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## *Lexical Aspect and Auxiliary Selection in Italian Learner Corpora*

L'ipotesi della selezione dell'ausiliare (ASH, Sorace 1995, 2000, 2004) mette in relazione l'aspettualità dei predicati (detta anche *Aktionsart*, aspetto lessicale o inerente) con l'inergeratività e l'inaccusatività dei verbi intransitivi e dunque - in italiano - direttamente con la selezione di "avere" o "essere" come verbi ausiliari nei tempi composti. L'ASH ipotizza anche un "primato nell'acquisizione", cioè predice che gli apprendenti di italiano L2 impareranno prima l'ausiliare corretto con i cosiddetti *core verbs*, che sono i verbi maggiormente caratterizzati dal punto di vista aspettuale. Questo articolo discute se gli apprendenti siano equipaggiati per rappresentarsi l'aspettualità dei verbi che imparano e se siano in grado agganciare questa nozione semantica alla scelta dell'ausiliare. Un campionamento da diversi corpora di italiano L2 mostra infatti un'alta percentuale di errori e di omissioni nella selezione dell'ausiliare anche per quanto riguarda i *core verbs*. Questa percentuale aumenta con i verbi il cui contenuto aspettuale è più instabile (ad esempio con il verbo "fermarsi") e rimane più alta del previsto anche con apprendenti intermedi e avanzati. Se si astrae da importanti fattori come la pressione della L1 e il tipo di elicitazione dei dati, le *performance* degli apprendenti paiono mostrare che esiste un "periodo di latenza" durante il quale gli apprendenti trovano difficile riconoscere l'azionalità verbale a causa dell'interazione con la concomitante ri-costruzione del sistema tempo-aspettuale e con altri fattori di tipo pragmatico. Presumibilmente, quando questo periodo è finito, l'ASH può rendere conto pienamente della codifica sintattica dell'inergeratività e dell'inaccusatività nei dati di apprendimento. Se questa impostazione è corretta, la validità dell'ASH andrebbe ritardata a fasi successive a quella iniziale o - in alternativa - non ci si dovrebbe aspettare che venga chiaramente confermata dai dati di *performance*. In tal caso, con l'espressione "primato nell'acquisizione" si dovrebbe intendere "primato nella formazione delle regole di rappresentazione" e non "primato nell'emersione nei dati".

### 0. *Introduction*

This paper explores when L2 learners of Italian are equipped to find a correlation between the lexical aspect<sup>1</sup> of intransitive verbs and the

<sup>1</sup> Also called *Aktionsart*, semantic Aspect, inherent Aspect, situation Aspect (among other definitions).

split of auxiliary verbs in compound tenses (e.g. in the Italian *Passato Prossimo*). One of the most influential theories, according to which the lexical aspect and the kind of thematic role of the subject argument determine the auxiliary, is the “Auxiliary Selection Hierarchy” hypothesis (ASH, Sorace 1995, 2000, 2004). This hypothesis is aimed firstly at accounting for the split between *avere* “have” (A) or *essere* “be” (E) in native Italian. Furthermore, it also accounts for how this distinction is acquired by foreign learners. Following this hypothesis, the exclusivity and the certainty in the choice between A and E depends on the extent to which verbs are respectively telic or agentive. As a matter of fact, some Italian verbs take exclusively E or A in compound tenses (for instance *venire* “come” and *parlare* “talk”), while other verbs may take either A and E (for instance, *finire* “finish”, *continuare* “continue”, *squillare* “ring”). While the former are inherently agentive and in one case telic, the latter display telicity and agentivity to various degrees which, in their turn, may be seen as forming a “gradient”, that is a scale of ordered (not-discrete), multi-dimensional (non binary) values (see table 1). In Italian, one extremity of the gradient is occupied by inherently telic verbs indicating a change of location (like *arrivare* “arrive”) which always select E regardless the context. Since the choice of the auxiliary verb strongly correlates with split intransitivity (see paragraph 1.2), verbs like *arrivare* are called “unaccusative core verbs”. At the opposite pole of the gradient one finds verbs indicating a non-motional, controlled, fully agentive process (such as *lavorare* “work”, *parlare* “talk”), always selecting A, which are called “inergative core verbs”. Moving away from extremes, the more one goes towards the middle of the gradient, the more one finds verbs which are less inherently characterized for either traits  $\pm$ agentive and  $\pm$ telic and which – for this reason – are likely to oscillate between A and E. For instance, verbs like *esistere* “exist”, *continuare* “continue”, *finire*, “finish”, *fiorire* “blossom”, and *squillare* “ring” are said to be “compositionally specified” because they shift auxiliary verb depending on context, that is, with the structure of the whole event (presence of a stative predicate, presence or lack of control by the grammatical subject, presence of change affecting the grammatical subject etc.). In table 1, the gradient of ASH and just one verb as an example for each category are shown:

Table 1 Auxiliary Selection Hierarchy (cfr. Sorace 2004: 256)

CHANGE OF LOCATION	<i>arrivare</i> selects ESSERE (no oscillation) “unaccusative core verbs”
CHANGE OF STATE	<i>marcire</i>
CONTINUATION OF A PRE-EXISTING STATE	<i>stare</i>
EXISTENCE OF STATE	<i>esistere</i>
UNCONTROLLED PROCESS	<i>tremare</i>
CONTROLLED PROCESS (MOTIONAL)	<i>correre</i>
CONTROLLED PROCESS (NON-MOTIONAL)	<i>lavorare</i> selects AVERE (no oscillation) “inergative core verbs”

The present article is organized as follows. After some basic notions about the relationship between aspect and syntax in recent theories are outlined in paragraph 1, paragraph 2 will discuss whether or not the ASH can be challenged by the hypothesis that the lexical aspect of verbs is learned gradually. The issue of “actionality learning” (Giacalone Ramat and Rastelli, 2008) will be seen from two perspectives: (a) learners’ capacity to distinguish between similar predicates and (b) the way learners access to the actional content of a predicate. More in detail:

