RAFFAELLA FOLLI AND HEIDI HARLEY

CONSUMING RESULTS IN ITALIAN & ENGLISH: FLAVOURS OF v

1. INTRODUCTION

The variable behavior of verbs has always been a fundamental issue for theories of the lexicon/syntax interface. The constructionalist approaches to this problem of the past decade or so have been very successful in accounting for a diverse range of alternations, largely because these approaches have formalized the influence of event structure on argument projection. The theoretical apparatus of this framework has made interesting predictions for previously puzzling grammaticality variations (Tenny 1992, Borer 1996, Davis and Demirdache 1995, Travis 2000, Ritter and Rosen 1998 and van Hout 1996, among others). However, the framework in some ways suffers from *over*generation: having introduced syntactic flexibility with respect to certain classes of alternating verbs, theorists are now faced with the inverse problem of accounting for gaps in alternation patterns. In short, why don't all verbs exhibit all alternation patterns freely? Such limits on variation are the primary success of Lexicalist approaches to argument projection (Jackendoff 1997, Levin & Rappaport-Hovav 1995, among many others).

We will treat a particular kind of a restriction on alternations by proposing that it depends on differences in v, rather than on idiosyncratic restrictions on the root V. In particular, we argue that at least one particular kind of gap in alternation can be attributed to the semantic properties of one flavour of v: DO.

We will argue that a new typology of v is needed to account for the behavior of consumption verbs, when they take an inanimate subject. These verbs, unlike non-alternating *destroy*-class verbs, do not generally allow inanimate agents. Compare (1a,c) with (1b,d)

(1)   a. The sea destroyed the beach
            The groom destroyed the wedding cake
        b. *The sea ate the beach
            The groom ate the wedding cake.
        c. Il mare   ha   distrutto   la spiaggia
            The sea   has   destroy.PST   the beach
            Lo sposo ha   distrutto   la torta nunziale
            The groom has   destroy.PST   the cake nuptial

  d. *Il mare ha mangiato la spiaggia
    The sea has eat.PST the beach
    Lo sposo   ha mangiato la torta nunziale
    The groom has eat.PST the cake nuptial.

   Nonetheless, despite the ungrammaticality of inanimate subjects in transitive structures like those illustrated in (1), it is possible in certain circumstances to have an inanimate subject argument for these verbs. Crucially, however, an inanimate subject is only grammatical in combination with a change in the event structure of the predicate. Consider the examples below:

 (2) a. The sea ate away the beach
     *The sea ate the beach
   b. The wind carved away the beach
     *?The wind carved the beach[1]
   c. Il mare si é mangiato la spiaggia
     The sea REFL is eat.PST the beach
     *Il mare ha mangiato la spiaggia
     The sea has eat.PST the beach
   d. Il vento si é ritagliato un pezzo di spiaggia
     The wind REFL is carve.PST a piece of beach
     *Il vento ha ritagliato un pezzo di spiaggia
     The wind has carve.PST a piece of beach.

   In order to capture this restriction (which is quite general for the class of verbs in question), we propose that there are two different flavours of causative/agentive v: v_{DO} (Hale and Keyser 1993) and v_{CAUSE}. These light verbs place different restrictions on their subjects and complements; in particular, v_{DO} needs an animate Agent subject, while v_{CAUSE} only requires that the subject be a possible Cause. Secondly, v_{DO} can take a straightforward Incremental Theme as its complement—it's a true verb of creation—while v_{CAUSE} must take a state as its complement, creating essentially a resultative structure. This difference in selectional properties accounts for the required change in clause structure when a verb of consumption takes an inanimate subject. In Italian, interestingly, this change in clause structure results in the appearance of the reflexive morpheme *si* and the switch to the *be* auxiliary, which we claim bolsters the case that the morpheme *si* is a realization of a light verb, rather than a pronominal clitic (Burzio 1986, Manzini 1986, Cinque 1988, among others), along the lines of similar proposals in Zubizaretta (1987), Zagona (1996), Sanz (2000), Folli (2002). We take this to be evidence in favor of a modified constructionalist approach to argument structure alternations. The introduction of flavours of v will also provide us with the tools to account for certain cases where the alternation is *un*available. In the next section, we review the lexical and constructionalist viewpoints and lay the grounds for the debate.

2. THEORETICAL BACKGROUND

2.1. *Lexicalist vs. syntactic approaches to argument/event structure*

In work on the lexicon-syntax interface, the study of verb classes and alternations is a fundamental field of investigation, because the identification of common syntactic properties belonging to verbs with common semantic characteristics has lent support to the hypothesis that syntax/semantics generalisations are indeed possible. Opposed to the idea of such generalisations would be a view of the lexicon of a language merely as a list of items associated with a meaning and a set of syntactic structures compatible with it,[2] but this position seems untenable because it would imply that the syntax of individual verbs could vary arbitrarily, and it is clear from acquisition evidence that this is not so: children learn verbs and their association with a limited number of possible frames; they don't learn a new syntax for each individual verb.

We know that in a language like English verbs can display great flexibility in argument structure, as shown by the examples below:

(3)   a. Mary cleaned
        b. Mary cleaned the table
        c. Mary cleaned the crumbs off the table
        d. Mary cleaned the table spotless
        e. Mary cleaned out her savings

(4)   a. John walked
        b. John walked home
        c. John walked Mary home
        d. John walked himself breathless
        e. John walked the morning away along the beach.

In this particular case, it would seem that either we believe that in the lexicon of a language we have five different entries for each of the above verbs (i.e., *clean₁*, *clean₂, clean₃*, etc.) and that therefore the syntactic computation is working with one of the possible entries each time, or, if we want to maintain the ideal of a maximally limited lexicon, we would have to make the derivation of the different forms in (3) and (4) a matter of syntactic computation.

In the literature these questions have been tackled from both sides. Given the agreement on the possibility of making generalisations about verb classes and syntactic structure, different proposals have placed the burden of the explanation in either one of the two components: the lexicon (Chomsky 1970, Chomsky 1981, Levin and Rappaport-Hovav 1995, Jackendoff 1990, Baker 1988, among others) or the computational system (Borer 1996, 2002, Travis 2000, Kratzer 1996, van Hout 1996, Marantz 1997, Ritter and Rosen 1998, Harley and Noyer 2000, among others), but both lexicalist and constructionalist positions agree that the goal is to provide systematic correlation between the meaning of a verb and the structure it appears in,

although the conception of this correlation varies very deeply.

Both positions base their arguments on the two fundamental classifications that studies on verbs have produced, a classification of verbs in terms of the aspectual structure they encode (Kenny 1963, Vendler 1967, Smith 1991, among others) and a classification of verbs in terms of the argument structure(s) they allow (Perlmutter 1978, Burzio 1986). Both types of theories of the lexicon-syntax interface take advantage of these classifications and use them to address a further question, namely, how these distinctions are represented in the grammar and what the division of labour is between the lexical and the syntactic module.

The fundamental assumption of most lexicalist positions is that many aspects of the syntactic structure of a sentence (and in particular how many arguments a verbal predicate has and where they are realised) are directly dependent on the lexical properties of the verbal entry or other predicate. The lexical meaning of a verb, computed straight from the lexical entry, determines its syntactic behaviour.

