Provided for non-commercial research and education use. Not for reproduction, distribution or commercial use.



This article was published in an Elsevier journal. The attached copy is furnished to the author for non-commercial research and education use, including for instruction at the author's institution, sharing with colleagues and providing to institution administration.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

http://www.elsevier.com/copyright



Available online at www.sciencedirect.com



Lingua 118 (2008) 190-202



www.elsevier.com/locate/lingua

# Teleology and animacy in external arguments

Raffaella Folli<sup>a,\*</sup>, Heidi Harley<sup>b</sup>

<sup>a</sup> University of Ulster, Newtownabbey, UK <sup>b</sup> University of Arizona, AZ, USA

Received 13 April 2006; received in revised form 28 June 2006; accepted 1 February 2007 Available online 23 May 2007

#### Abstract

In this paper, we consider a number of phenomena in English, and other languages (Italian, Greek, Russian) involving external arguments where *prima facie* animacy seems to constrain grammaticality. Our discussion comes to the conclusions that, at least in the cases under analysis, a more appropriate notion should be evoked, i.e. the notion of teleological capability and that the inherent abilities of an entity to participate in an event is at the basis of its grammatical occurrence. © 2007 Elsevier B.V. All rights reserved.

Keywords: Animacy; Teleology; Little v; Agent; Cause; Sound emission; Aspect; Imperfect

# 1. Introduction

There are several phenomena in natural language that seem to be dependent on a notion of animacy or intentionality. In some languages, these effects are clearly syntactically marked, as in the 'animate-first' requirement on DPs in Navajo clauses. In others, they manifest themselves more subtly, only appearing in certain constructions or with certain lexical items. We examine cases of this latter type here, in Italian, English, Greek and Russian. In particular, we will consider the effects of animacy in external argument position.

In the cases under consideration, DPs that refer to inanimate entities are more restricted in their distribution than DPs which refer to animate entities. In some cases, the effects that emerge result from the interaction of semantic considerations and syntactic structures; in others they are more purely semantic or Encylcopedic in nature. In all cases, however, we will argue that the

Tel.: +44 2890366615; fax: +44 2890368251.

<sup>\*</sup> Corresponding author at: School of Communications, University of Ulster, Newtownabbey, BT37 0QB, UK.

E-mail address: r.folli@ulster.ac.uk (R. Folli).

<sup>0024-3841/\$ –</sup> see front matter  $\odot$  2007 Elsevier B.V. All rights reserved. doi:10.1016/j.lingua.2007.02.004

source of the animacy effect has its roots in the notion of *teleological capability*: the inherent qualities and abilities of the entity to participate in the eventuality denoted by the predicate (Higginbotham, 1997).

The cases we will discuss involve sound emission, possession, causation chains and permission, respectively. We will examine each in turn in sections 2–5. In section 6 we will then consider a number of cases where the effect of apparent animacy restrictions has a structural reflex, namely in affecting the complement of the little v head which introduces external arguments.

# 2. Sound emission

It is usually assumed without argument that DPs bearing an Agent theta-role must be animate, and certainly in most cases Agents *are* animate. Nevertheless, there are certain cases where it is clear that animacy and agency are dissociated.

The subjects of so-called 'theme unergatives' (Levin and Rappoport-Hovav, 1995) can be animate or inanimate. The subjects of unergative verbs are of course Agents—indeed, in a syntactically-based approach to theta-role assignment like that of Hale and Keyser (1993, 2002), they must by definition be Agents, since they occur in the specifier position of the external VP.<sup>1</sup> If they were not Agents, we would expect the verbs to exhibit hallmarks of an altered syntactic structure, for instance, they might be expected to behave like unaccusative verbs. In most cases, they do not.

The canonical examples are verbs of sound emission: *whistle, hum, squeak, click, hiss, ring*, etc.<sup>2</sup> In English, these verbs are good examples of the Hale and Keyser zero-derived types, all having related bare nominals which denote the noise emitted: *a whistle, a hum, a squeak, a click, a ring,* etc. In Italian, they select *avere* 'have' as their auxiliary in the perfect, rather than *essere* 'be', no matter whether their subjects are animate or inanimate, as shown in (1) and (2):

- (1) Gianni ha/\*é fischiato John has/\*is whistled
- (2) Il treno ha/\*é fischiato The train has/\*is whistled

Indeed, some of these verbs even exclude animate subjects, as for *ring* in English, or *scricchiolare* 'squeak', in Italian.

<sup>&</sup>lt;sup>1</sup> In this paper, we adopt the notion from Hale and Keyser (1993, 2002), Chomsky (1995) and Marantz (1997) that the external-argument-introducing projection is  $v^{\circ}$ . In some recent work (e.g. Pylkkänen, 2002; Marantz, 2005), the external-argument-introducing projection and the verbalizing projection are separate, appearing as VoiceP and vP, respectively. Even in such tripartite systems, VoiceP is maximally underspecified with respect to the semantics it requires of an external argument introduced there; any constraints on the nature of the external argument involved are due to the contents of  $v^{\circ}$ , not Voice<sup>o</sup>. Since nothing in the current discussion hinges on the distinction between Voice<sup>o</sup> and  $v^{\circ}$ , we adopt the simpler position according to which they are unified. For some discussion of the pros and cons of VoiceP, see Harley (2005, 2006).