(a) Giacalone Ramat and Rastelli (2008) point out that in L2 Italian there seems to exist some basic verbs (in the sense specified in Viberg, 1993; 2002) which are over-extended with respect to other (similar but with a different actionality) verbs. For instance, *parlare* “talk” (atelic, activity verb) is used instead of *dire* (often telic in L1 Italian) “say”; *guardare* (controlled event) “look” instead of *vedere* “see” (often unintentional verb of perception); *imparare* “learn” (telic, gradual completion verb) instead of *studiare* “study” (activity verb). This phenomenon can make the task of detecting the contribution of the lexical verb in the choice of either auxiliary hard for those who maintain that the semantics alone – specifically as far as core verbs are concerned – straightforwardly determines auxiliary selection. One may reply that learners’ mental representation of the aspectual traits of predicates could have little or nothing to do with the actional content we might attribute to the predicates actually

chosen and used by learners. This could be because of the frequency in the input, of poverty of vocabulary, of L1 pressure, of mistakes due to the performance or other factors that may have simply led learners to a wrong lexical choice. Provided that this is true, it does not mean that one is expected to reconstruct what's on a learners' mind (the aspectual traits of a predicate) by just disregarding or bypassing the words actually produced by learners. A methodological issue becomes crucial and will be discussed in paragraph 5. On one hand, only a balanced comparison between experimental data and corpus (performance) data can possibly provide us with the bigger picture (see also paragraph 2.1). On the other hand, the integration of different data is possible on the condition that the expression "primacy in acquisition" acquires a more precise and, in a way, constrained meaning.

- (b) The actionality of a single verb is likely to change in learners' mind as long as the whole tense-aspect system is still in re-construction. In this respect, three clues will be analyzed (see paragraphs 2.2, 5 and 6) to verify whether learners' first access to actionality is incomplete and as such, how it undergoes to successive refinements.

The data utilized in this article is described in paragraph 3 and the results are examined in paragraph 4. Differently elicited data from both instructed and uninstructed learners of L2 Italian show a non-negligible rate of errors in auxiliary selection also with "core verbs", that is, with verbs that – following the ASH – are expected to have a primacy in acquisition (see Jezek and Rastelli, 2008). We find on one hand a high rate of lacking auxiliaries especially in uninstructed beginning learners (see paragraph 4.1 and 4.2) and, on the other hand, verbs like *fermarsi* "stop" with an huge percentage of errors in auxiliary selection until higher stages of the learning process (see paragraph 5). Finally, paragraph 6 and 7 question the existence of a period of latency during which learners are likely to fail at recognizing the aspectual features. This would at least partially explain the lack of auxiliary verbs in early learners' productions and the initial mistakes in auxiliary selection shown in performance but not in experimental data. Only when the period of latency is over, the ASH would probably fully account – also in performance data – how verb aspectuality is mapped into split intransitivity.

## 1. *The framework*

### 1.1 *Actionality and Syntax*

Starting in the early 90's actionality was given a major place in syntactic theories that up until that point seemed not to have taken into account the contribution of aspectual semantics to syntactic changes and alternations. In fact, only some years after Verkuyl's (1972) and Dowty's (1979) works, with different emphasis, Tenny (1994), Hale and Keyser (1992) Travis (1994) and Borer (1994), by facing the issue of the extent to which argument structures may be affected by the actional properties of the verb, all contributed, if not exactly to bring the Aktionsart to the core of G&B and minimalist theoretical framework, at least to open new trends in the generative stream. Among aspectual properties which were detected as syntactically relevant, mainly "affectedness" (the property of an argument undergoing a change of state) and "delimitedness" (the fact that an event is bounded over time) were assumed to account for the reasons why – for instance – some verbs instead of others allow for resultative constructions, verb-particle constructions and the "middle" constructions in English. Also, the aspectual properties of the external and of the internal arguments (in particular with respect to the presence of volitional activity or of a change of state which affects the grammatical subject) were used to account for the unaccusative/inergative behaviour of verbs. For instance, Levin and Rappaport (1995) named "linking rules" the interface principles which map verb semantics onto syntactic positions of arguments and syntactic behaviours of different classes of predicates (verbs of existence, verbs of directed or undirected motion, verbs of appearance). More recently, another approach aiming to map semantics and syntax was adopted by McClure (2003) which developed a proposal about the close interaction between a verb's lexical entry (the properties of the internal argument to undergo a change of state) and its syntactic realization. The view that actionality is likely to determine syntax is contradicted in most of the studies collected in Erteshik-Shir and Rapoport (2005). From a stricter syntactic perspective (see Borer, 2004 and van Hout, 2004) the verb meaning is not listed in the lexicon but it is derived from the syntactic construction in which it appears. In this

view, the structural representation of verbs is held responsible for both number and type of arguments and even for the aspectual classification of predicates. Maybe one of the strongest claims for inherent aspect or Aktionsart playing a central role in the minimalist theoretical framework was put forth by Slabakova (2001). According to her view, the UG roots the functional categories of aspect which – in their turn – shape four surface-templates corresponding to the four Vendlerian classes (states, activities, accomplishments, achievements). As a consequence, the author states that telicity is a parameter whose value is waiting to be learned by children or possibly to be positioned again by adult learners of a second language. Slabakova's claim is based on the parametric approach to aspect as it was developed in Travis (1994). In Travis, the four Aktionsart templates are generated in between the VP shell structure (that is, between the higher VP – just below Event Phrase – and the lower VP licensing the lowest lexical projections) depending on whether the specifier positions of the functional head Asp and of the lexical head VP (namely “agent”, “cause”, “derived object”, “theme”) are filled or not. One of the main goals of current research is to determine whether telicity is a parameter or not, that is, whether L2 learners are innately driven to receive the information from the input about which semantic value between [ $\pm$ telic] has to be set definitely (or to be set again definitely) for each predicate. In Slabakova's view, since the aspectual heads would be functional heads to all effects, learners would have a privileged, direct and “once and for all” access to the actional content of verbs. This would also mean that once one aspectual parameter is set for a certain predicate, learners would know which structural properties are associated with that predicate, that is, they would know, for example, in which configuration a verb is allowed to enter or not and with which temporal frameworks it is compatible.