In the literature we find a number of developments of this basic idea. One example is the Projection Principle (Chomsky 1981) which states:

(5)   Lexical information is syntactically represented.

Other proposals along the same line have been Perlmutter and Postal's (1984: 97) *Universal Alignment Hypothesis* (UAH):

(6)   There exist principles of UG which predict the initial relation borne by
            each nominal in a given clause from the meaning of the clause

and Baker's (1988: 46) *Uniformity of Theta Assignment Hypothesis* (UTAH),[3] stating:

(7)   Identical thematic relationships between items are represented by
            identical structural relationships between those items at the level of D-
            Structure.[4]

These hypotheses all require consistent mapping of arguments into given syntactic positions, determined by the meaning of the verbs and constant across verbs and languages.

A very influential approach along the same lines is the one developed by Levin and Rappaport-Hovav (1995, 1998 *inter alia*). For them, the fact that in natural languages we see a tendency for arguments bearing a certain semantic role to be realised in specific syntactic positions is a clear sign of how the 'syntactic properties of verbs are determined by their meaning' (1995: 1). Levin and Rappaport-Hovav, building on Jackendoff's notion of Lexical Conceptual Structure, articulate the internal structure of lexical verb meanings by means of predicate decomposition. Following Carter (1988), they make use of *linking rules* to refer to the principles that associate semantic roles with specific syntactic expressions, believing that given the existence of strong similarities in linking regularities across languages, linking rules

must be part of the universal architecture of the language faculty.

Contrary to this position, a number of theories in recent years have proposed the opposite view (Borer 1994, 1996, Travis 2000, Kratzer 1996, van Hout 1996, Marantz 1997, Ramchand 1997, Ritter and Rosen 1998, Harley and Noyer 2000 among others): it is not the lexical semantics of a verb that determines its syntax, but rather it is the functional/aspectual structure in which a verb is inserted, and therefore the syntactic positions in which its arguments are realised that determine the interpretation.[5] For these theories, the *construction* of functional event structure on the top of the predicate merging into a derivation is responsible for the assignment of event roles to the participants in the event, and accordingly, because we can hypothesise construction of different event structures on top of the single verbal entry, we have the phenomenon of verb alternation. The idea is that if we take a verb which we see alternate between an atelic/activity reading and an accomplishment reading (see examples (3a,b) and (4a,b) versus (3c,e) and (4c,e), the different interpretations result from the insertion of a single verbal entry in syntactic structures containing different functional categories and the consequent merging (or raising) of its arguments into different specifier positions generated by the functional categories themselves.

In this paper, we pursue a constructionalist-type explanation of the alternation we discuss in section 3 because we agree with the fundamental constructionalist hypothesis on the decomposition of meaning in the syntax. Our motivation for pursuing this kind of approach is both theoretical and empirical. Starting from the theoretical strength of a syntax-based approach, it has been shown that there are a number of syntactic phenomena that a lexicalist approach has difficulty explaining (see for example Rosen 1984 for a discussion of the phenomenon of unstable valency of unaccusative/unergative verbs or Hoekstra and Mulder (1990) on the alternating behaviour of motion verbs in Italian and Dutch). It is even more implausible that all the syntactic correlates of the unaccusative/unergative distinction (*ne*-cliticisation, auxiliary selection, availability of resulative construction, *er*-nominalisation in English, and possessor datives in Hebrew etc.[6]) do not reflect derivational facts. From the empirical point of view, this approach seems strongly supported by the robustness of the syntactic bootstrapping account as an account of the patterns of language acquisition (Gleitman 1991, Borer 2001, van Hout 1998) and from the hypothesis that event structure is accessed before argument structure during sentence comprehension (Bever p.c., and O'Brian, Folli, Harley and Bever 2002).

But if alternations are one half of the problem that theories of the lexicon-syntax interface have to solve, the other is the absence of alternations that an unconstrained constructionalist position would predict to occur. In other words, if it is true that a verb can have different event/argument structures simply because it is inserted in different syntactic structures, and if we want to maintain that no lexical specification is present, we should expect to find maximal flexibility, i.e. we should expect all verbs to appear in all structures. But this is not the case (see section 2.3).

The way we propose to tackle this issue is by assuming that indeed something is specified in the lexicon, and therefore by trying to establish what the lexical

determinants of event structure are.[7] In this paper we look at one specific alternation and propose that verbs can select for different flavours of v.

2.2. *Semantic and syntactic sub-events: at least Initiate & Result, maybe more*

The natural extension of the idea that certain aspects of lexical meaning are represented in the syntax (Hale and Keyser 1993, Borer 1994) is the hypothesis that the complex aspectual event structure of predicates is decomposable syntactically and semantically. In other words, events are not atomic units, but rather have internal structure in which different kinds of sub-events can be identified. The vast amount of literature on verb classes has shown that the postulation of sub-events is grammatically robust because certain internal articulations have been shown to be motivated by a number of syntactic and semantic facts. We mention below two famous arguments in favor of such a hypothesis.

First, Kratzer (1996), drawing on Marantz (1984), notices that external arguments seem to have a special status because they are only rarely able to trigger a special interpretation of the verb, unlike internal arguments which very often do so.

Kratzer's conclusion is that there is a distinction between the internal arguments of verbs, which are part of the lexical entry and appear in the lexical semantic representation as arguments of the main predicate, and external arguments, which are introduced by an independent predicate in a neo-Davidsonian way. Accordingly, external arguments are added via secondary predication in the Specifier position of a Voice Projection. The upshot for the internal structure of events is that (action) verbs that have an external and an internal argument can no longer be analysed as atomic events, but are composed of a causing sub-event and change sub-event. [8]

Another argument in favour of a finer grained analysis of events can be found in the analysis of adverbial modification (Hale and Keyser 1993, von Stechow 1995, Higginbotham 1997, etc). Consider the following example:

(8)   John almost melted the chocolate.

The sentence is ambiguous and has two interpretations. It can mean that *John almost performed an action of melting the chocolate*, or that *John melted the chocolate almost all the way*. Again, this implies that the macro event *melt* has sub-parts which can be individually modified by the adverb *almost*.

On the same note, Higginbotham (1997) notices that we can find different adverbials able to modify only one of the two sub-events, again confirming the need of a bi-eventive analysis of causative forms:

(9)   John sat his guest on the floor on purpose
(10)   John sat his guest on the floor slowly (Higginbotham 1997:3).

In (9) the adverbial *on purpose* can only modify the causing sub-event, while in (10) the adverbial *slowly* can only modify the sitting event.

In the syntax, the sub-event structure is represented through an articulation of the

VP structure in VP shells, as proposed by Larson (1988). We will use vP to indicate the upper VP shell and SC to indicate the lower predicative shell. As in Hale and Keyser (1993), we use 'vP' in purely abstract terms, in the sense that we're not yet making any assertions that vP is an instantiation of a particular light verb or particular causative head.

2.3. The problem of restricting alternating behavior in syntactic theories

In section 2.1., we saw that one of the biggest problems for lexicalist approaches to argument projection is the massive number of verb alternations. We argued that it is more efficient to hypothesize that alternations are a matter of syntactic computation.

But we cannot forget that the flexibility is not complete in a given language. In languages like Italian, such restrictions leap to the eye, but they can be found even in English.

