance of syntax when dealing with the ‘structural meaning’ and its irrelevance when dealing with the ‘idiosyncratic/conceptual/encyclopaedic meaning’).

2.3 A syntactic approach to the structural meaning of unergativity and unaccusativity

Despite Sorace’s (2000; 2004) descriptive merits, it is not clear from her approach what the formal constraints are that led her to posit seven or eight (but not eleven or twenty) lexical semantic classes of verbs when dealing with the auxiliary selection problem.¹⁴ Mateu (2002) argues that his syntactic approach to thematic structure, which is based on the ones put forward by Hale/Keyser (1993) and Hoekstra (1988; 1999), can provide one with some formal constraints concerning the ingredients of structural meaning involved in Sorace’s Auxiliary Selection Hierarchy: Meaning components like process, on the one hand, and change or existence, on the other, are the relevant ingredients at the syntax-semantics interface precisely because these notions can be argued to be filtered into the abstract *relational* semantics associated with the unergative and unaccusative syntactic argument structures in (49a) and (49b), respectively.

- (49) a. $[_{X_1} Z_1 [_{X_1} X_{1[+R]} Y_1]]$ (Unergative argument structure)
 b. $[_{X_1} X_{1[+T]} [_{X_2} Z_2 [_{X_2} X_{2[+r]} Y_2]]]$ (Unaccusative argument structure)

In (49a) the [+R] feature encodes an agentive/volitional immediate cause function (cf. Levin/Rappaport Hovav 1995), while the [-R] feature subsumes the nonagentive one. The nonrelational elements Z_1 and Y_1 are interpreted as Originator/Causer and Incremental Theme, respectively. Y_1 is the created object that can typically be conflated into the unergative verbal head X_1 (cf. Hale/Keyser 1993; 2002; Mateu 2002). In (49b), in contrast, an eventive head X_1 subcategorizes for a birelational noneventive head X_2 , which relates two nonrelational elements, Z_2 and Y_2 . The *T*(ransition) features, [+T] and [-T], which are associated with the unaccusative verbal head X_1 in (49b), encode the *CHANGE* and *BE* semantic functions, respectively. Moreover, the [+r] and [-r] features correlate with Hale/Keyser’s (1993; 2002) terminal coincidence

¹⁴ Sorace (2000, 861) is aware of this nontrivial problem: “(…) there are some important questions that I do not attempt to address. First, the reader will not find an explanation of why particular semantic components are more crucial to the selection of particular auxiliaries than others.”

relation and central coincidence relation, respectively:¹⁵ The birelational element X_2 relates two nonrelational elements Z_2 and Y_2 , Figure and Ground, respectively (Talmy 2000). Importantly, the relational features $[T]$ and $[R]$ are configurational (or derivative) in the sense that they can be read off from the mere syntactic argument structure, i.e. X_1 is the very same eventive head in both (49a) and (49b). It is just the case that this head is realized as $[R]$ ('source/immediate cause') if there is an external argument (Z_1 in (49a)); otherwise, it is realized as $[T]$ ('transition'), as in (49b).

In contrast to the lack of formal constraints involved in Sorace's (2000; 2004) lexical semantic classes (their number is not formally limited), Mateu (2002; 2009) argues that the possible combinations of relational semantic features that can be drawn from the syntactic argument structures in (49) turn out to be formally limited or reduced to the ones in (50):¹⁶

- (50) a. $[[+T] [+r]]$ (cf. telic change of {location/state})
 b. $[[+T] [-r]]$ (cf. atelic change of {location/state})
 c. $[[-T] [-r]]$ (cf. {continuation of a pre-existing state / existence of state})
 d. $[-R]$ (cf. nonvolitional internal cause)
 e. $[+R]$ (cf. volitional internal cause)

The relational semantic features in (50) can be associated with the syntactic argument structures depicted in (51), where the most relevant 'cut-off points' in Romance languages like French or Italian have been represented (Mateu 2002).

- (51) a. $[_{X1} X_{1[+T]} [_{X2} Z_2 [_{X2} X_{2[+r]} Y_2]]]$ selects BE
 ----- cut-off point (French)
 b. $[_{X1} X_{1[+T]} [_{X2} Z_2 [_{X2} X_{2[-r]} Y_2]]]$
 c. $[_{X1} X_{1[-T]} [_{X2} Z_2 [_{X2} X_{2[-r]} Y_2]]]$ cut-off point (Italian)

 d. $[_{X1} Z_1 [_{X1} X_{1[-R]} Y_1]]$
 e. $[_{X1} Z_1 [_{X1} X_{1[+R]} Y_1]]$ selects HAVE

¹⁵ Cf. Hale (1986) for relevant discussion on the semantic notions associated with {terminal/central} coincidence relations. Basically, a terminal coincidence relation involves a coincidence between one edge or *terminus* of the theme's path and the place, whereas a central relation involves a coincidence between the centre of the theme and the centre of the place.

