Phrasal verbs between syntax and lexicon

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Phrasal verbs have some structural and semantic characteristics in common with morphologically complex words, even though they originate from phrasal constructions. Focusing on the role played by lexicalization and grammaticalization processes in the gradual shift from syntactic to morphological structures, this paper deals with semantic and morphotactic characteristics of Italian phrasal verbs. The overlapping between the range of directional meanings conveyed by prefixed verbs and phrasal verbs is considered as further evidence of the correspondences between phrasal verbs and clear morphological structures. A constructionist approach allows us to explain the processes that led to the origin of phrasal verbs, the hybrid characteristics they display, and their tendency toward the acquisition of lexical status[*].

1. Introduction

Phrasal verbs (hereafter PhVs) are a phenomenon at the lexicon-syntax interface, in that they originate from syntactic constructions and yet they have some structural and semantic characteristics that are typical of complex lexical units. Lexicalization and grammaticalization processes play an important role in the gradual transition of PhVs from syntactic to morphological structures. The primary function of PhVs is the expression of spatial meanings. When PhVs carry out this function they are in direct competition with other types of complex verbs, mainly prefixed verbs.

The presence of PhVs in Romance languages has been the focus of a number of recent publications. Italian, in particular, distinguishes itself both by the number of studies on the topic, and above all by the number of these constructions and their use (cf. Cini 2008, and Iacobini 2009 for updated bibliographical references).

Romance PhVs are interesting from different points of view, among them, in a synchronic perspective, the typological classification of the expression of motion events, and in a diachronic perspective, the position of spatial relators. A series of changes have occurred through time in Indo-European languages regarding the position of spatial relators in respect to the verb. Summarizing briefly, we could say that the adverbs expressing spatial meaning that had an autonomous position in respect to the verb in Indo-European have then been attached to the verb in classical languages (e.g. Greek, Latin) forming

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preverbs or prefixes.[1] In some cases the process of univerbation may continue to the point in which morphologically complex forms become unanalyzable wholes for most speakers (e.g. classic and contemporary Persian *afkandan* 'to throw' < **apa-kan-*, Italian *uscire* 'to exit' < Latin *ex-ire*). The constructions with spatial relators in post-verbal position, which gave life to PhVs, developed and spread during medieval times in Germanic and Romance languages.[2] It is well known that PhVs had greater fortune in Germanic languages, but the use of PhVs is currently quite dynamic in some Romance varieties (especially in Rhaeto-Romance and in northern Italo-Romance dialects). As far as standard Romance languages are concerned, PhVs have spread consistently in spoken Italian in the course of the 20th Century, and have become an expressive resource in current colloquial and standard Italian. At present, the use of PhVs is not unheard-of in other Romance languages where they are preferred in less formal registers.

We may observe how in the history of Western Indo-European languages the formation of complex verbs has taken place both by pre- and post-verbation and through the lexicalization of formerly independent elements (i.e. spatial adverbs). In the specific case of Italian, preverbation is a well-established process that clearly belongs to the morphological domain. The formation of PhVs is a less neatly defined process in which the syntactic origin is evident, though showing a clear tendency towards lexical status at the same time.

In § 2 we lay out the theoretical framework within which we analyze the PhVs, and we show how the notion of construction is used successfully from different theoretical points of view in the study of the lexicon-syntax interface phenomenon, and how it is particularly suitable to describe the specific characteristics of PhVs. § 3 illustrates the principal characteristics of Italian PhVs, focusing on the role of the lexicalization and grammaticalization processes and the gradual shift from phrasal constructions to complex lexical units. § 4 analyzes semantically transparent PhVs that convey directional meanings, which have been drawn from an Italian corpus of spoken texts. The meanings expressed by PhVs are then compared to those of preverbal prefixes, with the objective of evaluating the similarities and the correspondences between PhVs and morphological constructions (i.e. prefixed verbs). In § 5 we present our conclusions concerning the collocation of Italian PhVs in respect to the interaction between syntax and lexicon, the boundaries between syntax and morphology, together with some thoughts on the range of directional meanings expressed by PhVs.

2. Theoretical basis

The particular position of interface between lexicon and syntax occupied by PhVs has drawn the attention of researchers from different theoretical perspectives.[3] A particularly lively debate goes on in the generative sphere between the proponents of a lexical-morphological interpretation and the proponents of a syntactic interpretation.