### *1.2 Split Intransitivity and the unaccusative hypothesis*

The choice between auxiliary verbs in compound tenses has always been considered one of the main clues for an intransitive verb being classified as inergative or unaccusative<sup>2</sup> in Italian. Other diagnostics also

<sup>2</sup> For an up-to-date description of the Unaccusative Hypothesis we refer to Bentley (2006), Alexiadou et al. (2004).

exist for unaccusativity, such as *ne*-cliticization, participial construction and VS inversion, but reviewing them falls out of the scope of the present work. What seems to be more crucial to our purposes is that recent theories on unaccusativity are more concentrated on the determining interactions between aspectual and thematic properties<sup>3</sup> and split intransitivity. In this picture, the auxiliary selection seems to provide the ideal testing ground for theories that place unaccusativity at the syntax-semantics interface. In the words of Keller and Sorace (2003: 59):

The hierarchy offers a generalization that applies mainly to auxiliary selection, but there is some evidence that other syntactic manifestations of split intransitivity might also be sensitive to this hierarchy, both in languages with and in languages without auxiliary selection [...]. It therefore has potentially important implications for theoretical accounts of the unaccusative-nergative distinction.

To paint the whole picture, it is necessary to mention a different view that takes into account the diachronic evolution and the diatopic comparisons of many Romance varieties in order to draw a typological account based on syntactic typology (Loporcaro, 2007). This view refers to Perlmutter's Relational Grammar as far as the treatment of the subject-object relations and active-inactive vs. nominative-accusative alignments are concerned (Perlmutter, 1989). In this paper, the theoretical framework is restricted to the former approach. Following Sorace (2004: 245-250) and Légendre and Sorace (2003), in the last decade two main positions have achieved widespread support in theories of the syntax-semantic interface. According to the first one ("constructional approach"), verb semantics is irrelevant to the inergative/unaccusative split, which is attributed only to verb's capacity to enter different syntactic constructions from whom it receives its aspectual interpretation. According to the opposite view ("projectionist approach"), syntactic behaviours (number, kind and positions of verb arguments) are an effect of semantic representations of verbs. Both these two positions were challenged when it became clear that (Alexiadou *et*

<sup>3</sup> In the context of the Universal Alignment Hypothesis (Perlmutter, 1978) and of the Uniformity of Theta Assignment Hypothesis (Baker, 1988) it is held true cross-linguistically that arguments bearing the theta-role of agent align with syntactic subjects while arguments bearing the role of patient align with syntactic objects.

*al.*, 2004: 8): “unaccusative diagnostics do not uniformly pick up the same class of verbs, both within and across languages”. This means that, also in the same language, verbs belonging to the same set (say, verbs of motion) may show different auxiliaries: *camminare* “walk” selects A while *correre* “run” may select either A or E; involuntary bodily processes Italian verbs like *russare* “snore” and *arrossire* “blush” select different auxiliaries (see Keller and Sorace, 2003: 58). Furthermore, more evidence was presented (Sorace, 2000) that some Italian predicates take both auxiliaries (this poses a problem for the projectionist approach) while other predicates always take the same predicates (A or E) regardless the context (and this poses a problem for the constructional approach).

### 1.3 *The notion of a “gradient”*

The ASH could be considered a position mid-way between the projectionist (lexical-driven) and the constructional (syntax-driven) accounts for the relationship between semantics and syntax in split intransitivity. As already stated in the introduction, this theory claims that the auxiliary selection in compound tenses is determined by the thematic roles associated with the arguments and by the aspectual properties of the verb itself. Verbs thus are placed along a gradient depending on the extent to which they inherently encode a telic endpoint or they require a volitional agent. For this reason, the ASH is partly lexical because it takes into account the semantic properties of predicates, but at the same time it is also partly compositional because the predicates in the middle of the gradient are strongly conditioned by phrasal features, that is, by structural properties of sentences. Because of its “flexibility”, the ASH is regarded as a possible way-out from the crucial deal of the assumption that neither a purely syntactic nor a purely semantic reading can account for the unaccusative/ingrative behaviour of intransitive verbs both within and across languages. Neither the verbs’ capacity to enter a syntactic construction, nor their semantic representation alone are capable of determining a clear-cut binary syntactic behaviour of intransitive verbs. Thus, instead of expecting a large convergence between general semantic types (e.g., verbs of motion, verbs of appearance, verbs of existence, of directed



motion etc.) and syntactic types, – as it happens for instance in Levin and Rappaport (1995) – we should expect on one hand to have just smaller sub-sets of verbs showing consistent syntactic behaviours and, on the other hand, to have a set of syntactically relevant semantic traits whose force and whose interaction has to be identified and singled out for each language. In Legendre and Sorace (2003) the pertinent semantic components are listed: inherent telicity, movement, oriented change, agentive control and state. These constraints act as violable constraints in the perspective of the Optimality Theory and, furthermore, their interplay is ranked differently in different languages. The ways in which the syntactically relevant semantic traits are ordered and factored in favouring the inergative or the unaccusative behaviour of verbs in a certain language is displayed in a “gradient”, which is the outcome of the projection rules between lexicon and syntax in that language. As it was said before, in a gradient which aims to capture the extent to which semantics and syntax interplay, what receives major attention is verb actionality and the thematic role of the surface subject. This is the reason why establishing to what extent a learner is capable of figuring out the actional content of a verb in the target-language gains importance.

## 2. *Open issues for the ASH*

### 2.1 *The notion of “primacy in acquisition”*

As far as the notion of “primacy in acquisition” is concerned, it has been stated (Keller and Sorace 2003: 60-61) that: “core verbs are those on which native grammaticality judgments are maximally consistent and are acquired early by both first and second language learners. [...] Degree of inconsistency and delay in acquisition are a function of a verb along the hierarchy”. Furthermore (Sorace, 2004: 268): “the ASH also accounts for the developmental paths followed by second-language learners of Italian and French who start acquiring auxiliary selection from core verbs and are more likely to retain non-native intuitions with respect to non-core verbs at advanced stages of development”. Finally (Legendre and Sorace, 2003: 9):

“La sélection de l’auxiliaire est acquise tôt pour les verbes centraux tant en ce qui concerne la langue maternelle que la langue seconde. De plus, des données concernant l’acquisition de l’italien comme langue étrangère montrent que les propriétés syntaxiques associées à la sélection de l’auxiliaire sont acquises d’abord pour les verbes centraux, puis graduellement étendues aux types de verbes plus périphériques”.