¹⁶ Mateu (2002) claims that the $[[-T] [+r]]$ combination can be excluded in virtue of the semantic fact that the unaccusatives involving $[+r]$ (esultative) are always associated with a positive Transition (i.e. $[+T]$). Alternatively, this combination could be assigned to stative constructions that take a result phrase as complement: e.g., Lat. *abesse* 'be away'. In contrast, $[[+T] [-r]]$ accounts for Sorace's (2000) indefinite change of state verbs (i.e. Dowty's 1979 'degree achievements'); e.g. cf. It. *Gianni è cresciuto molto quest'anno* 'Gianni has grown a lot this year'.

3 Some diachronic issues

In this section, I will not deal, for reasons of space, with the issue of how perfect systems with auxiliary splits were created in Romance languages (cf. e.g. Vincent 1982; Cennamo 2008; Ledgeway 2012). Rather I will make some brief remarks on how the auxiliary selection has subsequently been lost in some Romance languages (e.g. in Catalan and Spanish).¹⁷ For example, in Mateu (2009) the following descriptive generalization was drawn: The intransitive verbs that exhibit gradient auxiliary selection preference in Contemporary Italian (Sorace 2000; 2004) typically coincide with the ones that earlier lost the BE auxiliary in both Old Catalan (Batlle 2002) and Old Spanish (Aranovich 2003).¹⁸ Drawing on data from these two sources,¹⁹ Mateu (2009) points out that it cannot be a mere coincidence that in both Old Catalan and Old Spanish verbs of existence and appearance²⁰ were among the first ones to admit the HAVE auxiliary, the rest of the unaccusative verbs being more reluctant to accept it. As shown above, Sorace (2000; 2004) shows that intransitive verbs of existence and appearance show gradience in Italian. In contrast, core or prototypical unaccusatives, the ones expressing change of location, do not show any gradient variation at all.

However, by looking at more data from Old Catalan, Mateu/Massanell i Messalles (2014) conclude that, as far the diachronic process of auxiliary selection in this language is concerned, there are not “core verbs” but rather “core constructions”. Core constructions are the last ones that were affected by the relevant grammatical change. These authors show that it seems plausible to take subject-of-result structures whose DP subject is definite and typically preverbal (e.g. OCat. *El cavaller és*

¹⁷ Concerning Catalan, it is interesting to point out that *ésser* (BE) still remains as a perfect auxiliary in some dialectal varieties: mainly Balearic, Rossellonian, and Algherese (cf. Batlle’s 2002 appendix).

¹⁸ For example, cf. Aranovich (2003, 5–6): “A quick glance at the verbs (...) reveals that the degree of *affectedness* of the subject is a factor in the displacement of *ser* by *haber* as the perfect auxiliary. At one end of the continuum are the subjects of stative verbs of existence and appearance like *quedar* ‘remain’. The subjects of these verbs do not suffer any changes in state or location, hence they are not affected in any way by the event. This is the first class to lose its ability to select *ser*. At the opposite end are subjects of verbs of directed motion and verbs of change of state. These subjects are affected since they are in a new location or state as a consequence of the event. These classes are the last ones for which *haber* displaces *ser* as the perfect auxiliary of choice. In between these two extremes are verbs of manner of motion like *correr* ‘run’, and dynamic verbs of existence and appearance like *desaparecer* ‘disappear’. (...) The chronology of split auxiliary selection in Spanish, then, falls under the generalization that *the less affected the subject, the earlier a verb lost its ability to select auxiliary ser.*”

¹⁹ Unfortunately, Sorace’s (2000) important work on gradience in auxiliary selection with intransitive verbs was mentioned neither by Batlle (2002) nor by Aranovich (2003).

²⁰ Levin/Rappaport Hovav (1995, 282) include *remain*, *endure*, *come*, and *exist* within this class. *Come* is also classified by Levin/Rappaport Hovav (1995, 281) within the class of “verbs of inherently directed motion”.

arribat, lit. ‘The knight is arrived’) as the “core” ones, whereas existential structures whose NP is indefinite and typically postverbal (e.g. OCat. *Ha arribat correu*, lit. ‘Has arrived mail’, i.e. ‘There arrived mail’)²¹ can be regarded as “noncore” constructions and are then predicted to be the first ones affected by the relevant grammatical change.

Mateu/Massanell i Messalles (2014) show that variation is not found in core constructions (i.e. subject-of-result structures, e.g. OCat. *El cavaller {és/*ha} arribat* ‘lit. The knight {is/*has} arrived’) until the very latest stages of the diachronic process of auxiliary substitution, whereas noncore constructions (e.g. existential structures like OCat. *{Ha/és} arribat correu*, lit. ‘Has/is arrived mail’, i.e. ‘There arrived mail’) do present variation long before this process is reaching its final stages. It seems then that the following descriptive generalization holds for Old Catalan: Subject-of-result constructions systematically involve BE-selection, whereas existential constructions often involve HAVE-selection (though BE-selection is also attested). Indeed, it is important to point out that this fact is compatible with Keller/Sorace’s (2003, 60) conception of “intermediacy” if (and only if) we replace “verbs” by “constructions”, i.e. “[i]ntermediate [constructions] between the two extremes incorporate telicity and agentivity to lesser degrees, and tend to have a less specified (basically stative) event structure”. As predicted, existential constructions in Old Catalan like the ones where HAVE is typically selected are atelic and more stative than subject-of-result constructions.