In English, for example, you can *destroy* all sorts of things, but you can *collapse* only those things that are made to be collapsed:

(11)   John destroyed the tent
(12)   John destroyed Mary
(13)   John collapsed the tent
(14)   *John collapsed Mary.[9]

Moreover, while some verbs can be used to describe both caused and uncaused events, others cannot:

(15)   *The tent/Mary destroyed
(16)   The tent/Mary collapsed.

Similarly, if we take two classes of verbs such as 'change of state verbs' and 'consumption verbs', we see that while the first class alternate between a causative form and an inchoative form, the second class does not. But what would prevent, in theory, the formation of a sentence such as '*a cake ate*' with the meaning '*there was eating of a cake*', if the insertion of a verb into different kinds of syntactic frames is all that's needed to account for these kinds of phenomena?

Turning to Italian, we see that while certain verbs of manner of motion can describe both bounded and bounded events, just like in English, others can only describe unbounded events:

(17)   a. Gianni   ha corso   nel bosco   per ore
            John   HAS runPAST   in the woods   for hours
         b. Gianni   è corso   nel bosco   in un secondo
            John   IS runPAST   into the woods   in one second.

(18)   a. Gianni   ha camminato   nel bosco
            John   HAS walkPAST   in the woods

    b. *Gianni è camminato   nel bosco
         John   IS walkPAST   into the woods
    c. Gianni è andato nel bosco camminando
         John went into the woods walking.

    The examples in (17)-(18) show two things. First, in Italian, contra Talmy (1985), it is possible to form a goal of motion interpretation with the verb indicating the manner of motion and the PP providing the end point of motion; in other words, (some) verbs of motion in Italian can be inserted into a functional structure proper to eventive/telic clauses. Second, we see that this possibility does not extend to any verb of motion. In example (18) we can see that *camminare (walk)* can only be atelic. The only way to express the telic event *to walk home* is by means of a periphrasis as in (18c).[10] When the formation of the telic interpretation is not available it seems that the lexical entry is able to prohibit the construction of the functional structure necessary to give an event of motion a telic interpretation.

    Peter Svenonius (p.c.) points out that we can see a similar effect in English, when we consider verbs like *hover, wobble,* and *waver*. Unlike most manner of motion verbs in English, these do not allow telic motion frames:

(19)   a. #The helicopter hovered to the house
         b. #John wobbled the cart with the bad wheel down the candy aisle
         c. #Mary wavered the 40-ft. extension ladder into place.

Again, the search for lexical determinants of argument projection is on.

3. ANALYSIS

3.1 Animacy requirements and argument structure alternations

In English and most other languages, certain classes of verbs are able to change their argument structure quite freely and, for instance, allow both a transitive and intransitive form. Moreover, in the causative, transitive form, any kind of cause or agent is possible. Consider the examples in (20):

(20)   a. The door opened
         b. John/The wind opened the door
         c. The glass broke
         d. Mary/The stick broke the glass
         e. Jim and Tammy Faye Bakker separated
         f. Jimmy Swagert/Adultery separated Jim and Tammy Faye Bakker.

On the other hand, there are many verbs which do not alternate at all, and there are also verbs which place apparent selectional restrictions on their external argument,

some of which are illustrated in (21):

(21)   a. The army/The tornado destroyed the city
            b. *The city destroyed
            c. John arrived
            d. *The train arrived John
            e. Sue/The tornado killed someone
            f. Sue/*The tornado murdered someone
            g. The warden/Sickness imprisoned Andrew
            h. The warden/*Sickness jailed Andrew.

If Kratzer's account of Marantz's generalization, outlined above, is correct, the latter type of restriction is particularly mysterious. In (21e,f) we see that certain classes of verbs appear to require an animate or intentional external argument. If all external arguments are selected for exclusively by little v, it is difficult to see how such an effect could be captured in a constructionalist theory. Indeed, it was exactly the apparent *absence* of such selectional effects that led Kratzer to propose a semi-neo-Davidsonian approach to external arguments. Below, we show a class of verbs which illustrate that even these external arguments must be treated constructionally (i.e. selected for by an external predicate), and argue that positing different lexical entries for v (not for V) will produce exactly the necessary restrictions.

3.2 Verbs of consumption: animacy requirements and results

Verbs of consumption, like *eat, drink,* or *consume*, show the same transitivity pattern as in (21a,b) above: as with *destroy*, their agent arguments may not be freely omitted (see ex. (22a,b) below). They differ from the *destroy* verbs, however, in that they do not allow inanimate Cause subjects (see example (22c) below), like the *murder/jail* verbs illustrated above:

(22)   a. John ate the apple
            b. *The apple ate
            c. *Rot ate the apple.

The same facts obtain for Italian verbs of consumption:

(23)   a. Gianni ha mangiato la mela
               Gianni   has eat.PERF   the apple
            b. *La mela ha/é mangiato/a
               the apple has/is eat.PERF
            c. *La malattia ha mangiato la mela
               The disease has eaten the apple.

The restriction to animate agents illustrated in (22)-(23c) above, however, is eliminated if the verb occurs in a resultative construction:

(24)   a. *The sea ate the beach   (like (22c) above)
          b. The sea ate away the beach
          c. The carpenter carved the toy
          d. *The wind carved the beach
          e. The wind carved the beach away
          f. The child nibbled the cookie
          g. *Erosion nibbled the cliff
          h. Erosion nibbled away the cliff
          i. The cowboy chewed the tough beef
          j. *The washing machine chewed the laundry
          k. The washing machine chewed up the laundry.

Again, the same carries over to Italian:

(25)   a. *Il mare ha mangiato la spiaggia   (like (23c) above)
              The sea has eat.PST   the beach
          b. Il mare si   é mangiato la spiaggia
              The sea REFL   is eat.PST the beach
          c. Gianni ha bevuto un caffe
              John has drink.PST a coffee
          d. *Il sole ha bevuto   il lago
              The sun has drink.PST   the lake
          e. Il sole si   é bevuto il lago
              The sun REFL   is drink.PST the lake
          f. Gianni ha succhiato una caramella durante la lezione
              Gianni has suck.PST a candy during the class
          g. *L'inflazione ha (ri)succhiato i risparmi[11]
              The inflation has suck.PST the savings
          h. L'inflazione si   é (ri)succhiata i risparmi
              The inflation REFL is suck.PST the savings
          i. Gianni ha ritagliato un pezzo di legno
              Gianni has carve.PST a piece of wood
          j. *Il mare ha ritagliato un pezzo di spiaggia
              The sea has carve.PST a piece of beach
          k. Il mare si   é ritagliato un pezzo di spiaggia
              The sea REFL   is carve.PST a piece of beach.

   This alternation shows a surprising property: the animacy restriction on the subject of the verb goes away when the structure of the verb phrase is altered. In English, the structural change is accomplished by adding a particle such as *away* or *up*; in Italian the inchoative reflexive *si* is inserted and the required auxiliary changes from *avere* to *essere* (see Travis, this volume, for discussion of a similar paradigm in Malagasy).
   The auxiliary alternation in Italian is also seen, of course, when a verb like *fondere* 'melt' is used transitively and intransitively, as shown in (26):

(26)   a. Gianni ha fuso il cioccolato
             Gianni has melt PST the chocolate
         b. Il cioccolato é fuso
   The chocolate is melt PST.