The acquisition of the correct auxiliary seems to depend on the internalization of two elements: the hierarchy of the semantic components and the mapping between semantics and syntax peculiar to the target-language under investigation. The ASH has undergone different experimental tests as far as native speakers of many L1 are concerned. Keller and Sorace (2003) tested whether “core verbs” elicit categorical judgments while “peripheral verbs” elicit gradient judgments as far as the auxiliary selection and impersonal passives in German are concerned. These experiments used the method of “magnitude estimation”<sup>4</sup> and involved respectively 54 and 72 adult native speakers of German. The data obtained indicate that the semantic class of predicates (inherent telicity and agentivity) affects the auxiliary selection in German. In Gurman Bard, Frenck-Mestre and Sorace (in press) the *locus* of native judgments was questioned and the ASH effects were investigated in real-time language processing, that is, in on-line comprehension and production. This procedure was meant to establish whether the ASH results in acceptability judgments which are capable of triggering on-line and off-line linguistic behaviours or if it is just an abstraction made by linguists, something that is lacking a psychological foundation. In one of the two experiments presented in this article, sixteen adult native speakers of Italian read sentences which contained core and peripheral intransitive verbs with correct and incorrect auxiliaries. Eye-movements are recorded in order to detect the initial parse of the read sentence and to distinguish it from the subsequent interpretations. Among other things, the authors predict that when readers meet an incorrect auxiliary placed near the (lexical) past

<sup>4</sup> (Keller and Sorace, 2003: 79): “Magnitude estimation requires subjects to assign numbers to a series of linguistic stimuli proportional to the acceptability they perceive. First, subjects are exposed to a modulus item, to which they assign an arbitrary number. Then, all other stimuli are rated, proportional to the modulus”.

participle, the effects of this anomaly are stronger and more evident (through eye-movements) in core than in peripheral verbs. Reading times were thus examined and the conclusion is that (Gurman Bard, Frenck-Mestre and Sorace, in press): “the present results give us reason to believe that the ASH bears on more than judgments. It provides generalizations which underlie on-line processes in comprehension and production”. As far as L2 Italian is concerned, Sorace (1993 and 1995<sup>b</sup>) are the quoted studies that provide evidence that the syntactic properties of auxiliary selection are acquired earlier with core verbs than with peripheral verbs. Both these studies regard linguistic intuitions of speakers of advanced stages of L2 Italian which seem to confirm the primacy of core verbs in selecting the right auxiliary. Very differently, Ježek and Rastelli (2008) is aimed at testing the prediction of ASH not in experimental (e.g., elicitation of acceptability judgments), but in performance data. The data is provided by almost 250 American students of L2 Italian of different levels of proficiency (for corpus design see Rastelli, 2006). The sample examines 65 different monadic intransitive verbal types belonging to the ASH list and the corresponding 470 verbal tokens which were produced in a written description of some film scenes. Table 2 presents a summary of the percentage of correct and incorrect auxiliary sorted by ASH category:

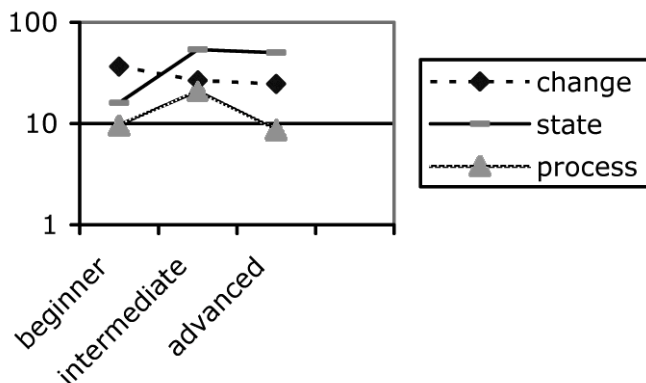
Table 2: percentage of correct and incorrect auxiliary sorted by ASH category (adapted from Ježek and Rastelli, 2008)

	A > E	E > A
CHANGE OF LOCATION	19,8%	–
CHANGE OF STATE	42,8%	–
CONTIN. OF A PRE. STATE	50,0%	–
EISTANCE OF A STATE	42,3%	–
UNCONTROLL LED PROCESS	–	33,3%
CONTROLL. PROCESS (MOTIONAL)	–	19,6%
CONTROLL. PROCESS (NON MOTIONAL)	–	8,8%

Almost 80% of students analyzed were English-speakers; 50% were advanced students, 38% intermediate and only 10% beginning students.

The resulting picture is double-faced. On one hand we can see a very high percentage of mistakes in auxiliary selection: from almost 20% to 50%. This is true especially as far as the over-extension of the auxiliary A, (also due to the fact that English as L1 is the most represented language in the sample). On the other hand, we see that, in effect, this percentage increases as we move away from the extremes towards the centre of the gradient: and this seems to confirm the ASH predictions. But when these data were sorted by level of proficiency, a U-shaped progression was found, since the percentage of incorrect auxiliaries seem to increase going from beginner to intermediate students at least for two out of three semantic classes (verbs of state and verbs of process):

Table 3: Percentage of mistakes, level of proficiency and verb category on the gradient (adapted from Ježek and Rastelli, 2008)



Nevertheless, these results are not unexpected because they do not call into question the validity of the gradient, but the notion of primacy in acquisition, which we have to look at differently depending on whether we base on experimental rather than on performance data.