Importantly, Mateu/Massanell i Messalles’s (2014) claim that the fact that in Old Catalan even Sorace’s (2000) core unaccusative verbs like *venir* ‘come’, *entrar* ‘enter’, *anar* ‘go’, *arribar* ‘arrive’ or *eixir* ‘exit’ can enter into an existential argument structure where HAVE is typically selected can be accommodated in (neo)constructionist approaches to the lexicon-syntax interface (e.g. Marantz 2013) in a more appropriate way than in projectionist approaches (e.g. Levin/Rappaport Hovav 1995).²²

4 Concluding remarks

Auxiliary selection in Romance languages is a complex interface phenomenon that has been shown to be sensitive to factors ranging from (in)transitivity, argument structure (cf. unaccusativity vs. unergativity), lexical semantics, and *Aktionsart*

²¹ Cf. also Rosemeyer (2014) for the relevance of (in)definiteness in auxiliary selection in Old Spanish.

²² Recall, however, that, according to Sorace (2000; 2004), core unaccusative verbs like It. *venire* ‘come’ or *arrivare* ‘arrive’ are predicted to select only BE, no matter what the quantificational nature of their subject is; e.g. cf. It. **Ha arrivato posta* vs. *È arrivata posta* ‘There arrived mail’. As pointed out by Sorace, proponents of projectionism can account for this situation (and the lack of elasticity of core verbs; e.g. cf. It. **Gianni ha venuto/morto*... ‘Gianni has come/died/...’) in a more appropriate way.

to subject person, tense, and modality. Such a variety of involved factors has led different authors to approach auxiliary selection from a syntactic perspective (cf. e.g. Burzio 1986; Perlmutter 1989; Kayne 1993; Hoekstra 1994; Ledgeway 2000) or from a semantic one (cf. e.g. Centineo 1996; Sorace 2000; 2004; Bentley/Eythórsson 2003; Aranovich 2003). Syntactosemantic approaches where unaccusativity is semantically determined but syntactically represented can also be found in the literature (cf. e.g. Perlmutter 1978; Cennamo 2002). For reasons of space, in this chapter I have concentrated on offering an overview of some relevant syntactic and semantic approaches to auxiliary selection in Romance and have concluded that the two perspectives are not incompatible. Future research is needed to see if the resulting unifying perspective can accommodate the morphosyntactic factors reviewed in section 1 (cf. e.g. Legendre/Sorace's 2003 and Legendre's 2007 OT-based accounts for a unified analysis of the morphosyntactic and semantic factors involved in auxiliary selection).

Assuming an important theoretical distinction between syntactically nontransparent conceptual content and syntactically transparent semantic construal (cf. e.g. Mateu 2002; 2009; Marantz 2013), Sorace's (2000; 2004) Auxiliary Selection Hierarchy can be shown to be accounted for in terms of syntactic representations that encode structural meaning (vs. the idiosyncratic meaning, which is encoded by the conceptual root). One relevant theoretical consequence is that there are no unaccusative *verbs* but rather unaccusative *structures/constructions* that encode relational meaning. Such a view does not exclude the fact that some roots (which encode conceptual content) tend to be lexically associated to some specific syntactic constructions (which encode structural meaning). (Neo)constructionist approaches to auxiliary selection can also be claimed to be more compatible with those accounts that posit the intervention of “nonlexical” level factors (cf. e.g. Ledgeway 2000; 2003; Manzini/Savoia 2011) and with those accounts that allow both the integration of so-called “core unergative verbs” (e.g. It. *lavorare* ‘to work’) into unaccusative structures (e.g. It. *Di ragazze, ne lavorano molte nelle fabbriche di Shanghai* ‘There are many girls in the factories of Shanghai who are working’) and the integration of so-called “core unaccusative verbs” (e.g. OCat. *arribar* ‘to arrive’) into existential constructions where HAVE is typically selected (e.g. OCat. *Ha arribat correu*, lit. ‘Has arrived mail’). Indeed, insertion of roots into syntactic argument structures is not as free as some radical proponents of (neo)constructionism would predict (e.g. Old Catalan *venir* ‘come’ cannot be associated to an unergative argument structure; cf. also footnote 22) but is much freer than proponents of projectionist approaches to the lexicon-syntax interface predict. Quite probably, the proper account(s) of auxiliary selection in Romance languages, i.e. the one(s) that turn(s) out to be successful in connecting both the thematic/*Aktionsart* factors with the “nonlexical” ones (e.g. person, tense, clausal aspect, and modality), will have to find the right balance between these two approaches to the lexicon-syntax interface.

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