In addition, there is evidence in English that adding a particle or a prepositional phrase to certain verbs changes the argument structure of the VP. For instance, when an unergative verb like *waltz* or *jump* is used with a directional PP, it may take a direct object, which is impossible without the PP:

(27)   a. The couple waltzed (across the floor)
         b. *John waltzed Mary
         c. John waltzed Mary across the floor
         d. Sue jumped
         e. *Sue jumped the horse
         f. Sue jumped the horse over the fence.

It seems clear, then, that these additional phrasal elements crucially induce an alteration of the argument structure of the vP. This alteration effectively turns the argument syntax of the verb of consumption into a resultative structure.

3.3 Structure and telicity in resultatives and verbs of consumption

A resultative construction involves a transition to a result state, whether caused or uncaused. In the sentences in (27) above, for instance, addition of the goal PP provides a secondary predicate characterizing the state that results at the end of the event, which in (27f), for example, we could gloss as 'the horse over the fence'. In cases where the event is caused, we, along with many others, assume that it takes at least two verbal 'shells' to encode the whole resultative construction. The representation of (27f), for example, includes at least the amount of structure illustrated below:

(28)

vP
DP — v'
Sue
v — SC^{12}
(CAUSE)
DP — PP
the horse   P — DP
over   the fence
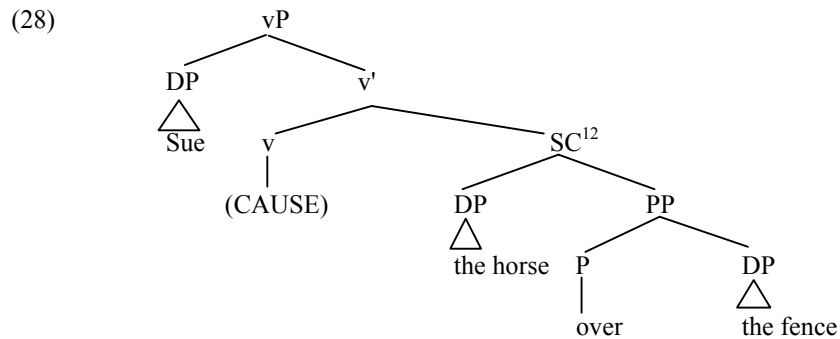
You will notice that there is no node in the present structure projected by the

verb *jump*. It is either inserted by a 'Manner Incorporation' process like that proposed in Harley (2001), or it heads a Process VP that intervenes between the upper and lower shells, à la Folli & Ramchand (2001). We will enlarge on the second option below (§5), although for present purposes the choice is irrelevant.
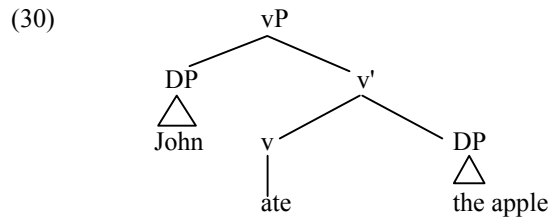
Consumption verbs fall into the class of transitive verbs with Incremental Themes, in the sense of Tenny (1987) or Dowty (1991). These are telic verbs, falling into Vendler's aspectual class of Accomplishments. The Incremental Theme object 'measures-out' the entire event denoted by the verb; when it is completely consumed, the event is over and hence telic. Resultatives, of course, are telic as well. Nevertheless, we argue, following Hay et al. (1999), Harley (2001), Ramchand (2002) and others, that the telicity of verbs of consumption is not produced by encoding the endstate of the event explicitly in the syntax. This difference in structure is reflected in the different semantic properties of the two constructions. In resultatives, the direct object is not a true Incremental Theme, in that it is not fundamentally involved in measuring out the subparts of the event, as noted by Jackendoff 1996 and others. In (27f) above, for example, it's the horse's change in position that measures out the event, not the physical properties of the horse itself; it doesn't take a big horse any longer to jump over the fence than a small horse. On the other hand, it *does* take longer to eat a large apple than a small one.

The similarity of event type between the two constructions is a property of the semantics of the events they express; however we know that telicity can result from different kinds of phenomena. For example, as discussed in Hay et al. (1999), there is a class of verbs called 'degree achievements', exemplified by *lengthen, widen,* etc., which may be coerced into telicity by a number of syntactic and semantic processes (Moens and Steedman 1998). For example, consider (29a,b) below.

(29)   a.   John lengthened the rope   (??in 2 minutes/for 2 minutes)
         b.   The tailor lengthened the trousers   (in 2 minutes/for 2 minutes).

The difference in event type here is not the result of any syntactic change in the structures involved. Rather, it results from world knowledge; there is no conventional length for ropes, but there is a salient conventional length for trousers (as long as the leg of the owner). When that length is achieved, the event is over.

We assume that the representation of verbs of consumption involves (at least) the structure below. As with *jump* in (28) above, the root √run is not represented as projecting its own VP. For the account of the contrasts proposed here, the exact source of the verb root is not crucial. If we were to provide a more fine-grained structure, we would either represent it as inserted directly via "Manner Incorporation," or as base-generated in a Process VP head, intervening between v and DP. Again, see §5 for further discussion.

(30)

```
                    vP
              ┌─────┴─────┐
             DP           v'
             △        ┌───┴────┐
           John       v        DP
                      │        △
                     ate    the apple
```

3.4 What happens when a verb of consumption becomes resultative?

In the data set under consideration, we can identify four distinct reflexes of the alternation from verb of consumption to resultative construction, enumerated in (31) and (32):

(31)   i.   In English, a particle is inserted after the object, realizing the secondary predicate
        ii. In Italian, *si* is inserted before the main verb

and in consequence,

(32)   i.   In Italian, the auxiliary becomes *essere* and the main verb is a participle
        ii. In both languages, the animacy restriction on the subject is removed.

We wish to propose that the alteration in structure between the consumption verb illustrated in (30) and the resultative structure illustrated in (28) arises as a result of the morphosyntactic changes listed in (i)-(iv). Let us consider the Italian case first.

3.5 Italian

The most salient distinction between the consumption and result sentences with *mangiare* 'eat' is the presence of *si* in the resultative variant. We propose that *si* is a realization of a light verb (as also proposed by Zubizaretta 1987, Lidz 1999, Sanz 2000, Folli 2002). The key property of the light verb realised by *si* is that it selects a state complement, which crucially encodes the final state of the event. Consider, for example, a verb like *fondere*, 'melt', which has two inchoative forms, one with and one without *si*:

(32)   a. Il cioccolato   é fuso (per un' ora)
            The chocolate   is melt.PST (for an hour)
        b. Il cioccolato   si   é fuso (*per /in un'ora)
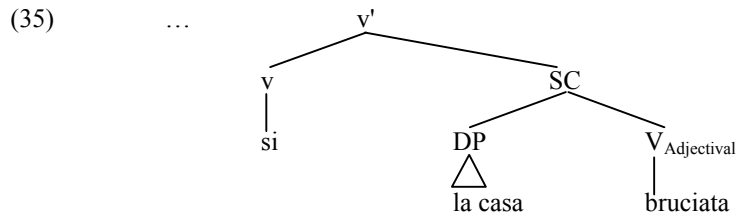   The chocolate   REFL   is melt.PST (*for/in an hour).