## 2.2 The incomplete access to Actionality

Another issue could perhaps question the predictive value of the ASH for second language learning. The actional content of predicates might not be easily accessible all at once to learners' intuition but rather

learned little by little. Contrary to the view that the parameters of actionality are universal (see Slabakova 2001 as far as the parameter of telicity is concerned), it is possible that actionality of verbs is likely to be seen differently in a learner's mind as the whole tense-aspect system is in the middle of the re-construction process (Giacalone Ramat and Rastelli, 2008). At least three clues seem to indicate that the first access to actionality could be incomplete and – as such – subject to successive refinements:

- (a) In L1 Italian the shift between imperfective and perfective past tenses may change the actional content of the same predicate (see Lucchesi, 1976; Bertinetto, 1986), like it is evident in the comparison between (1)<sup>a</sup> and (1)<sup>b</sup>:

- (1)<sup>a</sup> Indossava i guanti verdi  
“She was wearing [stative verb] green gloves“.
- (1)<sup>b</sup> Ha indossato i guanti verdi  
“She wore [accomplishment verb] green gloves“.

In Rastelli (2007; in press) are shown many examples in which learners seem to be unaware of the consequences of this kind of aspectual shift on the overall meaning of the sentence:

- (2) C'era una donna che faceva una passeggiata a Venezia sul treno. Ha indossato occhi di sole verdi  
“There was a woman taking a walk in Venice on the train. She wore [instead of “she was wearing”] green sunglasses”.

It's well known that facts like the one exemplified by (2) are very frequent in learner data. It is arguable that they are due to (or at least favoured by) the lack of transparency in the system of a target-language like Italian, which lacks a “one-to-one“ correlation (the grammatical aspect always being overtly coded in the past while the lexical aspect not being so. See Bertinetto, 1986 and Bertinetto and Nocetti, in press). If we admit that learners' intuition of a verb being telic or atelic is also possible despite having no knowledge of some closely related facts like aspectual shift, we are saying that the supposed learners' intuitive knowledge of actionality is so incomplete and so abstract that it runs the risk of being practically undetectable in performance data.

- (b) In learners’ data of all levels, certain actional-aspectual configurations often conflict with the temporal frame which is carried by expressions of time. In sentences (3) and (4) two students use expressions of duration (*per qualche minuti*; *per qualche tempo*) combined respectively with a progressive periphrasis (*sta guardando* “she is looking”) and with the imperfective aspect with the stative verb *essere* “be” (*era in ospedale* “was at the hospital”) while the two things are incompatible (in both examples, L1 pressure is insignificant).

- (3) Poi lei sta guardando per l’autobus fuori la finestra per qualche minuti  
“Then she’s looking for the bus outside the window for some minutes”.
- (4) Un uomo era in ospedale per qualche tempo  
“A man was [past imperfective] at the hospital for some time”.

The English-speaking student of (3) seems to ignore the temporal restriction imposed by the aspectual value of the progressive both in Italian and in English. The German-speaking student of (4) seems to ignore the incompatibility between stative-imperfective and expression of duration. Here again, it is hard to credit these learners with an intuitive knowledge of actionality unless we claim that this knowledge has no effect at all on the temporal organization of the sentence and that it is mastered by learners independently from the expression of temporality.

- (c) As far as “basic verbs” are concerned – regardless their position on the ASH gradient – actionality might be spread outside V, that is, it might sometimes be looked for in syntax. In L2 data, what is used to be searched as the actional content of V should be accounted for at VP (or better at P) level. As far as the argument structure is concerned, learners’ actionality may also be spread in non-canonical (non target-like) V-argument structure positions, that – in their turn – may be associated with (non target-like) thematic roles. Learners could make their way to the meaning of some lexically underspecified Vs through the meanings of the elements that compose their whole VPs. According to this hypothesis, the

developmental path of the expression of inherent telicity might go from compositionality at early stages to lexical coding at late stages, when, possibly, the vocabulary is enriched and much more lexical entries are stored individually. In sentence (5), produced by an Eritrean learner of L2 Italian, different adverbial adjuncts to the same V play a syntactic role to such an extent that they can shift the meaning of the same verb in the same sentence. The learner is answering about where she and her mother spent their Easter holidays:

- (6) Nel pasqua nel giorno di pasqua ho passato qui a Milano<sub>1</sub> [...] dove c'è la chiesa di San Francesco e lì abbiamo passato fino a mezzanotte<sub>2</sub>, e così è passata<sub>3</sub>.  
“At Easter I spent Easter Sunday here in Milan [...] where there was San Francesco’s church and there we stayed until past midnight, and that’s how our Easter went by.”

The three different occurrences of the verb *passare* represent three events for which a native speaker would possibly use at least two different lexical entry (<sub>3</sub> is perhaps more uncertain):

- <sub>1</sub> *passare* “spend time”  
<sub>2</sub> *stare* “stay”, “remain”  
<sub>3</sub> *passare*, “go by”

What really does make the difference between *passare* in <sub>1</sub> and *passare*“ in <sub>2</sub> is the contribution of the adjuncts (or the lack thereof):

- <sub>1</sub> *qui a Milano* “here in Milan”  
<sub>2</sub> *fino a mezzanotte* “until midnight”  
<sub>3</sub> Ø

The actional content and the meaning of the verb *passare* itself in these sentences appears to be a compositional function of the syntactic configuration and of the elements by which certain syntactic positions are filled. It is also worth noting that the auxiliary of *passare* shifts from A to E. But what seems important here is that a single lexical entry serves to express three different events because of the adjuncts at VP or, also, at V level. This enforces the idea that a certain syntactic configuration of “basic predicates“ is often available to multiple (often

non-target-like) actional readings and that the actionality – at VP level – may hide and “cover” a whole range of more lexically specified predicates, regardless their position on the ASH gradient. For example, in sentence (7) the Eritrean learner is retelling a story that has been shown to him about a man whose wallet dropped at a gas station and after that he leaves without noticing it:

- (7) *quando lui ha cominciato andare avanti*  
when he started to go ahead

Here the learner builds the telicity compositionally, using a semantically underspecified basic V like *andare*, “go”, instead of the inherently specified (for telicity) *partire* “leave”. Whether this happens because of an avoidance strategy or because this is the effect of a syntactical bootstrapping is not discussed. As a matter of fact, abstract representations of an event (the event of *partire*) and lexical choices (like in: *ha cominciato andare avanti*) may divorce, leaving us with the difficult task of detecting which is the actional content of the basic predicate (*andare*) used by learners. As a final remark, it is anything but rare that the facts described in (a), (b) and (c) happen to occur at the same time in the same learner. A possible account for this fact is that, especially at early stages, learners might not be equipped with a full, “all at once” access to the actional content of predicates in the foreign language. If this view is correct, one may expect also the “representation rules” (which map semantics and syntax and trigger the selection of auxiliary) to be a variable function of the “learning of actionality” process and – as such – to vary and change over time.