The lexical morphological exponents believe that the particle and verb combine pre-syntactically and form a constituent that excludes the direct object (cf. Olsen 2000, McIntyre 2001). The main problem for a morphological analysis of PhVs is the violation of the principle of lexical integrity.[4] Because, even though the verb and the particle form a semantic unit (that may take on an idiomatic meaning) differently from prefixed words, the particle and the verb, although closely connected, do not completely fuse to form an inseparable complex word.

The syntactic approach may be distinguished by two principal kinds of analyses. In the "Syntactic complex predicate approach" the verb and the particle form a phrasal constituent entering the syntax as separate heads (cf. Zeller 2001). The other principal syntactic approach assumes that the particle predicates over the post-verbal NP in a resultative "small clause" (i.e. a minimal predicate structure that possesses arguments and predicates, but no finite verbs), cf., among others, Kayne (1985, 1998), den Dikken (1995). Both Nicol (2002) and Ramchand (2008) propose a minimalist approach.

Beyond the generative sphere, adopting the Lexical-Functional Grammar approach, Toivonen (2003) proposes that particles are lexically specified as non-projecting words, and that their adjunction to the verb is sanctioned by a specific phrase-structure rule. An interesting proposal put forth by Booij (2001, 2002a, b) claims that PhVs are a case of "periphrastic word formation", i.e. lexical items that can behave as complex words, even though they originate from a phrasal construction. Booij's proposal is in line with the basic tenets of Construction Grammar (cf. Goldberg 1995; Jackendoff 1997, 2002). He defines PhVs as "constructional idioms". Some basic characteristics of the constructionist approach are shared also by the so-called "lexical-approach" put forth by Levin & Rappaport (1995), and Rappaport & Levin (1998).

The idea that there are constructional meanings, which are independent of the particular lexical items that make up the sentence, is, according to Zubizzareta & Oh (2007:1), "the most noteworthy development in the area of the lexicon-syntax interface" since the 1980s. Although the scalar vision of grammar proposed by Goldberg (1995)

is radically different from the modular model of generative grammar, and despite numerous other differences regarding the lexicon-syntax interface, the notion of construction elaborated by Goldberg (1995), and that assumed in generative grammar (and in many other current linguistic theories), share a common insight, which Zubizzareta & Oh (2007:1) summarize in the following terms:

> The meaning of an expression [i.e. construction] is to be attributed to the superimposition of the meaning of grammatical closed-class items and the meaning of open-class items. […] In other words, there are "structures" that carry meaning and these "structures" are flagged by "closed-class items". Theories vary as to the nature of these "structures", as well as to grammatical status of "closed-class items". Nevertheless, common to many different theories of the lexicon-syntax interface is the insight that linguistic expressions are associated with structured meaning that is independent of the particular open-class lexical items they contain.

PhVs may be considered a typical example of this broad interpretation of the notion of construction. Booij (2001) integrates the hypothesis that the syntactic origin of PhVs is from "small clauses" in the constructionist framework and indicates the grammaticalization path along which PhVs may acquire a morphological status. Following his idea, we assume that Italian PhVs too are constructions with a phrasal origin and form, but with semantic and structural characteristics that make them close to complex words.

Italian PhVs originate from the reanalysis of a spatial adverb heading a PP as a new construction in which the spatial relator has a strong bond with the verb. In respect to this construction it has an adposition role. The new construction is a result of a progressive degree of integration due to lexicalization and grammaticalization processes. The following (1) is an example of a re-analysis of an adverb as a post-verbal modifier.

(1) Carlo porta giù in cantina le bottiglie
lit. Carl takes down in the basement the bottles
'Carl takes the bottles down to the basement'

This sentence may be segmented as in (2a) (cf. a sentence like 2b), or as (3a) with a PhV (i.e. a complex predicate formed by a verbal base and a modifying particle) which takes a direct argument (cf. the sentences in 3b, c, d).

(2) a. [Carlo] [porta] [giù in cantina] [le bottiglie]
b. [Carlo] [porta] [le bottiglie] [giù in cantina]

(3) a. [Carlo] [porta giù] [in cantina] [le bottiglie]
b. [Carlo] [porta giù] [le bottiglie] [in cantina]
*[Carlo] [porta] [giù le bottiglie] [in cantina]
c. [Carlo] [le] [porta giù] [con l'ascensore]
lit. Carl them takes down with the elevator
'Carl takes them down with the elevator'
d. [chi] [le] [porta giù]?
lit. who them takes down?
'who will take them down?'