We can see that the variant with *si* necessarily encodes a final state, and is hence

necessarily telic, while the variant without *si* may be unbounded. To confirm this point, consider the following examples:

(33)   Il cioccolato é fuso per un ora, ma non si é fuso (completamente)
          the chocolate is melt.PST for an hour, but not REFL is melt.PST
          (completely)

(34)   a. La casa é bruciata (per un'ora), ma non si é bruciata
              the house is burn.PST (for an hour), but not is burn.PST
              The house burned (for an hour), but it didn't burn down.
          b. * La casa si é bruciata, ma non é bruciata   (*contradiction*)
              the house REFL is burn.PST, but not is burn.PST
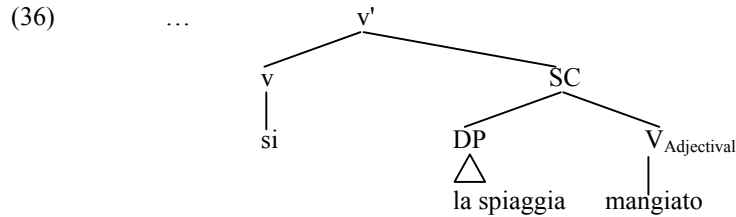   "#The house burned down, but it didn't burn."

In each case, the verb in its inchoative form without *si* does not entail that a final state has been reached, as can be seen in (33) and (34) by the fact that if one variant is conjoined with the negation of the other, we have a contradiction if the *si* variant occurs first (as in (34b)), but not if it occurs second (as in (33) and (34a)). (See other arguments for the verbal nature of *si* and other reflexive forms in Folli 2002.)

The fact that the verbal *si* encodes for a final result state means that the structure in which it occurs must include at least the following:

(35)   …   v'
                                    ┌────────┴────────┐
                                    v   SC
                                    │   ┌─────┴─────┐
                                    si   DP   V_Adjectival
                                                △   │
                                             la casa   bruciata

We wish to emphasize two properties of this structure. First, v is occupied by *si*. Contrast this with the proposed structure for verbs of consumption in (30) above, where v is occupied by the main verb. Insertion of *si* forces the merge of the main verb into the lower position. Second, the main verb is crucially an adjectival participle, indicating the end state. (Its adjectival status is clear from the fact that it agrees with its subject). Remember that we have asserted above that *si* always requires a final state: in this structure, that final state is realised by the small clause formed from the DP and the adjectival participle.

In the case of verbs of consumption, introduction of *si* will also induce formation of a small clause, for the same reason. Consequently, the structure of *si mangiato la spiaggia* is the following:

(36)   …   v'

```
            v                           SC
            |
            si                   DP              V_Adjectival
                                 △                   |
                              la spiaggia         mangiato
```

Notice that the agreement on the participle in these cases is *not* with the object; see the discussion in section 4 for our analysis.
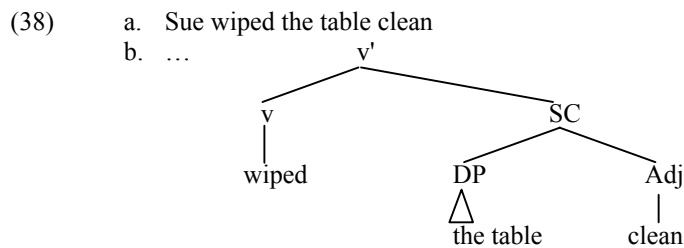
To sum up our proposal thus far, we have claimed that it is the fact that *si* selects for a final state that causes the structural change we observed above.

3.6 English

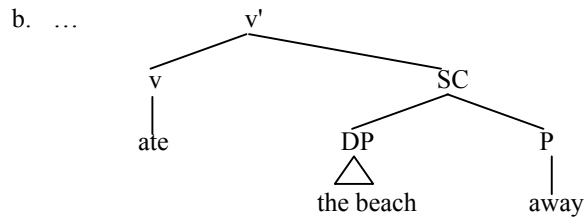Let us remind ourselves of the alternation as it appears in English:

(37)   a.   John ate the apple
         b.   The storm ate away the beach / ate the beach away.

In this case, the trigger for small clause formation is not obviously a different light verb, but rather the presence of the particle *away*. This is identical to the structure of more familiar resultative constructions, as analysed for instance by Chomsky (1981), Stowell (1983), Kayne (1985), Hoekstra (1984), Levin & Rappaport-Hovav (1995), Mateu (2000), among many others. Consider the structure of the resultative VP illustrated in (38):

(38)   a.   Sue wiped the table clean
         b.   …   v'

```
            v                           SC
            |
            wiped                DP              Adj
                                 △                |
                              the table         clean
```

In a completely analogous way, addition of the particle to verbs of consumption results in the formation of a final state small clause; the phrase *eat the beach away*, then, has the same structure, illustrated below:

(39)   a.   The sea ate the beach away

b.   …

```
                        v'
                 ┌──────┴──────────┐
                 v                 SC
                 │            ┌─────┴─────┐
                 ate         DP           P
                            ╱╲            │
                       the beach        away
```

4. ANALYSIS

In theta-theoretic terms, external arguments in Spec vP can bear either an Agent or a Cause role. These roles have very similar qualities, but one crucially different property: Agents must be intentional—they can *do* things—while Causes need not be. This distinction can be lexically encoded, as we illustrated above for verbs like *murder* vs. *kill*.

What do Causes do? We claim that they initiate a change of state, which must be represented in a particular way in the syntax, by the projection of a small clause.
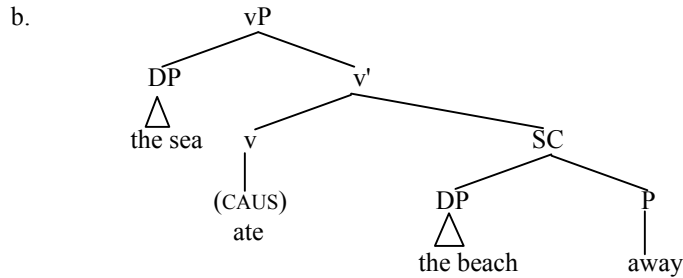
Certain kinds of inanimate things cannot be Agents. For instance, in ex. (21h). above, *sickness* could not 'jail' *Andrew*; this is because *sickness* can only be a Cause, not an Agent. It is precisely this distinction that is at work in our examples with verbs of consumption. *The sea* or *inflation* can easily be interpreted as Causes, but are very poor Agents, because not intentional.

If such a Cause is used as the subject of a verb of consumption, a conflict arises, shown by the ungrammaticality of (24), repeated below:

(40)   a.   John ate the apple
           b.   *The sea ate the beach.