### 3. *Data description and falsifiability criteria*

All the data presented in this paper are performance data and not experimental data. They are sampled from three different Italian learner corpora. Designing and evaluating data from a sampling procedure is something different than evaluating data from longitudinal or quantitative analyses. Paradoxically, the heterogeneity and the relative scarcity of samples are an argument in favour of the comparability of



the inductive convergences they might show. In fact, the less the data are constrained by extra-linguistic factors (such as type of learners, kind of elicitation tasks etc.) the more all possible strong analogies are likely to be attributed to linguistic factors alone. In general, sampling data are falsifiable because they are incomplete by definition. Admittedly, they are more helpful to build a hypothesis than to prove it. Under this respect, this kind of data will need to be confirmed or discharged by quantitative analysis before they can be compared to experimental data. The sampling procedure adopted for this analysis is falsifiable under four further respects:

- Only a few core verbs of the ASH (six unaccusative and two inergative verbs) are represented in the sample.
- A pronominal verb was included in the sample (see paragraph 6). This may affect the overall result.
- The triggering effects of V-surrounding in auxiliary choice were not taken into account. The consequence being that all data in tables 4-10 will be presented in row percentages which represent the amount of A, E or zero-auxiliary (X) and that no analysis of variance regarding other factors will be run. This is in potential contradiction with the hypothesis (see paragraph 2.2) that learners' actionality is always compositional, but matches the assumption that core verbs (both unaccusative and inergative) are determined only lexically.
- Regardless the qualitative heterogeneity (which in theory is requested by a sampling procedure), the overall number of tokens and of subjects involved in the three groups (expressed in columns II and III of table 4) is not comparable in size. This might compromise and limit much of the potential in terms of suggestions coming from the sample.

The table below summarizes all the relevant features of the three groups of data analyzed in this study:

Table 4: Sample design

I GROUP	II NUMBER OF SUBJECTS INVOLVED	III NUMBER OF TOKENS IN THE SAMPLE	IV SETTING OF INSTRUCTION	V LEARNERS' AGE	VI PROFICIENCY LEVEL (CEFR (?) MEANS NOT-TESTED)	VII L1	VIII TEXT MEDIUM	IX TEXT GENRE	X TASK	XI TIME SPENT IN ITALY AT THE TIME OF ELICITATION	XII OTHER FACTORS
1	60	around 50,000	formal (university)	18-20	from A1 to C1	90% English; 5% Japanese; 5% Others (Russian, Serbian, Turkish)	written	paragraph	re-counting of a film scene	1 - 3 months	no dictionary, no proof- reading
2	5	around 150,000	informal (2); private school (1) secondary school (1) primary school (1)	20 < (2) 20-30 (1) > 30 (2)	A2-B2(?)	Chinese Mandarin (2) Chinese Wu (2)	oral	Interview	give a biographical sketch, re-counting of a film scene and of a comics strip recounting personal experiences	2 years 2 years 11 months 6 months 1 year	
3	around 600	around 500,000	mostly formal (private language schools or university)	adult (data breakdown unattainable)	from B2 to C2	Spanish French German Russian Portuguese English	oral	Mono- directional and interview	to explain one's point of view on a given topic; to interact with a native speaker in a role-play	unattainable data	data are taken from CILS official proficiency exam of the University for Foreigners in Stena

#### 4. *Data analysis*

##### 4.1 *Group 1*

Data from this group come from a sub-corpus of ISA (Italiano Scritto di Americani, Written Italian by Americans. For corpus design see Rastelli, 2006) which consists of written paragraphs composed by about 60 undergraduate American students that spent one or two semesters of their second or third university year at the I.E.S. program in Milan. Students were asked to describe 11 scenes from the film “Pane e tulipani” according to the elicitation formula: “describe what you’ve just seen: what are the characters doing?”. Students were free to decide whether to recount the scene in the past or in the present tense. Teachers had never interacted with students during the session and, on their behalf, students weren’t aware of the aim of the assignment. Different from data analyzed in Ježek and Rastelli (2008), here the rate of beginning students (Beg) has been raised and made equal in percentage (33%) to intermediate (Int.) and advanced (Adv.) students. The proficiency level has been assigned based on the results of CILS proficiency test (level B2). Similarly to Ježek and Rastelli (2008), also here (and different from the assumptions of the ASH) a pronominal verb – *fermarsi* “stop” – was included in the sample for the reasons that will be explained in paragraph 6. Tables 5 and 6 below show how many E or A, or X (auxiliary omission), were found for each one of the verbs at three different levels of proficiency. The overall numbers of occurrences for each verb are reported alongside.

Three points are worth stressing:

- The phenomenon of auxiliary omission disappears gradually going from beginning to advanced students.
- There are more (or at least equal number of) mistakes in the auxiliary choice in advanced/intermediate students than in beginners as far as *arrivare*, *partire*, *parlare* and *telefonare* are concerned.
- The mistaken occurrences of *fermarsi* are more numerous than the right ones at all proficiency levels.