The basic, and more productive, configuration of Italian PhVs involves the expression of spatial meanings. The use of transitive or intransitive verbs gives rise to two different, though related, constructions (cf. 4a and b).

(4) a. [Vtr [su]$_{P}$]$_{PhVs}$ 'to cause Y to stay up by V-ing'
e.g. tirare su le braccia
lit. to pull up the arms 'to raise ones/sbs. hands'
[Vtr [via]$_{P}$]$_{PhVs}$ 'to cause Y to stay away by V-ing'
e.g. cacciare via una mosca
lit. to hunt away a fly 'to shoo away a fly'

b. [Vintr [su]$_{P}$] $_{PhVs}$ 'to go / stay up by V-ing'
e.g. correre su
lit. to run up 'to run up to'
[Vintr [via]$_{P}$] $_{PhVs}$ 'to go / stay away by V-ing'
e.g. volare via
'to fly away'

The scalar vision of grammar envisaged by constructionist approaches allows for a gradual, dynamic and non-clear-cut division between syntax and morphology. Not only syntactic constructions may gradually change in morphological structures, but also word formation patterns may be considered constructions. This is because they "can be seen as abstract schemas that generalize over sets of existing complex words with a systematic correlation between form and meaning. These schemas also specify how new complex words can be created" (Booij 2009:201).

Following this approach it is pertinent to investigate the lexicalization and grammaticalization processes that lead to the entrenchment of PhVs in Italian and the gradual passage from

structures of syntactic origin to complex lexical elements. Even though grammaticalization and lexicalization are distinct processes, they have some features in common (cf. Brinton & Traugott 2005). The main changes regarding the formation of PhVs that can be reconducted both to lexicalization and grammaticalization are: gradualness, fusion, metaphorization/metonymization, while decategorialization involves grammaticalization only. Taking Bernini's (2008) analysis of the Bergamasque dialect as a starting point, in the next paragraph we will describe the characteristics of Italian PhVs in the light of the lexicalization and grammaticalization processes above-mentioned.

3. Italian PhVs: lexicalization and grammaticalization processes

The passage of PhVs from structures of syntactic nature to complex lexical elements is characterized by gradual development along lexicalization and grammaticalization paths. In line with Brinton (1988:163-164) we maintain that particles may form more or less cohesive units with the verbal bases, and consequentially there is no clear boundary between PhVs and similar syntactic constructions. In sections 3.1. and 3.2. we illustrate the degree of fusion between verbs and particles in Italian PhVs, and the results provoked by metaphorization and metonymization processes (i.e. the development of new meanings, the extension of verb types that can combine with postverbal particles, the modification of argumental structures, and the decategorialization of spatial particles in actional markers).

3.1. Fusion

Different from what happens with prefixed verbs, PhVs do not reveal a complete fusion between the verb and the particle, though there is a strong bond between the two parts.[5] Cohesion between the verb and the particle is highlighted, not only by the semantic unity of the construction, but also by the comparison of the structural characteristics of sentences. For example, if we compare the argumental structure of two apparently similar sentences, we may note that the one in (5a) is formed by a PhV and one external argument, while the verb of sentence (5b) has two external arguments (one direct, one indirect).

(5) a. [metti dentro] [la borsa e i guanti]
lit. [put in] [the bag and the gloves] 'put in the bag and the gloves'

b. [metti] [dentro la borsa] [i guanti]
lit. [put] [in the bag] [the gloves] 'put the gloves in the bag'

The frequency of PhV use in final clause position and the fact that it forms a unitary prosodic constituent, in which the particle plays a prominent role (cf. Simone 1997, Iacobini 2008), may be considered further support of the strong bond between verb and particle.

Confirmation of construction cohesion is given by evidence that only enclitic pronouns (6a) may be inserted between the verb and the particle, or other light constituents, e.g. negative adverbs or focal elements (6b).

(6) a. Hai rischiato di metterlo sotto
'You risked running him down'

b. Devi guardare sempre avanti
'You must always look ahead'

Normally lexical constituents do not occupy an intermediate position between the verb and the particle, cf. (7).

(7) Carlo ha *buttato via* il libro
'Carl threw away the book'

The presence of argumental lexical constituents between the verb and the particle is a rare phenomenon, yet it is not ungrammatical. The examples in (8) are more frequent in spoken language, especially in contexts that focalize on the course of the event.[6]

(8) *mettere* la palla *dentro*
lit. to put the ball in 'to make a goal'
mettere le mani *avanti*
lit. to put the hands forward 'to play it safe, cover yourself/ your back'

Evidence of further support of PhVs cohesion is that adverbs have scope over the whole construction, but not on the particle alone, even if they interpose between verb and particle (cf. 9), and that the particle can not move to preverbal position, not even in topicalization or left-dislocation (cf. 10).

