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ANALYSIS OF THE SURPRISING PRODUCTIVITY OF ADJECTIVAL RESULTATIVES IN ENGLISH AND ITALIAN LANGUAGE

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CHAPTER I

INTRODUCTION

1.1. The Background of the Study

In this paper we analyse the formation of two particular kinds of 'complex' events, one in which a motion event (process) is followed by the indication of the endpoint of such motion and one where a non-motion process is followed by the endpoint of that activity. The first kind of construction is generally referred to as a *goal of motion* construction and the second one as a *resultative* construction.

Languages employ different strategies to express goal of motion (Talmy 1985, *inter alia*). Just to consider a few examples, we know that in some languages (e.g., Latin, Russian, German) when a verb indicating motion combines with a prepositional phrase we get either located motion or directed motion depending on the choice of case of the complement of the PP. In other languages (e.g., English), the combination of a manner of motion verb and a preposition can, in the majority of cases1 indicate both located and directed motion, therefore giving rise to cases of ambiguity. In certain Romance languages (e.g., Spanish), only located motion is expressed by the combination of a manner of motion verb and a PP, while the strategy used to

express directed motion is completely different, requiring the use of an adjunct to express the manner of motion together with an inherently telic verb to express the end point of motion.

With regard to resultatives, some languages (e.g., English, German, Chinese, etc.) allow the combination of an activity verb and a secondary predicate (typically a PP or AP) to express a process followed by an endpoint state. In the literature it is argued that not all languages are able to form resultative constructions, and that in particular Romance languages do not allow complex predicational structures where a secondary predicate furnishes the 'telos' of the process event given by the primary predicate (Levin and Rappaport Hovav 1995).

1.2. The Amis of This Paper

The aim of this paper is to go beyond this (undeniably useful) descriptive typology to make some sense of the crosslinguistic variation in terms of some simple parameters of lexical semantic decomposition, together with the specification of the formal properties of verbal, prepositional and adjectival lexical items in languages. In particular, we will look at the contrast between English on the one hand and Italian on the other. While Italian looks, on the face of it, to be of the Spanish/Romance type, a closer examination of

the data reveals a much more complicated picture. Similarly, English will prove to be somewhat less liberal than expected in certain domains than has been acknowledged in the literature.

Nevertheless, there are clear differences between the two languages which we will argue are due to the different formal features typically associated with verbs and prepositions in each language. As we remarked above, the difference between Spanish and English with respect to the formation of goal of motion constructions resides in the inability of the first language to encode telic motion by means of the combination of a manner of motion verb and point locating preposition (Talmy 1985). Such constructions in Spanish are only locative, while goal of motion interpretations are formed with verbs of inherently directed motion. Looking at Italian and English, the same contrast can be demonstrated for certain verb pairs, as shown in (1)-(3) below:

(1) The boat floated under the bridge. (Ambiguous)

(2) La barca galleggiò sotto il ponte.

'The boat floated under the bridge.' (Only 'located motion' reading)

(3) La barca passò sotto il ponte galleggiando.

'The boat passed under the bridge floating.' (Only goal of motion reading)

However, the contrast depends on the particular choice of Italian verb, because in (4) below the goal of motion interpretation that was not available in (2) becomes possible:

(4) La palla rotolò sotto il tavolo. (Ambiguous)

'The ball rolled under the table.'

Conversely, taking the English construction and substituting a different preposition reverses the judgment on the sentence: with a locative preposition only the located motion reading is possible and the goal of motion reading disappears (5).

(5) The boy walked in the store. (Only 'located motion' reading)

We believe that this is an unsurprising (for speakers of English) but underappreciated fact, especially in view of the data from Italian that we will present. This will show that goal of motion in Italian is not dependent on the choice of preposition (and in particular occurs with purely locative PPs) but on the choice of verb. In English, on the other hand, the variation seems to be blind to the particular motion verb chosen, but depends on the type of PP it combines with.

In the next section, we present a particular view of event decomposition that will allow us to articulate the components in the 'result augmentation' of process verbs (cf. Levin and Rappaport Hovav 1998). In

section 3, we apply this framework to the case of English motion verbs and the prepositions they occur with, concluding with an analysis of the surprising productivity of adjectival resultatives in this language.

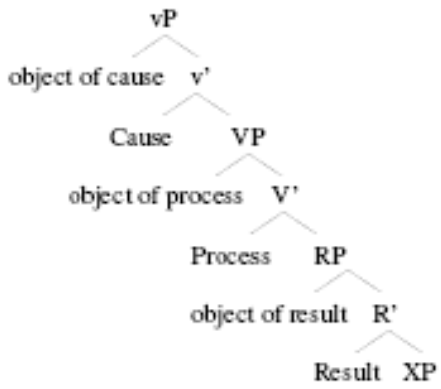
In section 4, we turn to the Italian data and provide an account of when goal of motion is possible in this language. It is crucial to our analysis that the possibility of goal of motion will not necessarily predict adjectival resultatives. In fact, an independent understanding of the properties of APs will allow us to account for why Italian disallows them as resultatives so systematically.