##### 4.2 *Group 2*

The data of group 2 are taken from the Pavia corpus (see Andorno, 2001; Andorno and Bernini, 2003) and they refer to five Chinese

86 Tab. 5: unaccusative core verbs in group 1

	arrivare "arrive" 65		uscire "exit" 36		partire "leave" 45		fermarsi "stop" 23		entrare "enter" 14		scendere "go down", "get off" 9					
	E	A	E	A	E	A	E	A	E	A	E	A				
<b>Beg</b>	11	2	18	2	5	16	4	-	1	7	3	1	1	3	2	-
<b>Int</b>	10	-	6	-	-	10	-	-	1	2	-	2	2	-	-	-
<b>Adv</b>	37	5	9	1	-	10	5	-	2	7	-	7	1	-	3	1

Tab. 7: unaccusative core verbs in group 2

	arrivare 24		uscire 16		partire 4		fermarsi 7		entrare 2		scendere 0					
	E	A	E	A	E	A	E	A	E	A	E	A				
5	1	18	8	-	8	1	-	3	-	2	5	-	2	-	-	-

Tab 9: unaccusative core verbs in group 3

	arrivare 141		uscire 36		partire 17		fermarsi 26		entrare 28		scendere 7					
	E	A	E	A	E	A	E	A	E	A	E	A				
136	3	2	32	3	1	15	1	1	22	3	1	-	1	1	7	-

Tab. 6: inergative core verbs in group 1

	<i>parlare 66</i>			<i>telefonare 37</i>		
	E	A	X	E	A	X
Beg	1	25	–	–	6	2
Int	4	25	–	2	12	–
Adv	1	10	–	–	15	–

Tab. 8: inergative core verbs in group 2

	<i>parlare 4</i>			<i>telefonare 11</i>		
	E	A	X	E	A	X
	–	–	4	–	6	5

Tab 10: inergative core verbs in group 3

	<i>parlare 68</i>			<i>telefonare 20</i>		
	E	A	X	E	A	X
	–	65	3	–	20	–

learners who were asked to recount their personal experiences and to retell some scenes from a film and from comic strips. In particular, two learners belonging to this group are widely described in Valentini (1992 and 2003). In tables 7 and 8 learners' proficiency breakdown is lacking because the indications in literature (postbasic - or postbasic +) are not fully comparable to those reported for group 1. Furthermore, differently from those in group 1, most of the subjects belonging to group 2 are learning Italian in an informal setting so they never underwent an official proficiency test like that of group 1.

It is worth underlining that only 23 out of 68 total auxiliaries are spelled out (a percentage below 33%). This lack of auxiliary may possibly correlate with the aspectual, atemporal use of the past participle (for Italian see Bernini, 2005). For instance, in sentence (8)

the past participle *uscita* “gone out” might simply indicate the resultant state of the two girls being “out of the door” rather than the past event of the two girls “going out” of the door

- (8) Visto due ragazze uscita porta  
“Seen two girls gone out the door”

Different from group 1, in group 2 there are almost no mistakes both in unaccusative and inergative verbs, with the important exception of *fermarsi* (see paragraph 6).

### 4.3 Group 3

The data of group 3 come from the corpus LIPS, (the largest Italian learner corpus) which is formed by the transcriptions of the oral interviews of the official exam CILS (Vedovelli, 2006; Barni and Gallina, in press). The learners belong to the intermediate/advanced level (B2-C2). Learners belonging to the C2 level (almost 30% of the corpus) are to be considered near-native. In the interview learners are asked to present their own ideas on a given topic (in about two minutes) and to interact with a native speaker in a role-play.

A small but significant percentage of mistaken auxiliaries is present also in unaccusative core verbs like *arrivare*, and *uscire* but not in inergative core verbs. “Hanging” past participles are much less frequent than in group 2, even if they still occur in most categories. Different from other verbs, almost 25% occurrences of *fermarsi* in group 3 display wrong or lacking auxiliaries. This fact will be discussed in paragraph 6.

## 5. *The Auxiliary Selection Hierarchy tested out on performance data*

This paragraph questions whether, and to what extent, the performance data are useful to support or to reject the predictive value of the ASH. It is reasonable to think that performance data could integrate experimental data to form a broader picture. But in order to do that, the issue should be turned upside-down and the notion of primacy in acquisition must be re-addressed by admitting the existence of a

period of latency in which the effects of the ASH are more difficult to detect in data of performance than in experimental data. Sorace (2004: 259-262) noticed that the more a verb is aspectually open or flexible (in that it allows, for instance both telic and atelic, intentional and non-intentional readings) the more it is likely to trigger both auxiliaries in L1 Italian and the more its acquisition is delayed among L2 learners. This study claims that a general delay in acquisition (also for core verbs) is more visible in performance data because of the existence of a period of latency that coincides with the time necessary to learners in order to learn the actionality of L2 predicates. When reading and analyzing performance data, apart from actionality itself, other factors surface; these other factors are instead much less visible in experimental data. In other words, while agreeing with Sorace's view that the different pace in the acquisition of auxiliaries are due to their aspectuality, the notion of primacy of acquisition should be re-addressed in other terms. What counts in performance data for the auxiliary to be said being acquired sooner or later is not only the aspectual template of the lexical item (its complexity or its simplicity), but also heterogeneous, non-actional factors which may facilitate or impede learners both to figure out verbs' actionality and to use this knowledge to fulfil performance tasks. In particular, the length of the period of latency and the delay in the emergence of the correct auxiliary in performance data of L2 Italian might be affected by two factors:

- (a) the simultaneous acquisition of the tense-aspect system and – above all – of the distinction between perfective and imperfective marking on past tenses (see Giacalone Ramat, 1995; 2002). As we saw in paragraph 2.2, in Italian the lexical aspect is “parasitic” to the grammatical aspect because the latter is always overtly expressed and furthermore it often determines the former. Since learners often ignore the effect of this actional shift, external observers who read or listen to learners using a *passato prossimo* can't say but very little about what actional content they are thinking of for that predicate. In other words, external observers are not in the position to quantify the impact of verb semantics in learners' choice of auxiliaries, the potential relation between actionality and auxiliary selection being shadowed by non target-like perfective/imperfective alternation

patterns. In fact, sometimes aspectually imperfective and actionally stative predicates are telicized and made punctual (non durative) by an overextended use of the *passato prossimo*, while sometimes (but much more rarely in L2 Italian data) the opposite occurs. Since they don't know what happens when a predicate undergoes an aspectual shift like the kind described above, probably learners' awareness of the lexical content of the predicates they are using can be seen as incomplete.