(9) Perché devi *andare* sempre *via* così presto?
lit. Why must you go always away so early? 'Why must you always go away so early?'

(10) a. Carlo è *saltato fuori* all'improvviso
Carl be.3SG jump.PART.PAST out suddenly
'Carl popped up/jumped out suddenly'

b. **Fuori* Carlo è saltato all'improvviso
Out Carl be.3SG jump.PART.PAST suddenly

c. *È *fuori* che Carlo è saltato all'improvviso
be.3SG out that Carl be.3SG jump.PART.PAST suddenly

Lastly, cohesion between verb and particle is evident in the use of PhVs in coordinating structures. In (11a) the verb-particle construction behaves as a constituent, since the nominal arguments *il tavolo* and *le sedie* are direct arguments, while in (11c) the nominal elements *tavolo tondo* and *tavolo quadrato* are part of prepositional phrases governed by the verb *mangiare*.

(11) a. Carlo *porta su* il tavolo e Pietro ___ le sedie
Carl bring3SG up the table and Peter ___ the chairs
'Carl brings up the table and Peter the chairs'

b. *Carlo *porta su* il tavolo e Pietro **su** le sedie
Carl bring.3SG up the table and Peter up the chairs

c. Carlo mangia *sul* tavolo tondo e Pietro *su* quello quadrato
Carl eat.3SG on.the table round and Peter on that square
'Carl eats on the round table and Peter on the square one'

d. *Carlo mangia *sul* tavolo tondo e Pietro ___ quello quadrato
Carl eat.3SG on.the table round and Peter ___ that square

3.2. Metaphorization and metonymization

Metaphorization and metonymization processes may make the spatial meanings of the particle shift toward other meanings and functions. They may be observed for both motion verbs and other verb types.

PhVs constructed with motion verbs may develop other meanings, along with meanings that are compositionally transparent. A gradual semantic shift is demonstrated by evidence that semantically non-transparent PhVs with meanings other than those relating to motion, e.g., *mettere dentro* lit. put inside 'to imprison', maintain the possibility of being used with a compositionally transparent meaning. For example the PhV *buttare giù* (lit. to throw down) may be used

currently in the compositional meaning 'to knock down', but also in other derived meanings: 'to swallow', 'to undergo', 'to write down', 'to get down', 'to blow down', 'to weaken'.

The use of non-motion verbs in PhVs is sign of the construction's entrenchment and of semantic lexicalization. PhVs formed with non-motion verbs usually express significations that are a result of metaphoric or metonymic interpretation (e.g. *fare fuori,* lit. to do out 'to wipe out'; *fare su*, lit. to do up 'to build up, to put up'; *tenere sotto,* lit. to hold down 'to keep down'; *tenere su,* lit. to hold up 'to keep up').

The process of metaphorization may be mapped from a diverse argument structure of the PhV in respect to the verb base. A quite regular argumental change is illustrated in (12b) compared to (12a): where the particle *su* 'on' absorbs the locative argument, whereas the direct argument is not affected.

(12) a. Metti il caffè sul fuoco
put.IMPER the coffee on.the fire
'Put the coffee on the burner'

b. Metti su il caffè
put.IMPER on the coffee
'Put on the coffee'

c. *Metti su il caffè sul fuoco
put.IMPER on the coffee on.the fire

Another change induced by verb-particle constructions is the passage from a transitive and/or unergative verbal base to an unaccusative PhV. The passage is marked by the auxiliary verb *essere* 'to be' instead of *avere* 'to have' (typical of transitive and unergative verbs), cf. (13).

(13) a. Il gabbiano ha volato dalla costa alla nave
'The seagull flew from the shore to the ship'

b. Il gabbiano è volato via
'The seagull flew away'

The expression of actionality is a phenomenon of metonymic origin that is to be ascribed to grammaticalization only, not to lexicalization, since it depends on the decategorialization of spatial particles in actional markers.