CHAPTER II

THE FRAMEWORK

Many related proposals exist which seek to correlate the morphosyntax and the semantics of event structure in an intimate way (see Travis 1994, Borer 1998, Ritter and Rosen 1998 among others). The common idea behind these proposals is that the syntactic projection of arguments is based on event structure. We make a specific proposal here, following Butt and Ramchand (2002) and Ramchand (2003), in proposing the event structure in (6) where three event projections are necessary to represent all the possible components of the event structure building processes of natural languages:

(6)



As we see in (6), the verb phrase contains three different projections and each projection is an instantiation of a (possible) sub part of the whole event. In particular, we argue that:

- vP introduces the causation event and licenses different types of external argument,
- VP specifies the nature of the change or process and licenses the object of change or process,
- RP gives the 'telos' of the event and licenses the object of result.

With respect to the particulars of the first phase syntax proposed, the elements of the ontology are those which have proved over the years to be minimally necessary to express the linguistically relevant argument structure and aspectual distinctions found in natural language. Thus, causation has been shown to be a relevant parameter in verbal differences and shows up very often as overt morphology within the verbal inventory of human languages (cf. Baker 1988, Hale and Keyser 1993, Ritter and Rosen 1998, Rappaport Hovav and Levin 2000). 'Telos' or resultativity is also a component that has been shown to be isolable as a parameter in verbal meanings, and which has associated morphology and case marking reflexes in various languages (see for example Tenny 1987, van Hout 1996, Borer 1998, Kiparsky 1998, Ritter and Rosen 1998). The decomposition proposed here takes those generalisations seriously, and explicitly encodes subevents to represent each isolable component, each correlated with a functional projection in the 'first phase syntax'. The projection VP, corresponding to the

process component is the only one that we consider to be obligatory for all (non-stative) verbs since it represents the concept of change which is a crucial component of any non-stative, and a presupposed condition for the concepts both of initiation and 'telos'.

As pointed out at the beginning of this section, there have been many (subtly) different attempts in the literature to motivate a syntactic basis for event composition. We do not intend for our proposals in this paper to depend on this specific implementation of the idea. In particular, while many researchers have posited the existence of a causing projection (Hale and Keyser 1993, Ritter and Rosen 1998), and many others the existence of a phrase corresponding to 'telos' (Ritter and Rosen 1998, Borer 1998,among others), our view is unusual in proposing all three within a (maximal) event decomposition. Especially unusual perhaps is the requirement that all dynamic predicates contain a VP (process projection), since one standard understanding of Achievements, for example, is that they embody a pure transition with no process portion at all. For all we know this may be right.

However, in the decomposition proposed here, the VP is correlate of dynamicity or change, not of 'activity' or extended 'process' *per se*. Thus, even a minimal transition such as that standardly assumed to be part of an achievement will have a VP in our implementation. The important point for

our purposes is that the R in the syntactic tree above heads a small clause which simply describes a (non-dynamic) *state*. The R head itself performs the function of semantically integrating that state as the *result* of the previous transition.

The two event composition rules that we need are phrased as in (7) and (8) below.

(7) Event Composition Rule I

e = e1 _ e2: e consists of two sub-events, e1, e2 such that e1 leads to or causes e2.

(See Pustejovsky 1991 and Hale and Keyser 1993)

(8) Event Composition Rule II

e = < e1, e2 >: e consists of two sub-events, e1, e2, such that e1 and e2 form a telic event structure where e1 is the process/transition portion and e2 is a state interpreted as the result state of the transition. (See Parsons 1990, Higginbotham 2000).

The component we will be focusing on in the rest of the paper is the 'telos', or RP. Resultatives and goal of motion constructions are alike in that they add a 'telos' to an otherwise unbounded verbal predicate. We do not think it is an accident that 'template augmentation' of this type (cf. Rappaport Hovav and Levin 1998) is incredibly common crosslinguistically. The

interesting fact about these augmentations is that the complex predications so formed have an effect on the argument structure, case marking and auxiliary selection properties of the verb. We see this as a result of the fact that RP is one of the three projections in the event structure decomposition of first phase syntax and that it can be built and licensed both lexically and (as we will see) constructionally.

Given the semantics of these various heads, if the heads are not built up in the correct order, the derivation will at best converge as gibberish. Even within this broad constraint, it is clear that there are a number of different structures that can be built using this basic inventory of functional heads. In particular, not all the functional heads will appear with every lexical item.

To relate lexical items to the types of event structures they can appear with, we need to implement some version of c-selection. In the framework of Ramchand (2003), a particular view of the relation between lexical information and lexical insertion and syntactic category features is proposed. A similar framework, also constructionalist in spirit is implemented in Folli (2002). The details of the systems involved are not crucial to our purpose here. In particular, it is not clear whether purely selectional features are needed to implement traditional c-selection within the Minimalist Program (Chomsky 1995, Chomsky 1998, Chomsky 1999), or whether we can make do

with the independently required category features coming in interpretable and uninterpretable pairs (as in e.g. Svenonius 1994). We take for granted that there is some degree of syntactic information encoded in lexical roots, and that this determines the correct contexts for 'insertion'/'merge'. Explaining the details of how to implement this is beyond the scope of this paper (see Ramchand 2003), but notice that while we are in fundamental agreement with constructionalist positions regarding the derivation of alternations and the relevance of event structure for the interpretations of arguments, we disagree with those radical constructional positions (Marantz 1997 and Borer 2002) that deprive lexical items of any kind of selectional information. The system developed in Ramchand (2003) and adopted in this paper derives selectional information from the categorial information attached to lexical items.