In (40b), the subject is a Cause, and the verb selects a DP complement, not a final result state SC. However, with these verbs, another option is available. In English, formation of resultatives is freely available in the grammar, so a small clause can be easily constructed by the addition of a final particle, as illustrated above. When that occurs, the DP in subject position may be a Cause, rather than an Agent, because the change-of-state that Causes produce is now represented in the structure, and hence (41a). is grammatical, with the structure in (41b).
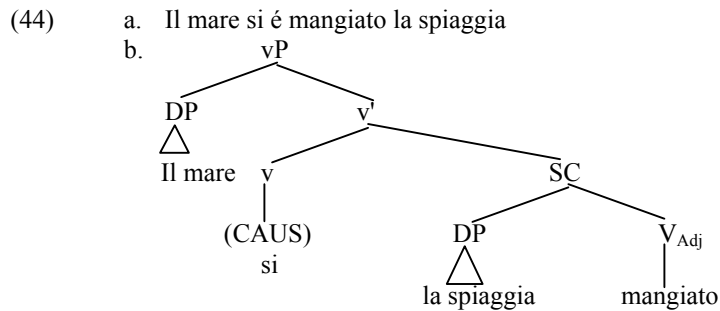
(41)   a.   The sea ate the beach away

b.
```
                           vP
                   ╱               ╲
                 DP                 v'
                 △            ╱          ╲
              the sea       v              SC
                            │          ╱      ╲
                         (CAUS)      DP          P
                          ate        △          │
                                 the beach      away
```

In Italian, the process is complicated by the fact that the formation of resultative structures with secondary predicates is not freely available (Napoli 1992, Folli 2002). Moreover, as noted by Giorgi and Pianesi (1998), among others, the past tense forms of Italian verbs of creation and consumption do not entail the telicity of the event. In other words, a sentence like *John ate an apple* in Italian does not necessarily imply that 'John ate the apple all the way up' (cf. Zagona 1996).

(42)   Cosa ha mangiato Gianni per pranzo?
          What has eat.PST Gianni for lunch
          What did Gianni eat for lunch?

(43)   a.   Gianni ha mangiato una mela, ma non l'ha finita
               John   has eat.PST an apple   but NEG it has finish.PST
               John ate an apple, but he didn't finish it
          b.   #Gianni si é mangiato una mela ma non l'ha finita
               John REFL is eat.PST an apple, but NEG it has finish.PST
               John ate an apple up, but he didn't finish it.

As discussed above, the introduction of the reflexive morpheme forces the projection of a result state SC. As a consequence, the effects noted above follow: (i) the external argument is a Cause, not an Agent, and (ii) the telicity of the whole phrase is now enforced. We propose such clauses have the structure in (44) below:

(44)   a.   Il mare si é mangiato la spiaggia
          b.
```
                           vP
                   ╱               ╲
                 DP                 v'
                 △            ╱          ╲
              Il mare       v              SC
                            │          ╱      ╲
                         (CAUS)      DP          V_Adj
                          si         △          │
                                 la spiaggia    mangiato
```

Two questions immediately arise: the word order illustrated above does not

match that of our clause, where the object follows the verb rather than precedes it; moreover there is the question of agreement: here the participle must agree with the subject, not the object, as might be expected. There are two possible avenues of analysis for these facts, which we consider to be aspects of a single problem. One possible approach is to propose that the adjectival verb raises out of the small clause, adjoins to v, and checks an AGR feature against the object when it checks its AGR features. This raises the issue, noted by our reviewers, of how the little v, spelled-out as *si*, can raise independently to adjoin to the finite auxiliary. Either little v would have by some species of clitic movement, or it would have to excorporate.

   The other possible option, which we intend to pursue in future work, is that in Italian, the usual order of predicate and subject is P-S, not S-P, as well have represented it here. This possibility is supported by the observation that the embedded subjects of causatives with *fare*, both agentive and unaccusative, occur to the right of their predication: *Gianni ha fatto galleggiare la barca sotto il ponte*, "G. has made float the boat under the bridge," not *…*la barca galleggiare…*, "…the boat float…" On such an approach, the adjectival verb would remain in its base-generated position throughout the derivation, and agreement would be the standard predicational agreement found in small clauses throughout the Romance languages. The excorporation issue would not arise, as little v would raise to adjoin to the auxiliary in T by the usual head-movement mechanism.

   It is still clear that the participle is adjectival, not perfective, however, because the gender and number of the subject change the shape of the participle in the *si* construction, but do not trigger a change in the participle agreement in the perfective. Consider the examples in (45):

(45)   a. Gianni ha mangiato una mela
           Gianni <u>has</u> eat.PST an apple
       b. Maria ha mangiato/*mangiata una mela
           Maria <u>has</u> eat.PST/*eat.FEM.PST an apple
       c. Gianni e Maria hanno mangiato/*mangiati una mela
           Gianni and Maria <u>have</u> eat.PST/ *eat.PLU.PST an apple
       d. Gianni si é mangiato una mela
           Gianni <u>is</u> eat PST.MASC an apple
       e. Maria si é *mangiato/mangiata una mela
           Maria <u>is</u> *eat.PST.MASC/eat.FEM.PST an apple
       f. Gianni e Maria si sono *mangiato/mangiati una mela
           Gianni and Maria ARE *eat.SG.PST/ eat.PLU.PST an apple.

   In (45a,b) and c, the number and gender of the subject do not affect the form of the participle, but in the *si* constructions in (45d,e) and f, both number and gender are marked on the participle.

4.1 *Reflexive* si

The syntactic nature of *si* has been constantly debated. The same morphological unit

is used in a number of different constructions (middles, inchoatives, reflexives, impersonals), in each case affording different kinds of semantic effects. The analysis of all these kinds of constructions is beyond the scope of this paper, but we wish to show here that the verbal analysis of *si* in the examples analysed above allows a unitary analysis at least of inchoative and reflexive *si*. The idea is that *si* is a verbal head and as such occupies the one verbal head available.

Intuitively, a reflexive form seems to be derived from the transitive one via a syntactic mechanism that identifies the external with the internal argument of the event. The argument structure of a reflexive sentence is just like that of a transitive sentence, except that the internal argument and the external argument of the verb necessarily coincide. In English, this can be achieved through the use of an anaphoric pronoun and in Italian through the use of *si*:

(46)   John washed himself
          Gianni si è lavato.

But how does *si* make this possible?

The meaning of the sentence is that *Gianni is the agent of an event of washing having Gianni himself as its object.* We have a transitive causative event where the only argument is both the subject and object of CAUS. The hypothesis put forward in Folli (2002) is that in the derivation of a reflexive structure, the verb merges lower, while *si* merges as v, making the two specifier positions identical:[13]

(47)
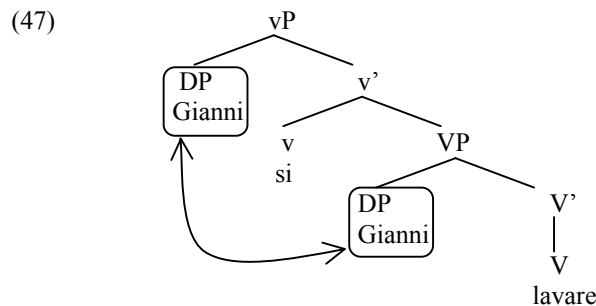
Thus, reflexive *si* has two fundamental properties. First, it carries a little v feature that forces it to merge in v. This is confirmed by considering the behaviour of the reflexive sentence "Gianni si è lavato" when it is embedded under the explicit causative form with *fare (make)*:

(48)   Maria ha fatto lavare Gianni
          Maria has made.PST wash Gianni
          *Maria ha fatto lavarsi Gianni
          Maria has made.PST wash.REFL Gianni.