Iacobini & Masini (2006), applying the analysis proposed by Brinton (1988) for English to Italian, demonstrated that Italian

post-verbal particles may contribute to the *Aktionsart* of PhVs. Even though Italian does not present a developed system of actional particles, there are nonetheless some traces of regularity. The actional information is derived from the locative meaning of particles by means of a metonymic transposition from the spatial domain to the conceptually related event structure domain. Italian post-verbal particles mainly convey telic meaning. Since a telic event is an event that has a necessary endpoint, particles that indicate movement oriented towards a specific goal (or originating from a specific source) may come to imply attainment of the goal (telic situations), whereas particles that express stasis, location, or motion without a specific endpoint may contribute to indicate atelic situations. Some examples are listed in Table 1.

Table 1: Actional contribution of particles

Telicization	tirare 'to pull'	–TEL	tirare fuori 'to pull out'	+TEL
	tirare 'to pull'	–TEL	tirare giù 'to pull down'	+TEL
	saltare 'to jump'	–TEL	saltare dentro 'to jump in'	+TEL
	volare 'to fly'	–TEL	volare via 'to fly away'	+TEL
	passare 'to pass'	–TEL	passare via 'to fade away'	+TEL
	passare 'to pass'	–TEL	passare su 'to drop by'	+TEL
Detelicization	portare 'to bring'	±TEL	portare appresso 'to bring with one'	–TEL
	andare 'to go'	–TEL	andare attorno 'to go around'	–TEL
	correre 'to run'	–TEL	correre indietro 'to run back'	–TEL

The results of a corpus analysis performed using LIP[7] confirm the high correlation between the meanings expressed by particles and the actional characteristics of the PhVs they contribute to (cf. Iacobini 2008). Table 2 indicates the proportion of PhVs (tokens) used with telic or atelic meanings in PhVs formed with particles that are used most in the expression of *Aktionsart*.

In conclusion, we can say that Italian PhVs, though they have clear syntactic origins, display characteristics that set them apart from typical phrasal structures. PhVs share many characteristics with complex lexical units, due to the lexicalization and grammaticalization processes. In the next section we will deal with the analysis

Table 2: Telic and atelic post-verbal particles in LIP		
PARTICLE	% +TEL	% -TEL
via	100	-
giù	92,7	7,3
su	92,1	7,9
fuori	89,7	9,2
dentro	83,8	16,2
dietro	40,0	60,0
accanto	12,5	87,5
avanti	1,8	98,2
intorno	-	100

of semantically transparent PhVs with the objective of comparing the possible range of spatial meanings with the meanings expressed by morphologically complex words (i.e. prefixed verbs).

4. Semantics of Italian PhVs

Italian PhVs mainly convey spatial meanings. The majority of spatial meanings are directional, since motion verbs are the most commonly employed verbs, while PhVs formed with stative verbs usually express locative meanings, which are often accompanied by metaphorical extensions (e.g. *stare accanto,* lit. to stay next to 'to stand by'; *stare dentro,* lit. to stay in(side) 'to stay (with)in'*, stare dietro* lit. to stay behind 'to keep after').

The particle may function as a direction marker both with manner verbs (14a) and with generic and deictic verbs of motion (14b).

(14) a saltare fuori lit. to jump out 'to jump out, to pop up'
b. andare dentro lit. to go in 'to go in, to enter'

In combination with path verbs, particles may strengthen the spatial information that is already expressed by the verbal base (15).

(15) entrare dentro lit. enter in 'to enter'
uscire fuori lit. exit out 'to exit'

The use of PhVs in standard Italian supplies us with a means of further expressing directed motion events, besides prefixed verbs (e.g. *circumnavigare* 'to circumnavigate', *esportare* 'to export', *importare* 'to import') and path verbs lexicalizing the direction of motion in the verb root (cf. *salire* 'to rise, to go up', *montare* 'to climb on/in, to get on/in').

In this section we investigate the range of directional meanings that may be conveyed through PhVs in current Italian. The comparison of meanings that may be evinced by the prefixed verbs will be employed with the objective of finding additional elements in common between PhVs and typical morphological complex words.

Our analysis of the LIP corpus has resulted in the following quantitative data concerning semantically compositional PhVs that express directed motion. The PhVs are thus formed by motion verbs and particles that indicate the direction toward which they are aimed, or from where the motion event begins. This sample of PhVs was gathered from the LIP through an analysis of the contexts in which the PhVs containing a motion verb were present. The total of 234 tokens, corresponded to 74 types. Thirty-one verb bases are listed in (16). The seventeen particles taken into consideration are listed in (17).