2.1. Lexical Specification of Event Structures

In this system, it is the syntactic event-structure decomposition that is matched to the various lexical items. The nominal positions associated with the first phase syntax projections are always notionally present, and have the event-participant interpretations labelled below:

(9) (i) Specifier of Causal Projection (vP): *Initiator*.

(ii) Specifier of Change/Process Projection (VP): *Undergoer*.

(iii) Specifier of Result Projection (RP): *Resultee*.

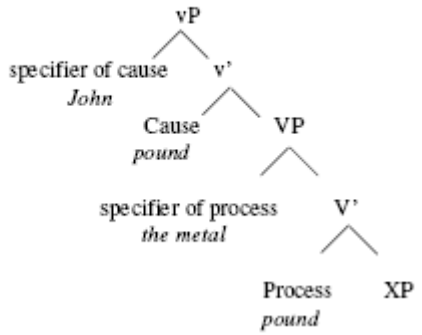
The traditional notion of 'argument structure' is then largely replaced by some kind of event categorial specification (cf. Van Hout 1996), but in most cases has the same effect. The main difference between this system and an argument structure specification lies in the abstractness of the role types proposed and also the fact that a single DP can appear in more than one specifier position. In particular, there is no contradiction in a single DP being associated by movement with both the *Undergoer* and *Initiator* positions, or both the *Resultee* and *Undergoer* positions, or even all three, if the lexical encyclopedic information does not thereby lead to incompatibilities (none accrue from the semantics of the event participanthood per se, as conceived of here). This is basically an abandonment of the Theta Criterion (cf. Hornstein 2000), but we find this unproblematic within the context of the MP. We assume however, that some locality condition will rule out the *Initiator* and the *Resultee* being identical.

We represent the specification of lexical items as bundles of syntactic features representing the category nodes in the first phase syntax decomposition proposed: v, V and R. A lexical item possessing a certain category feature will be able to license that structure in the syntax; also, a lexical item can be complex in having more than one such feature. Head movement is often plausibly the natural result of a lexical item bearing more

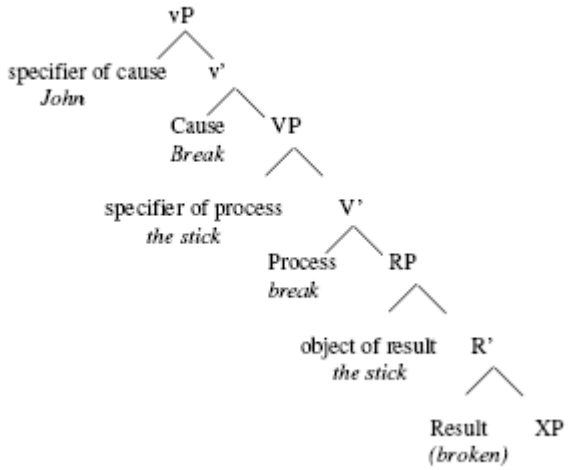
than one category feature. If structure fails to be licensed by the presence of some lexical item with the requisite category feature, then the derivation is ill formed. We assume that this derives from conceptual necessity, since the eventive content of each phrase in the first phase syntax needs to be semantically identified or specified in order to be interpretable at the interface.

To give a few examples for the cases of two simple lexical items which differ in their telicity, a verb can be specified as [+v, +V] (10); or as [+v, +V, +R] (11).

(10) John pounded the metal.



(11) John broke the stick.



The system here prevents the building of events with more than one causational element (12), or events with more than one result (13), or events where a resultative involves the identity of the *Resultee* and *Initiator* (14). It also prevents the building of resultatives based on stative (non dynamic i.e. non VP licensing) verbs (15).

(12) (a) *John sneezed Mary (cf. 'made Mary sneeze').

(b) *John ate Mary the dinner (cf. 'made Mary eat the dinner').

(13) (a) *John wiped the table clean shiny.

(b) *John ran to the store to exhaustion.

(14) (a) *John wiped the table sweaty (where John becomes sweaty as a result of wiping).

(b) *John pushed the glass to the edge of the table (not necessary that *John* gets to the edge of the table, but *the glass* must.)

(15) *John relaxes Mary contented.

Given this basic decomposition of the event structure of different predicates, we now turn in more detail to cases of telic augmentation, to evaluate the conditions under which such augmentations are possible in the two languages.

CHAPTER III

THE ANALYSIS

3.1. Constructional Strategies in English

We do not assume that all telic verbal projections contain an RP in our sense. The literature on aspectual composition is full of examples of aspectual specification (both 'telos' adding and removing) by means of adjuncts. We subscribe to the general distinction proposed in the literature between inner aspect and outer aspect (cf. Verkuyl 1989). However, we believe that there are certain cases of telic augmentation which are special because they affect the argument taking properties of the predicate, can unpredictably affect lexical meaning, and (in the case of Italian) affect such things as auxiliary selection. There are many cases in English where telic augmentation goes along with argument structure changes, and in particular 'unselected objects'. It is these constructions that are most interesting to us, because they imply the existence of an RP in the eventuality description.