As we can see, if *fare* is inserted, *si* cannot surface, although (48) is ambiguous

between a transitive interpretation (*Mary had someone wash John*) and a reflexive interpretation (*Mary had John wash himself*). In the reflexive interpretation, *si* cannot surface precisely because there is now no empty verbal head into which *si* could merge, the v head being filled with *fare* and the V head with *lavare (wash)*.[14]

   Second, *si* has the syntactic property of making the specifier positions of the adjacent verbal projections identical. In this sense it is like a reflexive operator.

5. EXTENSIONS

In treating the differences between causes and agents above, we have proposed that v comes in three different variants: CAUS, DO and BECOME. The latter is not a concern for us in this paper, but the difference between CAUS and DO is the fundamental basis of our account. In essence, we have proposed that when v=DO, an animacy restriction is imposed on its subject. In contrast, when v=CAUS, the subject may be animate or inanimate. In this section, we consider animacy restrictions and their connection to argument structure more closely, examining possession, nominalisations, aspectual effects and causation chains. With respect to the latter, we will show that Italian makes a distinction between inanimate CAUSES of events and inanimate instruments.

   Recall that we initiated our discussion by noting the problems faced by constructionalist approaches to argument projection in terms of the lack of complete productivity of alternations. In other words, we have argued that lexical restriction must play a role in certain cases because not any verb can be inserted in any frame. Here, we wish to underline this point by presenting a similar and related problem posed by animacy restrictions: verbs with 'Agent' or 'Cause' external arguments may not always combine with both animate and inanimate initiators. However, the effects of inserting an initiator of a different type are usually regular, rather than completely idiosyncratic, suggesting that a constructional-style explanation must face such effects head-on. Here again, we assume that some type of lexical restriction on 'light' semantic primitives must be invoked.

   Animacy is well known to have predictable effects in many domains. Consider, for example, the difference between the English sentences in (49a,b) and (49c,d) below:

   (49)   a. John has a broken arm
             b. The oak tree has a large branch
             c. John has a car
             d. *The oak tree has a nest.

   As shown by Belvin (1993) and discussed in Harley (1998), animate, intentional beings may enter into the *alienable* possession relation, as in (49c): John has no necessary connection to the car other than his possession relation with it. On the other hand, inanimate things may only 'possess' subparts of themselves—they can

only enter into an *inalienable* possession relation. This is why (49b), where the oak inalienably possesses the branch, is grammatical, while (49d), where the oak tree is said to possess something which is not a subpart of itself, *a nest*, is ungrammatical. This contrast carries over to other languages, including Italian.

Another case where similar changes have been observed is in unergative verbs of manner of motion and sound emission. Here, the distinction that has been proposed is not exactly between animate vs. inanimate subjects, but rather between internal vs. external causes of events (Levin & Rappaport 1995). Consider the examples in (50) below:

(50)   a.   John whistled
          b.   The train whistled
          c.   *The bullet whistled
          d.   The bullet whistled through the window.

The crucial differences here are between (50b) and (50c), and between (50c) and (50d). The train is a possible internal cause of whistling—it is, after all, equipped with a whistle. The bullet, on the other hand, can only make a whistling noise by virtue of its movement; the whistling noise must be 'externally' caused in this case. The resulting effect on argument structure is strikingly similar to the effects we have discussed above. We can see that a significant change has occurred by considering what happens when we try to extract the various arguments in (51):

(51)   a.   John ran into the woods
          b.   The bullet whistled into the room
          c.   How far into the woods did John run?
          d.   *?How far into the room did the bullet whistle?

A third case of a distinction created by an animate vs. an inanimate Cause argument was noted by Harley and Noyer (2000), in a discussion of the difference between Causes in the verbal and nominal frames. While both an animate and an inanimate Cause are acceptable in the verbal frame (52a,b), only the animate Cause is appropriate in the nominal frame (52c,d). Again, the same facts hold in other languages as well, in particular, they hold in Italian.

(52)   a.   The judge separated Jim and Tammy Faye Bakker
          b.   Adultery separated Jim and Tammy Faye Bakker
          c.   The judge's separation of Jim and Tammy Faye Bakker
          d.   *Adultery's separation of Jim and Tammy Faye Bakker.

A fourth case, noted by Sabine Iatridou (p.c.),[15] is a subtle distinction between animate and inanimate subjects of verbs of permission in Greek. When the subject is animate (e.g. *the owner* in (53a,b), both the past perfect and imperfect tenses are grammatical. When the permitter is inanimate, however, (e.g. *the licence* in (53c,d), only the past imperfect is felicitous; the past perfect is marked:

(53)   a. O idioktitis mas   epetrepse   na   exume skili,   ala
            DET owner us   permit.PAST.PF   NA   have dog   but
            den   ixame   skili
            NEG   have.PST.PL   dog
            "The owner permitted us to have a dog, but we didn't have a dog"

        b. O idioktitis mas   epetrepe   na exume skili,   ala
            DET owner us   permit.PST.IMPF   NA have dog   but
            den ixame   skili
            NEG have.PST.PL   dog
            "The owner permitted us to have a dog, but we didn't have a dog"

        c. *Ekini i adia mas   epetrepse   na exume skili,   ala
            That DET license us   permit.PAST.PF   NA have dog   but
            den ixame   skili
            NEG have.PST.PL   dog
            "The license permitted us to have a dog, but we didn't have a dog"

        d. Ekini i adia mas   epetrepe   na exume skili,   ala
            That DET license us   permit.IMPF   NA have dog   but
            den   ixame   skili
            NEG   have.PST.PL   dog
            "The license permitted us to have a dog, but we didn't have a dog"

Again, these facts are also seen in Italian:

(54)   a. Il padrone ci ha premesso di avere un cane, ma…
            The owner us has permit.PST to have a dog but…
            The owner permitted (PF) us to have a dog, but

        b. Il padrone ci permetteva di avere un cane, ma…
            The owner us permit.IMPF to have a dog but…
            The owner permitted (IMPF) us to have a dog, but

        c. *#La licenza ci ha premesso di avere un cane, ma…
            The license us has permit.PST to have a dog but…
            The license permitted (PF) us to have a dog, but

        d. La licenza ci permetteva di avere un cane, ma…
            The license us permit.IMPF to have a dog but…
            The license permitted (IMPF) us to have a dog, but…[16]

    A fifth case, observed by Folli (2002), is the presence again of some kind of selectional restriction on the initiator with certain change of state verbs in Italian. Consider the following examples:

(55)   a. *Il temporale ha chiuso le finestre
            The storm closed the windows

        b. *Il vento ha rotto la sedia
            The wind broke the chair

    c.   *Il sole ha aperto la busta
        The sun opened the envelope.

From these examples we could draw the preliminary conclusion that in Italian only intentional agents qualify as possible initiators for these kinds of verbs. But this cannot be quite right, because of the following data:

(56)   a. Il temporale ha svegliato Gianni
            The storm woke Gianni up
      b. Il vento ha rotto la finestra
            The wind broke the window
      c. Il sole ha alterato i colori
            The sun altered the colors.