- (b) The number of phases (Verkuyl, 2005: 26; Moens and Steedman 1987) that a may make up a predicate (in learners' representations) and which is credited with being the most pragmatically relevant in a certain context. A verb like *entrare* "enter" may very well belong to the "change of location" category on the ASH gradient and be inherently telic but – from a pragmatic point of view – may be made up of (and regarded as consisting of) just one or more than just one phase, for instance, a preparatory phase, a culmination point and finally a resulting phase or consequent state. These different phases in L1 Italian are sometimes triggered and made evident by the (grammatical) aspectual shift, that is, by the passage from a verb form to another. So in L1 Italian one can say *sto entrando* "I'm entering" (where the gerundive periphrasis help focus on the preparatory phase), *sono entrato subito* "I entered immediately" (where the *passato prossimo* focuses on the culmination point) and also *sono entrato per cinque minuti* "I entered for five minutes" (where the *passato prossimo* together with the proper time expression focus on the consequent state).

Both the grammatical-aspect interference and the pragmatic flexibility described respectively in points (a) and (b) refer to something different from the aspectual-compositional flexibility to which Sorace (2004) seems to refer when speaking of the features characterizing the difference between core and peripheral verbs on the gradient. Provided that factors (a) and (b) regard – maybe to a different extent – all the verbs on the gradient, their effects are likely to be more visible in performance data than experimental data. This would explain why such a high percentage of mistaken auxiliaries is found in the former and not in the latter.



## 6. “Actional hybridism” and auxiliary selection

The verb *fermarsi* “stop” displays 83% of wrong or lacking auxiliaries in group 1, 100% in group 2 and 25% in group 3. These data are confirmed by the fact that also the overall percentage of mistaken auxiliaries of *fermarsi* in the Pavia corpus (excluded those represented by group 2) is about 56%. It must be underlined that even learners belonging to the same group may happen to speak typologically distant mother-tongues (some of them having an auxiliiation system while some others not). For this reason, and also in force of the sampling criteria which were adopted for this analysis, L1 pressure has to be held as an irrelevant factor in the auxiliary choice for *fermarsi*. This paragraph questions whether it is the actional character of this verb that causes learners some difficulties and so heavily influences performance data. *Fermarsi* in Italian is a pronominal verb and – as such – is not included in the ASH gradient (see Sorace, 2000: 861). The main reason for this exclusion is that the clitic reflexive pronoun *si* triggers the E auxiliary in all pronominal verbs – real reflexives included – regardless of their semantics. Bentley (2006: 31) agrees that – though many *si*-constructions being inherently telic – the E auxiliary is triggered by the morpheme and not by its inherent telicity. Pronominal verbs like *muoversi* “move”, *rompersi* “break” and others were experimentally inserted in the gradient by Ježek and Rastelli (2008). A quantitative analysis showed that, possibly, this insertion did not alter the ASH curve. Another factor that has to be taken into careful consideration is that the verb *fermarsi* in Italian has a transitive-causative counterpart with A as an auxiliary. It can be answered that other unaccusative verbs towards the middle of the ASH gradient have transitive counterpart (*finire* “finish, stop”, *cominciare* “start, begin”, *salire* “get on, climb”, *iniziare* “start, begin”, *continuare* “continue”) but none of them shows such a high rate of errors. Furthermore, all causative events were excluded from the sample. For instance, all occurrences of *fermarsi* in group 1 refer to a scene from the film when a “bus stopped”, that is, to an anti-causative event. The oscillation in the auxiliary choice for the verb *fermarsi* might be due not to L1 pressure, nor to syntactic alternations nor to the presence of the clitic pronoun but its actional and pragmatic complexity. From the actional point of view, *fermarsi* is a gradual completion verb

(for a discussion on this category see Bertinetto and Squartini, 1995). The peculiar behaviour of gradual completion verbs is due to the fact that the event expressed by these telic predicates may be regarded as a sequence of successive partial attainments rather than an event having only one final achievement. Its pragmatic flexibility is shown by the fact that, when properly combined with aspectual grams, this predicate is capable of triggering a preparatory phase (9), a culminating phase (10) and also a resultant state (11):

- (9) Il treno si sta fermando  
“The train is about to stop” (preparatory phase)
- (10) Il treno si è fermato in un secondo  
“The train stopped in a second” (culminating phase)
- (11) La mamma si ferma a Milano per due mesi  
“Mum is going to stay/remain in Milan for two months” (resultant state)

Other gradual completion verbs in L1 Italian are for instance: *sorgere* “to rise”, *appassire* “to wilt”, *aumentare* “to increase”, *diminuire* “to decrease”, *maturare* “to ripe”, *curvare* “to bend”. It can therefore be assumed that the strong oscillation between A and E is a clue signalling that learners find difficult to focus the verb actionality (the fact that the predicate enters a syntactic alternation or that it display the *si*-morpheme becoming irrelevant or secondary to learners). Performance data evidenced that the percentage of wrong or lacking auxiliaries of *fermarsi* decreases slowly. This could mean that, as the learning proceeds, the degree of aspectual awareness is likely to increase and to undergo successive refinements. The system of representation rules which map syntax and semantics should thus be considered evolutionary in nature.

## 7. Conclusive remarks

The performance data analyzed in this study seem to allow two hypotheses:

- (a) There could be a gap between the time in which the representation rules are acquired by learners and the time in which the same rules are tested in performance tasks. In this view, the expression “primacy in acquisition” should be referred to how a learner eventually reaches a certain degree of knowledge (of the mapping rules) that can be observed only in experimental tests, without expecting that it should be confirmed by performance data. As a consequence, neither an investigation based only on learners’ performance data nor an account based on experimental data would be explanatorily and descriptively adequate before one decides whether “primacy in acquisition” should be intended in terms of emergence (in the sense used in most acquisitional literature, see Pallotti, 2007) or just in terms of abstract representation which are capable to trigger acceptability judgments (see Sorace and Keller, 2005 as far as L1 are concerned).
- (b) A period of latency, in which learners do not seem to worry much about which auxiliary to choose could exist; what counts more in building the actionality of the event being what surrounds the verb rather than the effort of detecting the actional content of the verb itself. Thus, during this critical period, learners would frequently over-extend some basic verbs regardless of their aspectual properties and also omit the auxiliaries very frequently (this being true also for unaccusative and inergative core verbs of the gradient). This would occur in a period in which whole Tense-Aspect system is in reconstruction (in the sense of Starren, 2001; Bernini, 2005). Presumably, when this period is over, the ASH would account for how verb aspectuality results in split intransitivity also in performance data.

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