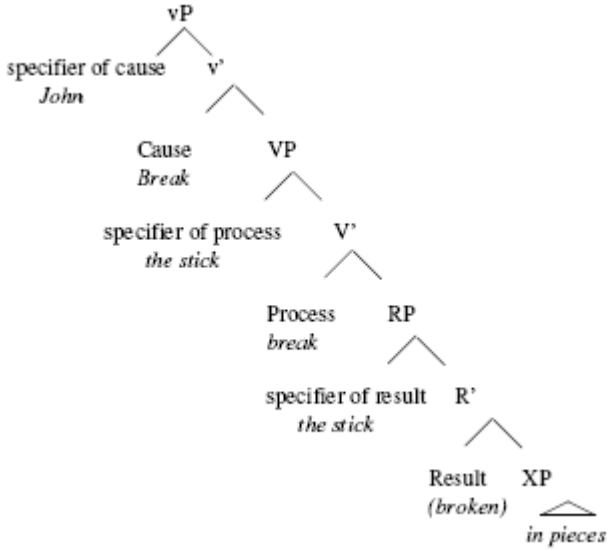
With respect to the specification of a 'telos' by a pure stative preposition, we assume that such a state description would have to be in the small clause complement of the RP in order to be interpreted as result. This could only happen if the RP were licensed by the verb. Thus, we find that

with an atelic verb like *pound,* the stative PP *in pieces* cannot describe a result, because there is no result specified by the verb to describe (16).

(16) *John pounded the metal in pieces.

On the other hand, the R-specified verb, *break*, should be able to license a pure locative in this position, since it selects for an RP. This prediction is borne out in (17) and the structure we assume for this case is given below.

(17) John broke the stick in pieces.



This, however, does not seem to be a case of genuine RP augmentation (since the RP is already given by the verb's lexical information) but of PP *specification* of a result. The case of adjectival resultatives and particles is more interesting because they more clearly introduce unselected objects. We turn to adjectival resultatives in 3.2, but first let us examine the behaviour of PPs

with motion verbs in English in what has been called the 'goal of motion' construction.

a. Goal of Motion Constructions

Let us consider once again some cases of 'goal of motion' construction cited in the literature for English:

(18) a. John ran to the store.

b. The ball rolled into the water.

c. The boat floated under the bridge.

As we hinted in the introduction, the conditions of possibility for this construction seem to rest on the preposition chosen. It is clear for the (a) and (b) examples that the prepositions are obligatorily dynamic in force, and in particular, can never appear as PP complements to simple stative predications (19). We return to (19) below.

(19) a. *John was to the store.

b. *The ball was into the water.

c. The boat was under the bridge.

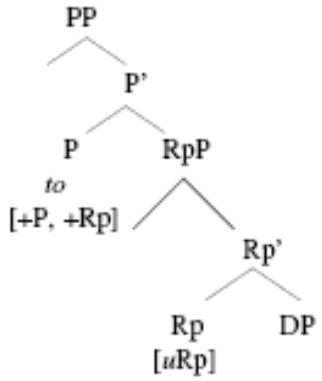
The properties of these prepositions in English has led Higginbotham (1995, 2000) to propose that the preposition itself can be subeventally complex, containing both a direction (the process) and a final location (the

result). Similar articulations of the PP into 'path' and 'place' have been proposed by Koopman (2000), Tungseth (2002) and Svenonius (2003).

These prepositions have effectively the status of accomplishment predicates (see also Pustejovsky 1991) as they encode both the path and the end point of motion. Accordingly, they are formed by our *Event Composition Rule II* and have the following event structure: <e1, e2>. Their complex semantic structure translates into a complex functional structure and accordingly we argue that these prepositions, termed with Higginbotham (*op.cit.*) *accomplishment prepositions*, enter syntactic derivations with two event projections. In our system, we label the 'path' projection simply as P, and the final location, or 'place' projection as Rp, on analogy with the verbal RP (although we assume they are actually categorially different).

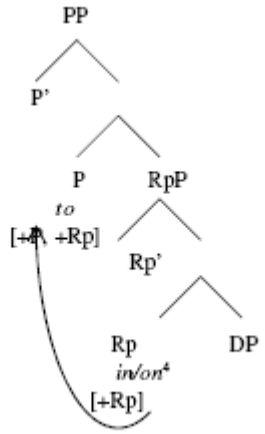
Accordingly, the feature specification of accomplishment prepositions is [+P, +Rp], and they give rise to a complex structure as shown in (20) below.

(20)



Furthermore, *to* is the only one that is morphologically simple, the other two prepositions in English which are unambiguously complex actually show their complexity morphologically as well. We assume that they are formed by incorporation of *in* and *on* respectively into the preposition *to*, as is shown in (21):

(21)



This complex telic structure is what is responsible for the goal of motion interpretation, and attaching a preposition of this complex type in adjunct position, could identify with the macro event of the verb to create a telic structure at the level of outer aspect. Notice that the complex prepositions here have no co-occurrence restrictions on them-they can be added to any verb of motion in English.

What then of the form in (18c), where the preposition is less obviously dynamic, and where the stative predication in (19c) is perfectly grammatical? Surely something different must be going on here. One obvious thought

might be that many prepositions in English are systematically ambiguous, and that *under* in particular has both complex dynamic and stative interpretations. This hypothesis seems pretty unfalsifiable given the data at hand, but we do have one important set of data left to consider. There is a small class of prepositions in English which appear happily in stative contexts, but which resist appearing in the 'goal of motion' construction. It was the stative preposition *in* that we used above to highlight the different between atelic *pound* and telic *break*. Using one of these 'locative' PPs as a complement to a motion verb does **not** produce a result interpretation.