As we can see, in (55) and (56) we have the same DP subjects but in the second set of data no restriction occurs,

If we consider more closely (55a) and (56a) we can see that an explanation can be found in the causation 'chain' linking *the storm* on the one hand to *the waking up of John* and, on the other to *the closing of the window*. The noise is a necessary and obvious property of *the storm* and as such *the storm* qualifies as a proper internal cause. On the other hand, when we say that *the storm closed the window*, we have to ascribe an intermediate link to the causation chain, for example *a branch* or *the wind generated by the storm*. As with the possession cases, above, the restriction on inanimate DP causes has to do with inalienable properties—internal causation.

To sum up this section, we have illustrated that the properties of lexical items, such as agentivity or ability to be an 'internal' cause, have repercussions for argument structure. Again, the effects are both strikingly systematic and yet not clearly attributable to changes in the syntax of these constructions. We suggest that an approach like the one we have proposed above for verbs of consumption will also be appropriate in many, if not all, of these cases.

6. CONCLUSION AND SPECULATION

The natural prediction of the constructionalist viewpoint with respect to argument projection is strict compositionality and complete productivity. In the ideal world, this would be the whole story. We have shown, however, that there are limitations on argument projection that cannot be explained by a strictly syntactic approach. We have proposed that there are distinct flavours of light verbs, with distinct selectional properties, and that this accounts for the observed dependence of the alternation on factors like animacy and intentionality of the Cause argument.

We have not, thus far, discussed how gaps in alternations are to be accounted for. For instance, how can a verb like *murder* be required to have an intentional subject, in this framework? The notion of flavours of v that we have introduced could provide the tools needed to treat such gaps. Consider the case of non-

alternating unaccusative verbs like *arrive* or *descend*. In a theory where there are two different flavours of v for causative and inchoative verbs (v_{CAUS} and v_{BECOME}, say), we can account for such verbs by saying that their vocabulary entry stipulates that they be inserted only under v_{BECOME} (alternating verbs will be underspecified). In exactly the same way, we can capture the difference between *murder* and *jail* by noting that the vocabulary entry for the former requires v_{DO}. In this way, we avoid the Lexicalist problem of predicting unrestricted variation; on our approach, the only dimension of variation possible depends on the available inventory of flavours of v.

On one interpretation, this is simply rearranging a Lexicalist solution: moving the relevant information from the root to the v, i.e. making it dependent upon the meanings of the bits of functional structure. However, we wish to view the proposal in a different way. Each flavour we have considered here is crucially associated with a distinct structural configuration. In a Hale and Keyser type approach, this is all that is needed to get interpretive distinctions like these. Whether such a structuralist interpretation of the approach is sufficient to account for the *murder/kill* type of distinctions remains to be seen, but we feel that it is more than adequate for the causation vs. activity distinction that is our primary focus.

Ultimately, we speculate that these effects illustrate the interaction between world knowledge and the syntactic component. It is undeniable that the ability to tell whether a particular entity is a legitimate internal cause is clearly part of our Encyclopedic knowledge of the word. It is an inherent property (an inalienable property) of storms, for instance, that they make noise; on the other hand, moving branches is not an inherent property of storms. We do not wish to say that such knowledge about storms is part of our language faculty. Our language faculty does, however, directly encode causation. We propose that different flavours of v are a natural way to link the computational mechanism of argument projection with the fuzzy effects of world knowledge on language use; it is the interaction of the two that produces the predictable yet knowledge-dependent set of alternations that we have presented.

Raffaella Folli, University of Cambridge

Heidi Harley, University of Arizona

NOTES

[1] The intended reading here is like that in 'Mary carved the wood', not 'Mary carved the toy', of course—we are not considering the possibility that the wind created the beach.

[2] We can perhaps ascribe a weaker version of this atomistic view to Fodor (1970 *inter alia)*.

[3] Borer (2002) notices that UTAH and constructionalist positions do share two fundamental assumptions: first, argument structure variations are derived syntactically, and not lexically because a lexical entry always projects in the same way; second, the interpretation of argument position is fundamentally linked to specific syntactic positions. On the basis of these two points, it could be argued that UTAH could be construed in totally non-lexicalist terms, if we dispensed with the idea that argument structure projection is directly dependent on the properties of the lexical entry. See Borer 2002 and 1998 for details.

[4] See also Baker 1997 for a more precise reformulation of the UTAH in terms of three main proto-roles

(agent, theme and goal/path/location) that are mapped into specific syntactic positions.

[5] Hale and Keyser 1993 et seq. make an even more radical proposal, according to which the syntactic position is the *only* factor involved in determining meaning; they ascribe no direct predicative content to the light verb that they propose (although they gloss it usually along the same lines as the work cited above).

[6] See Borer 2002.

[7] See Ramchand 2002.

[8] This decompositional approach has been extended with the identification of a further need for decomposing of the change event into two sub-parts, the process event and the result event (Higginbotham 2000, Butt and Ramchand 2001, Ramchand 2002, Folli 2002, among others). Accordingly, a causative accomplishment predicates such as *open the door* in a sentence such as *John opened the door* is analyzed as composed of three sub-events, the causing event <e1> of *John doing something*, the change event <e2> of *the door being progressively in a different spatial configuration,* and the result event <e3> of *the door being open.* In line with Higginbotham (2000), the hypothesis is that the two sub-events composing an accomplishment predicate are in a very special relation that has to be represented as an ordered pair of events <e1, e2>, where <e1> is the development portion of the pair and <e2> the 'telos'. Any kind of predicate having this event structure is called a *telic pair.*

[9] See Higginbotham 1997 for a discussion of these facts.

[10] See Folli(2002) for details.

[11] We wish to point out that although in Italian the formation of particle constructions is highly restricted, there are few cases in which this kind of construction can be formed and an unbounded verb can be turned into a bounded one. Example (24)g.-j. are an example of this. In both cases the transformation of the sentence into a resultative structure can be done via the adjunction of the particle v*ia* 'away':

    (i)   l'Inflazione ha succhiato <u>*via*</u> i risparmi
               The inflation has suck away PST the savings
    (ii)   Gianni ha tagliato <u>*via*</u> un pezzo di legno
               John has carve PST away a piece of wood.

[12] "Small Clause." While we are aware that this term has been used to refer to several different types of structures in the literature, with more or less functional structure involved, we intend it here in the most agnostic sense, simply to refer to a predicational structure between an argument and a predicate. Our proposal does not hinge on this issue, and we feel that any extant notion of Small Clause could easily be integrated into the analysis proposed here.

[13] It should be noticed that in (47) we see one extra verbal shell. See Folli 2002 for details.

[14] We thank Paula Kempchinsky for pointing out that the complementary distribution between *si* and *fare* does not carry over to Spanish *se* and *hacer*: *La madre hizo la*varse al niño; 'The mother had the child wash himself" is well-formed and indeed obligatory in Spanish. Obviously this is an important question that we will wish to pursue, but since it hinges on whether or not *se* and *hacer* are truly analogues of *si* and *fare*, a complete investigation goes beyond the scope of this footnote.

[15] Thanks to Bridget Copley for connecting us with these facts.

[16] Thanks to Asya Pereltsvaig for pointing out that this paradigm holds in Russian as well.

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