(16) andare 'to go', arrivare 'to arrive, to reach', buttare 'to throw', cacciare 'to shoo, to chase, to expel', entrare 'to enter, to go in, into', girare 'to turn, to go round', gocciolare 'to drip, to drop', infilare 'to thread, to insert, to put on', mandare 'to send', mettere 'to put', passare 'to pass, to pass through', portare 'to carry, bring, take', rendere 'to give back', riandare 'to return, to go again', rientrare 'to return, to go/come back in', rimandare 'to send back, to send again', riscendere 'to go/come down again', ritornare 'to return, to go/come back', rivenire 'to come back', saltare 'to jump', scaricare 'to discharge', scendere 'to go/come down', sfuggire 'to escape', sgattaiolare 'to sneak away', spingersi 'to push onself, to proceed', strappare 'to tear', tirare 'to pull, to throw', togliere 'to take off, out, away', tornare 'to return, to go/come back', uscire 'to come out, to go out', venire 'to come'

(17) accanto 'next to, near, by', addosso 'on, against', appresso 'near, behind, around', avanti 'forward', dentro 'in(side), into', dietro 'behind, back(wards)', fuori 'out(side), away, off', giù 'down', indietro 'back(wards), behind', intorno 'around', lontano 'far away, away', oltre 'beyond, across', sopra 'on, onto, up, over', sotto 'under, down', su 'on, onto, up, over', via 'away, out(side), off', vicino 'near, nearby'

Table 3 shows how many particles each verb uses to form semantically transparent PhVs that express 'direction of motion'. It also lists the 74 types found in the corpus.

Table 3: Combination of verbs and particles

andare	12	accanto, avanti, dentro, dietro, fuori, giù, indietro, sopra, sotto, su, via, vicino	rendere	1	indietro
mettere	8	dentro, giù, intorno, sopra, sotto, su, via, vicino	rientrare	1	dentro
portare	8	appresso, avanti, dietro, fuori, giù, lontano, su, via	rimandare	1	dentro
passare	5	accanto, avanti, giù, oltre, sopra	riscendere	1	giù
venire	5	avanti, fuori, giù, su, via	ritornare	1	su
tirare	4	avanti, fuori, giù, su	rivenire	1	giù
buttare	3	fuori, giù, via	saltare	1	addosso
mandare	3	avanti, giù, via	scaricare	1	sotto
tornare	3	giù, indietro, via	scendere	1	giù
riandare	2	giù, su	sfuggire	1	via
arrivare	1	su	sgattaiolare	1	fuori
cacciare	1	via	spingersi	1	oltre
entrare	1	dentro	strappare	1	via
girare	1	intorno	togliere	1	via
gocciolare	1	giù	uscire	1	fuori
infilare	1	dentro			

Table 4 shows, starting with the particle, the number of diverse verbal bases with which each particle may combine; we have distinguished types and tokens.

Table 4: Number of verbs each particle combines with					
PARTICLE	PHVS TYPES	PHVS TOKENS	PARTICLE	PHVS TYPES	PHVS TOKENS
giù	14	31	vicino	2	5
via	11	60	accanto	2	2
su	8	25	dietro	2	2
fuori	7	27	intorno	2	2
avanti	6	35	oltre	2	2
dentro	6	22	addosso	1	2
sopra	3	7	appresso	1	2
indietro	3	5	lontano	1	1
sotto	3	4			

Most frequent PhVs are listed in Table 5.

Table 5: Most frequent PhVs with transparent directional meaning			
PHVS	TOKENS	PHVS	TOKENS
andare avanti 'to go ahead / forward / on'	30	mandare via 'to send away', portare via 'to carry/take away', andare fuori 'to go out/ outside', entrare dentro lit. to enter into 'to enter', venire su 'to come up/out', venire via 'to come away'	7
andare via 'to go away'	23	buttare via 'to throw away', andare su 'to go up/on'	6
mettere dentro 'to put in / away'	10	mettere sopra 'to put on / over', portare su lit. to carry up 'to carry up / on / over to / over onto, to bring up', tirare fuori 'to pull out'	5
uscire fuori lit. to exit out 'to exit'	9	andare giù 'to go down', scendere giù lit. to descend down 'to descend, to go / come / climb / walk / step down, to get down / off / out'	4

Through comparison of the data in Tables 4 and 5, we may observe a positive correlation between the high frequency of use and the high rate of combination. Both the verbs and the particles that combine with a higher number of elements tend to be used more frequently. The verbs used in PhVs that are used more frequently and combine with a higher number of particles are generic motion verbs and deictic verbs (*portare, mettere, andare, venire*); these verbs permit a more extensive directional specification. The few manner verbs present in the sample usually combine with only one particle (this aspect merits further investigation and verification in a larger corpus). While, as one would imagine, the path verbs permit only particles that express compatible direction implicit in the verb (e.g. *salire su/sopra* 'to ascend', *scendere giù/sotto* 'to descend').