(22) a. *John ran in the store.

b. *John ran on the beach.

c. *the boat floated underneath/beneath the bridge.

We take this to mean that motion verbs in English simply do not license RP as part of their lexical specification, and that the possibility of the 'goal of motion' reading is due to the complex prepositional forms that independently encode both path and 'telos'. We thus analyse prepositions like *under* as being ambiguous:

(23) [+P, (+Rp)]: under, over, below, behind, etc…

The only difference here is that [+Rp] feature is optional and when the preposition does not carry it, it gives rise to a locative version of the

preposition, which in turn gives rise to a locative interpretation. We emphasise that these 'goal of motion' readings are not necessarily a productof RP augmentation, or even specification, at all- they can get these effects at the level of outer aspect5 and we predict they would be able to apply to all motion verbs (as indeed they do).

As for prepositions like *in, underneath, beneath*, we argue they are only locative and therefore specified in the lexicon as simply [+P].

b. Adjectival Resultatives

Turning now to adjectival resultatives, we find a different kind of situation altogether. Both the atelic *pound* and the telic *break* can appear with adjectival resultative phrases.

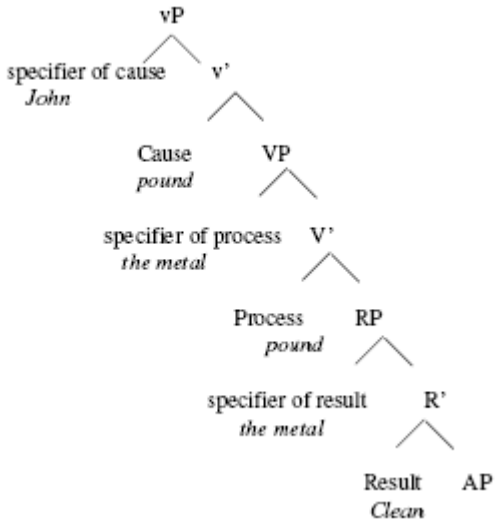
(24) a. John pounded the metal flat.

b. John broke the safe open.

In each case, the argument structure properties are obligatorily affected—resultative constructions require an object (Tenny 1987). Sometimes this is an unselected one, and sometimes it merely alters the nature of the object taken by the verb, but these effects are well known in the literature (Simpson 1983, Stowell 1983, Hoekstra 1984, Carrier and Randal 1992, Rappaport Hovav and Levin 1999, Wechsler 2001, among others). We take

this to be evidence that in the case of (24a) we are seeing a true case of 'result augmentation'. The presence of the AP correlates with a structure in which an RP is present, and where the verb on its own would not license it. We represent this case as in (25) below.

(25)



The question is what licenses the R head here, since the *pound* verb previously could not license it. We also need to take account of the fact that adjectival resultatives are extremely pervasive and productive in English. Another point about APs is that, as has been independently argued in the literature (Hale and Keyser 1998, Baker (in press), they are incapable of licensing a specifier. When APs appear in predicative position, they are predicated of something through the mediating offices of an independent functional head (Baker (*ibid*) calls this simply Pred). In the resultatives shown

in (24) above, the metal is the DP that the property *flat* is predicated of. We argue that here too, the predicational relationship of the metal to the AP needs to be mediated by a functional head. Since, in addition, the state so described is conceptualised as the endpoint of the activity, we assume that this head is some species of R. Since this R cannot have been introduced by the verb *pound* itself, we make the minimal assumption that English is special because it possesses a special lexical item R-poss, which is null, but which systematically relates a property to the holder of that property.

This, we believe, is not unmotivated in the structure of English more generally. Specifically, many researchers have argued that there is a null P head with generalized possessional semantics, sometimes called P-have (see Freeze 1992, Kayne 1993, Guéron 1995, Pesetsky 1995, Harley 2000). This null head is responsible in those analyses for the existence of the double object construction where it mediates the relation between the DP benefactor and the DP entity it possesses in the double object version of these verbs. We represent this intuitively and schematically in (26) below.

(26) John gave [Mary *P-have* book].

Our proposal is in line with these others in the literature, with the difference that we assume that the head in question is actually R-poss and that it also encodes the semantics of 'result'. The existence of adjectival

resultatives and double object construction are therefore due to the same lexical item present in English, but not in other European languages such as Italian (as we will see in the succeeding sections).

To summarise the proposal made in this section, we analyse adjectival resultatives as true cases of result augmentation. It is possible with verbs that do not themselves license an RP, because of the existence of a null lexical item R-poss which (i) licenses the R head in the first phase syntax and (ii) establishes a possessional relationship between a DP in the argument structure and the AP state that is in the complement position of R.

3.2. Constructional Strategies in Italian

In this section of the paper, we turn our attention to Italian, which is interestingly different from English in the scope of its goal of motion constructions, the nature of its prepositions, and in the inability to license adjectival resultatives.

a. Goal of Motion Constructions

As we have seen, there are two possible interpretations for a motion verb which appears with a prepositional phrase. The first one is a locative interpretation, while the second one is what we have termed as a goal of motion interpretation. The fundamental difference between these two

interpretations lies in the aspectual nature of the event described by the verbal predicate, because while the first one is an atelic event of floating on a given body of water, the second one is a telic event of floating in a specific direction and with a specific end point. The verb expresses both 'manner' and 'motion', while the preposition gives the path and the 'telos' of motion, in the telic interpretation.

In Italian, the some verbs express 'manner' but only 'undirected motion', because when they combine with the prepositional phrase the atelic/locative interpretation is the only interpretation available. For these verbs, to get a goal of motion interpretation, it is necessary to express the manner on an adjunct and employ a verb of directed motion, as we saw in (3), which we repeat below in (26) for sake of clarity:

(27) La barca passò sotto il ponte galleggiando.

'The boat passed under the bridge floating.'

From these first examples, it would seem that the two languages divide neatly the way suggested by Talmy (1985) according to which English lexicalises the path and the goal of motion on the prepositional phrase, while Italian expresses the goal of motion on the verb.

However, there are cases where the ambiguity identified for the English example becomes available in Italian as well. Consider the examples below:

(28) a. La palla è rotolata sotto il tavolo in un secondo/*per un secondo.

The ball IS rollPAST under the table in one second/*for one second.

'The ball rolled under the table in one second/*for one second.'

b. Gianni è corso in spiaggia in un secondo/*per un secondo.

John IS runPAST in beach in one second/*for one second.

'John ran to the beach in a second/*for one second.'

c. La palla è rimbalzata dietro il tavolo in un secondo/*per un secondo.

The ball IS bouncePAST behind the table in a second/*for one second.

'The ball bounced behind the table in a second/*for one second.'

The sentences are now unambiguously telic as shown by their occurring only with *in X* adverbials, while of course also a locative version is available if the auxiliary selected is *AVERE* (HAVE) rather than *ESSERE* (BE):

(29) a. La palla ha rotolato sotto il tavolo per un secondo/*in un secondo.

The ball HAS rollPAST under the table for one second/*in one second.

'The ball rolled under the table for one second/ *in one second.'

b. Gianni ha corso in spiaggia per un secondo/*in un secondo.

John HAS runPAST in beach for one second/*in one second.

'John ran in the beach for one second/ *in one second.'

c. La palla ha rimbalzato dietro il tavolo per un secondo/*in un secondo.

The ball IS bouncePAST behind the table for a second/*in one second.

'The ball bounced behind the table for one second/* in one second.'

To establish what is going on here, we need to understand the properties of the prepositions we are dealing with. All simple prepositions in Italian can give rise to locative interpretations, as shown by their uniform ability to occur as the complement of a stative verb as in (30) below.

(30) a. Gianni è a casa di Maria.

John is to house of Mary.

'John is at Mary's house.'

b. la palla è nel cestino.

'The ball is in the basket.'

c. la palla è sopra il tavolo.

'the ball is onto the table.'

There seem to be no simple prepositions in Italian that have the obligatory nonstative interpretations that we found for *to* and its cohorts. However, these prepositions that occur in the locative constructions above are the same ones which occur in goal of motion constructions, when these can be formed:

(31) a. Gianni è corso in spiaggia.

John IS runPAST in beach.

'John ran to the beach.'

b. La palla è rimbalzata sopra il tavolo.

The ball IS bouncPAST onto the table.

'The ball bounced onto the table.'

c. Il bambino di Gianni è gattonato a casa.

The child of John IS crawlPAST to home.

'John's child crawled home.'

Of course, it could simply be that the simple prepositions shown in Italian here are of the *under* type, and are ambiguous between dynamic and stative interpretations. But there are reasons to be suspicious of this analysis. While the English dynamic prepositions create 'goal of motion' interpretations regardless of the motion verb they attach to, the interpretation in Italian is strongly constrained by the choice of verb. The examples below show that these verbs (like *run* in English) never license a goal of motion interpretation with these simple (locative) prepositions.

(32) a. *Gianni. è camminato in spiaggia.

*John IS walkPAST in beach.

'John walked to the beach.'

b. *La barca è galleggiata sotto il ponte.

*The boat IS floatPAST under the bridge.

'The boat floated under the bridge.'

Moreover, we have good evidence to suggest that when the 'goal of motion' interpretation is possible in cases like (31) above, we really are seeing the existence of an RP since this interpretation coincides with a change in auxiliary selection. However, since not all verbs are able to participate in this construction, something independent, namely the verb's specification in this case, must license the existence of RP. Thus, not all verbs in Italian are able to combine with a point locating prepositions and allow *Event Composition Rule* II, i.e. a process that we term accomplishment creation. We argue that verbs of motion in Italian divide into two classes, one licensing the projection of RP and one not:

Table 1

[+V, (+R)] verbs	[+v, +V] verbs
Correre (run)	Galleggiare (float)
Rotolare (roll)	Camminare (walk)
Rimbalzare (bounce)	Galoppare (gallop)
Scivolare (glide, slide)	Danzare (dance)
Gattonare (crawl)	Nuotare (swim)
Saltare (jump)	Sciare (ski)
Volare (fly)	Passeggiare (walk around)
Saltellare (hop)	Vagabondare (wander)

When the verb's categorial features allows the projection of an RP, the point locating preposition can fill the complement position of the R head and

specify the content of the result event predicated of its specifier. The PP indicating the end point of motion is not an adjunct of the verb, as is proved by the well-known impossibility for the PP to be dropped when the interpretation is telic:

(33) *Gianni è corso.