Some PhVs expressing direction of motion are used, in a majority of cases, with a non-compositional semantic value. PhVs with a higher proportion of non-compositional meanings are: *venire fuori*, lit. to come out 'to come out' (2 compositional meanings / 20 non-compositional 'to turn out, to result, to emerge'); *portare avanti*, lit. to carry foward 'to carry forward / on / out' (1 compositional meaning / 11 non-compositional 'to hold, to handle, to manage, to conduct'); *tirare avanti*, lit. to pull forward 'to get by, to draw forth' (1 compositional meaning / 6 non-compositional 'to survive, to resist'); *tirare su* 'to pull up' (3 compositional meanings / 5 non-compositional 'to raise, to bring up, to cheer up, to hike up'). Once again, the lexical status of the PhVs in these cases is influenced by idiomatization. This may be observed in (18), where the examples are to be regarded as cases of metaphorical extension that lead to the lexicalization of such constructions. This can be interpreted as further evidence of their entrenchment in current Italian.

(18) alla fine del conteggio <u>è venuto fuori</u> che
'at the end of the tally it turned out that'
questo modo di <u>portare avanti</u> la discussione
'this way of handling the discussion'
un po' di soldi per poter <u>tirare avanti</u>
'a little money in order to survive'
ho avuto due figli, li ho <u>tirati su</u>
'I have two kids, I brought them up'

Returning to transparent PhVs expressing directed motion, Table 6 schematically lists the spatial meanings expressed by PhVs: the left column shows the particle meanings in English, the Italian particles are listed in the second column, and the number of PhVs (tokens) for

each particle used with a directional meaning in semantically transparent PhVs are in the third column, the rightmost column indicates the total number of PhVs for each semantic type.

Table 6: Directional meanings expressed by particles in semantically transparent PhVs

Spatial meanings	Particles	PhVs tokens	tot.
up, over	sopra	7	32
	su	25	
down, under	sotto	4	35
	giù	31	
in, into	dentro	22	22
away, off, out	fuori	27	87
	via	60	
forward	avanti	35	35
back	indietro	5	6
	dietro	1	
near, by	appresso	2	10
	dietro	1	
	accanto	2	
	vicino	5	
across, beyond	oltre	2	2
around, about	intorno	2	2
far	lontano	1	1
against	addosso	2	2

The most frequent token particle meanings result as: the opposites 'up/down' on a vertical axis, and the expression of distancing, separation, or removal, rendered with the particles *fuori* and *via. Fuori* and *via,* considered by themselves, represent the most numerous particle token, but the corresponding opposite meaning 'in, into' is much less frequent. The expression of forward movement is well represented, while the corresponding backward movement particles occur only a few times.

If we compare the spatial meaning expressed by PhVs particles with those expressed by verbal prefixes,[8] we may note that the two ways of expressing direction of motion largely overlap (cf. Table 7).

Table 7: Comparison of directional meanings expressed by post-verbal particles and by verbal prefixes[9]

SPATIAL MEANINGS	PARTICLES	PREFIXES	PREFIXED VERBS
up, over	sopra, su	sopra-/ sovra-, sor-	sopraelevare 'to raise up/over', sovrapporre 'to superimpose, to overlap, to pile up, to lay on', sorpassare 'to surpass, to overtake, to outpace'
down, under	giù, sotto	sotto-	sottopassare 'to underpass'
in, into, inwards	dentro	in-, intro-	importare 'to import', introdurre 'to insert, to introduce, to put/bring in'
away, off, out	fuori, via	ab-, de-(?), dis-, e-/es-, estro-(?), s-, se-	abdurre 'to abduct', deportare 'to deport', disperdere 'to disperse, to scatter', emergere 'to emerge, to outcrop', estromettere 'to expel', sbarcare 'to disembark', separare 'to separate'
forward	avanti	ad-, pre-, pro-	accorrere 'to rush', premettere 'to put before, to state before, to preface', progredire 'to progress, to go forward'
backward	dietro, indietro	re-/ri- (?), retro-	rifluire 'to ebb, to reflux', retrocedere 'to recede, to retreat'
near, by	accanto, appresso, dietro, vicino	giusta-	giustapporre 'to juxtapose'
across, beyond	oltre	per-, trans-	trasferire 'to transfer', perforare 'to perforate'
around, about	intorno	circum-	circumnavigare 'to circumnavigate'
far	lontano	---	
against	addosso	contro-	contrattaccare 'to counter-attack'
between	---	fra-, inter-	frapporre 'to interpose', interporre 'to interpose'

The most conspicuous relation that emerges from the observation of Table 7 is the extensive overlapping between meanings expressed by verbal prefixes and by post-verbal particles. The second observation that can be made concerns productivity: only a small part of the prefixes may be used productively to express the direction of motion.