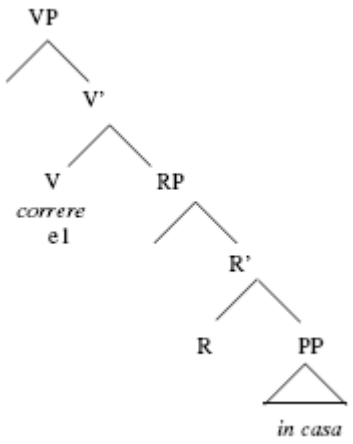
*John IS runPAST.

*John ran".

This provides evidence that the PP in this case is generated as the complement of R in the first phase syntax10, and that it semantically specifies the Result state licensed by the verb.

(33) Gianni è corso in casa

'John ran home.'



Note that this derivation contrasts crucially with the English cases above. In English, all the verbs were [–R] as was shown by the impossibility

to get a 'goal of motion' interpretation if we combine the verb with a locative point-locating preposition (see examples (22) above). On the other hand, they could all combine with dynamic prepositions to create telic interpretations. In Italian, the prepositions themselves do not furnish a complex directional/telic structure (as witnessed by their inability to attach to all motion verbs) but a certain class of verbs is optionally specified as [+R].

It appears also that it is possible to license the RP by the addition of some higher predicate with the right specification, and then the 'goal of motion' interpretation with locative prepositions becomes available again. Such a case can be found with causative *fare*:

(35) Gianni ha fatto galleggiare la barca sotto il ponte (ambiguous).

John has made float the boat under the bridge.

'John made the boat float under the bridge.'

A detailed examination of the syntactic contexts in which this is possible is beyond the scope of this paper (but see Folli 2002 for further discussion). We merely note here that it is not the preposition itself that contains the complex subevental structure, but a certain class of verbs that optionally license R.

We have seen that all simple prepositions in Italian are locative and that the language does not contain lexical accomplishment prepositions like

the English *to*, *around*, *into*, etc. for which a locative interpretation is impossible. Nevertheless Italian (and French) contains prepositions that are morphologically complex in that they are formed by two (or more) prepositions, one of which has the semantic function of measuring out the distance involved in the event of motion and the other of giving the final location of the event. These prepositions do allow the formation of a goal of motion interpretation, but, differently from the simple prepositions analysed in the previous section, they do so irrespective of the ability of the verb selected to license the projection of an RP:

(36) a. La barca ha galleggiato attraverso la grotta in un secondo.
The boat HAS floatPAST through the cave in one second.
'The boat floated through the cave in one second.'

b. Gianni ha camminato fino a casa in un secondo.
John HAS walkPAST until at home in one second.
'John walked up until (he was) home in one second.

Remember that in the previous section we saw that these two verbs *galleggiare* (float) and *camminare* (walk) do not allow the goal of motion interpretation with simple locatives. Other prepositions of this kind are *dietro a* (behind+to), *al di lá* (to the other side), and the French *jusque à* (up to) and *de…en* (from…to). The hypothesis is that, in these cases, it is not necessary to

have an RP licensing verb because these accomplishment prepositions11 are adjoined and have their own complex structure.

As we would predict from the analysis of these PPs as adjuncts and *not* complement to R, the complex prepositions can attach to any of the motion verbs (much like in the English case), and they do not force auxiliary selection to change:

(37) a. *La barca è galleggiata attraverso la grotta in un secondo.

*The boat IS floatPAST through the cave in one second.

'The boat floated through the cave in one second.'

b. *Gianni è camminato fino a casa in un secondo.

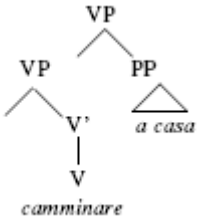
*John IS walkPAST up until at home in one second.

'John walked up until (he was) home in one second.'

In these cases, the prepositions do not furnish the complement of R, but they both measure out the location of the change event and provide the result event independently. For this reason they can combine with any verb and are assigned the complex event structure introducing the RP13:

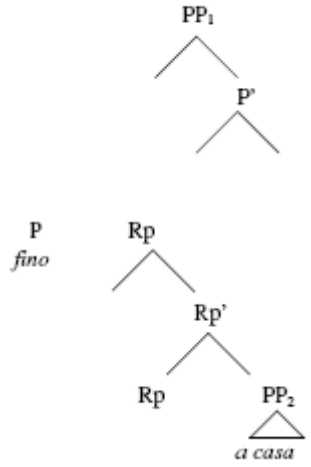
(38) Gianni ha camminato fino a casa.

'John walked up until (he was) home.'



In these cases, the complex prepositions transparently reflect their complex structure in their morphology, corresponding to the two heads of the semantic/syntactic decomposition proposed.

(39)



b. Adjectival Resultatives

We have seen that in Italian goal of motion interpretations are allowed if the verb licenses the projection of an RP, and a 'telos' locating preposition is available in the numeration to identify the semantic content of the result sub-event. What about adjectival resultatives? Greatly simplifying the various

kinds of classifications of resultatives that have been presented in the literature, we can say that there are two kinds of resultative constructions, one formed with a PP and one with an AP. Italian is able to form PP resultatives, as shown in (40) below:

(40) a. Gianni ha picchiato a morte il cane.

'John beat the dog to death.'

b. Gianni ha tirato a lucido il pavimento.

John brought to shiny the floor.'

'John highly polished the floor.

c. Gianni ha ridotto Maria in lacrime/ al silenzio.