Moreover, only one (*intro-*) of the few productive prefixes listed in Table 7 expresses mainly spatial meaning when added to verbs. Whereas the others express different meanings: *re-*/*ri-* almost exclusively convey iteration, *sopra-*/*sovra-* primarily express evaluation and locational meaning, *de-, dis-, s-* are mainly employed with privative and reversative meanings, other prefixes that used to have a spatial value are now productively used with other meanings (e.g. *super-* currently used as an evaluative prefix).[10] A large part of prefixed verbs of Latin origin that are commonly used in Italian today obscure in part the loss of productivity of this morphological process,[11] yet, if we move from lexical stock (*Wortschatz*) to word-formation processes (*Wortbildung*) that are available to productively encode direction of motion, we may see how PhVs could effectively supersede or replace prefixal derivation.

5. Conclusions

Italian PhVs are constructions with a strong morphosyntactic and semantic cohesion. Despite their syntactic origin they have many aspects in common with morphologically complex words. As far as semantics is concerned, the range of directional meanings expressed by PhVs is altogether comparable with those expressed by prefixes. While preverbal prefixation has lost most of its ability to be employed for the coinage of new words, post-verbal particles can be productively employed. The possibility of using post-verbal particles as actional markers is further clue of the vitality of the construction.

The possibility to convey directional meanings by means of spatial relators, both pre- and post-posed to the verb, and with different degrees of fusion is another example of the gradual, dynamic, and non-clear-cut division between syntax and morphology.

In the case of Italian PhVs, lexicalization and grammaticalization processes have determined the formation of constructions which, analogously to word formation patterns, select possible verbal bases according to a limited set of productive configurations that result from generalizations over sets of frequently used verb + particle combinations.

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Notes

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1 "L'unification du préverbe avec le verbe est un fait relativement tardif, dont nous voyons la réalisation progressive dans certaines langues indo-européennes" Pinault (1995:48), "La séparation du préverbe et du verbe est courante en védique, en avestique, en hittite, en grec homérique, et se rencontre encore dans des formules figées en latin. Et la position du préverbe *après* le verbe n'est pas exclue, même si elle est rare" Id.:40. On the gradual shift from independent adverbs to affixes in Indo-European and Romance languages, cf. Rousseau (1995), Vincent (1999), Cuzzolin, Putzu & Ramat (2006).

2 Cf. among others, Hiltunen (1983) for English, Dufresne, Dupuis & Tremblay (2003), Kopecka (2009) for French.

3 For an overview of the different analyses proposed see, Dehé *et al.* eds. (2002:6-13).

4 According to the *Principle of Lexical Integrity* "The syntax neither manipulates nor has access to the internal structure of words", Anderson (1992:84).

5 We would like to point out that the post-verbal position of the particle puts it in direct contact with the inflectional affixes. The richness of Italian verbal suffixal inflection prevents the complete fusion between the verb and the following element. Cf. Voghera (1994), who notes that, amongst all Italian multi-word phenomena, verbs most strongly resist the loss of lexical autonomy.

6 Cf. Masini (2008) for an analysis of the phenomenon and quantitative data.

7 LIP is a corpus of spoken Italian amounting to about 500.000 tokens that were recorded in the early 1990s in four large cities (Milan, Florence, Rome and Naples).

8 The characteristics of Italian verbal prefixes are examined by Iacobini (2004; 2005).

9 Verbal prefixes that can not be productively used with directional meaning are marked by an underscore. Question marks (?) indicate doubtful 'productive prefixes'. The grey cells show meanings that can not be productively expressed via prefixation.

10 Most of the prefixes listed in Table 7 can be productively employed with spatial meaning attached to nouns or relational adjectives.

11 The decrease in number of preverbal prefixes, in their productivity, and in the variety of meanings they may convey, is a well know phenomenon in the passage from Latin to Romance languages, all the way up to present day language, cf. Lüdtke (1996).

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