'John reduced Mary to tears/ to silence.'

d. Gianni ha rotto il vaso in mille pezzi

'John broke the vase in a thousand pieces.'

e. Gianni ha sciolto il cioccolato a cubetti

'John melted the chocolate in cubes.'

However, in Italian adjectives cannot semantically identify a result state, even when the RP should be independently licensed by the verb itself, as in (41) below.

(41) a. *Gianni ha rotto il vaso aperto.

'John broke the vase open.'

b. *Gianni ha sciolto il cioccolato liquido/

'John melted the chocolate liquid.'

Clearly the problem here has not got to do with the licensing of the R head, since the existence of PP resultatives is possible with these very same verbs. However, we think that the answer lies in the specific R head that would be required. Recall that we are assuming that adjectives do not independently license a specifier position for the 'holder' the property. This means that not only must an R head be present, but there must be a *specific* R head that licenses the predicational relationship between the DP that will be in the specifier and the property denoted by the AP. In the case of PP resultatives, we assume that the PP projects a full small clause structure and the 'figure' position of the PP (Spec, PP) moves to Spec RP and the relationship is established by movement.14 In the case of adjectives, no such strategy is available.

English possesses a null R-poss head that has precisely these predicational properties, in addition to the result semantics. The hypothesis would be that Italian simply does not possess this lexical item. Notice however that Italian allows the formation of deadjectival verbs, confirming that while in principle adjectival predicates could semantically identify a result head that has been syntactically licensed, what the language lacks is the

specific type of R-poss typical of double object constructions and resultatives. Interestingly, AP resultatives become possible if the adjectival predicate which has to identify the result event is complex:

(42) a. Gianni ha martellato il metallo *piatto/ piatto piatto.

'John hammered the metal *flat/ flat flat.'

b. Gianni ha cucito la camicia *stretta/troppo stretta.

'John sewed the dress *tight/too tight15.'

c. Gianni ha sciolto il cioccolato *liquido/troppo liquido.

'John melted the chocolate too liquid.'

At present we have no firm answer for this puzzle, but if our story is on the right track, we would expect that these morphologically complex adjectival phrases are actually syntactically complex as well, and contain different functional/categorical information from simplex adjectives. On analogy with the complex prepositions, we speculate that the doubling of an adjective such as '*piatto piatto*' (flat flat) corresponds to functional structure consisting of a head corresponding to a 'flattening' process as well as a head corresponding to a 'flat' state, to give an 'accomplishment' or dynamic adjective. In this case a telic interpretation could be achieved at the level of outer aspect.

CHAPTER IV

CONCLUSIONS

We have seen that what has been called the 'goal of motion' interpretation in the literature is actually a cover term for two distinct processes: one at the level of inner aspect involving the specification of an RP in our first phase syntax; and the other at the level of outer aspect, involving the adjunction of a PP that independently has an accomplishment interpretation. In this respect, English and Italian do indeed seem to pattern slightly differently in terms of whether they prefer to locate their result category specifications on their verbs or on their prepositions.

In the case of English, we found that motion verbs in particular had no ability to independently license an R projection in the first phase syntax. On the other hand, some morphologically simple prepositions in English have the property of being *accomplishment prepositions* and create goal of motion constructions even with these telicly impoverished verbs. Having a large complement of telicly impoverished verbs might be related to the availability of a systematic compositional strategy in the case of adjectival resultatives. We have argued that English must possess a null R-poss head that has the semantics necessary to make the predicational link between an AP and a DP

holder of that property. We speculate that this is the very same head that is responsible for the predicational semantics of the small clause present in the double object construction (under the hypothesis that it can combine with NPs as well).

In Italian, on the other hand, we found that while the simple prepositions were telicly impaired in only having locative interpretations, there were quite a few verbs that optionally carried an R feature themselves for licensing a PP result. This gave us the impression of a lack of 'goal of motion' reading for a certain class of verbs, but showed true RP specification in the case of others (as witnessed by auxiliary selection shift). Italian, however, showed a systematic inability to form simple adjectival resultatives, indicating the lack of an independent R-poss head of the English type.

Throughout this whole investigation we have seen a tantalising (though not perfect) correlation between overt bimorphemism and the existence of complex event interpretations. In the case of Italian, it was only the morphologically complex prepositions that had this accomplishment structure. Doubling the adjective also seemed to produce aspectually complex possibilities where none previously existed.

In English too, it is striking that many of the truly obligatorily telic verbs are from the latinate stock and have clear bimorphemic structure. (For

example, it was noted as early as Fraser 1976 that complex Latin roots fail to participate in the telic verbparticle construction. See also Levin 1993 for data). It has also been argued more recently by Keyser and Roeper (1992) and Svenonius (2003) that bimorphemic roots can be decomposed into their separate event contributions. We do nothing but note this tendency here, since we are not in a position to make any strong claims about the relationship between morphology and syntax as a typological property.

Nevertheless, the existence of morphemic separability seems to us to be good suggestive evidence for the kinds of complex decompositions we have been proposing in this paper.

More generally, we think that the existence of such processes as telic augmentation provide support for decomposing the meanings traditionally associated with single lexical items into systematically related subevents. We have proposed one particular implementation of that idea in our elaboration of first phase syntax. We hope to have shown that the variation exhibited by English and Italian in this domain can be captured in this system with a minimal set of category features and featural differences among lexical items, with no global parameters invoked.

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