<sup>&</sup>lt;sup>2</sup> Interestingly, these verbs are somewhat rare in Italian, and those that exist seem to refer more to physical processes of producing the sound, rather than to the sounds themselves. For instance, there is no equivalent of *click, hum,* or *ring,* nor are there many verbs that refer to animal noisemaking; there are the verbs *schioccare,* 'to snap (one's fingers)', *spernacchiare* 'to blow a raspberry', and *scricchiolare,* 'squeak' (of hinges), which have a robust restriction to the physical means of production.

- (3) Questo tavolo/#Gianni scricchiola This table/#Gianni squeaks
- (4) The phone/#John rang<sup>3</sup>

Given the uniform syntactic behavior of the animate and inanimate subjects in these cases, we assume a uniform semantic relationship, namely that these are all Agents.

The natural question, then, is what it is about these inanimate DPs in combination with these verbs that makes them legitimate Agent external arguments in these cases. It seems clear that although trains and tables are not animate entities, they have properties internal to their construction that makes them appropriate or typical whistlers and squeakers. Trains, in fact, are built with whistles in them, and tables that squeak do so by virtue of their physical characteristics. Agents, then, are entities which can produce particular events by themselves: they are sufficient on their own to initiate and carry out the entire event denoted by the predicate.

This point is confirmed by an observation due to Levin and Rappaport-Hovav (1991). When the subject of such a verb is not teleologically capable of producing the noise, a different syntactic structure is required, as in *The bullet whistled* <sup>\*</sup>(*into the room*).<sup>4</sup> This sentence is unacceptable without a goal of motion PP. Here, the sound emission verb becomes a verb describing the motion of the entity, and the sound is interpreted as a manner element describing that motion, namely that the motion produced a whistling noise. It must be the *motion* of the bullet that produces the whistling, rather than the bullet, as can be seen when such sound-emission motion predicates require animate subjects as *yell* and *laugh* in (5):

(5) a. \*John yelled into the roomb. \*Mary laughed out of the room

Because motion cannot produce yelling or laughing, these verbs may not be used as manner-of motion verbs—they may only be true unergative activity verbs.

The syntactic contrast between *The bullet whistled* \*(*out of the room*) and *The train whistled* confirms our point earlier: Inanimate entities like *The train* can be true Agents, as long as they are teleologically capable of producing the activity described by the predicate. When they are not so capable, i.e. for the bullet to be able to appear as the external argument of *whistle*, a change in the syntactic structure has to occur: the goal phrase has to be realized. We return to this point in section 6 below.

Similar remarks apply to unergative verbs such as *cough*, *shiver* and *blush*, whose subjects must be animate, but need not be intentional. For these verbs, animacy is a property that their external arguments must have in order to be teleologically capable of generating these verbal actions, but intentionality is not.

(i) John walked his mother \*(into the room).

192

 $<sup>^{3}</sup>$  In British English, *John rang* has an irrelevant reading on which it means that he telephoned, although this is not the case in American English. In neither dialect, however, can it mean that he made a ringing noise himself.

<sup>&</sup>lt;sup>4</sup> This phenomenon in the literature is often connected to another alternation with verbs of manner of motion. Hoekstra and Mulder (1990) noticed that manner of motion verbs can occur as causative verbs if a goal PP is added:

Folli and Harley (2006) argue in fact that the availability of this alternation is not connected to telicity and in particular to the presence of a goal-denoting PP, but rather to the availability of a specific syntactic structure containing a Small Clause.

# 3. Possession

Another context in which animacy effects appear is in the domain of possession. As shown in Belvin (1993, 1996), the relationship between a possessor and a possessee, expressed by the verb *have*, is mediated by both animacy and (in)alienability. Animate subjects can be said to 'have' both inalienable items, such as their body parts, and non-attached, alienable ones—essentially everything else. Inanimate subjects, on the other hand, may only 'have' items with which they are in a meronymic relationship—their inalienable subparts. This difference is illustrated in (6) and (7). In (6), the animate subject felicitously enters a possession relation with either a body part or an alienable item; in (7b), the inanimate subject sounds odd when it is being ascribed possession of an alienable item. Rather, a locative reading is required, which in English is implemented by the addition of a locative PP, in (7c).

(6) a.	John has a	broken arm
--------	------------	------------

b. John has a car

(7) a.	The oak tree has many	<sup>v</sup> branches
--------	-----------------------	-----------------------

- b. #The oak tree has a family of birds
- c. The oak tree<sub>i</sub> has a family of birds in  $it_i$

The same holds true in Italian. Indeed, in Italian there is no way to express this relationship using *avere* 'have', as the main verb at all, using a PP—the locative reading must be expressed with *essere* 'be', in an existential construction.

(8)	a.	Gianni ha un braccio rotto
		John has a arm broken
	b.	Gianni ha una macchina
		Gianni has a car
(9)	a.	La quercia ha molti rami
		The oak has many branches
	b.	#La quercia ha un uccello
		The oak has a bird
	c.	C'é un uccello sulla quercia
		There is a bird on the oak

The locative reading of 'have' in English is of course available for animate entities as well, as long as it's understood that they do not have control over the located thing, as in (10) below:

(10) John had a bee on him/on his shoulder

Interestingly, although the locative use of *avere* 'have' in Italian is impossible to implement with a PP like 'in it', it is perfectly possible with an inalienable body part possessee, for both animate and inanimate subjects, as shown in (11):

(11)	a.	Gianni ha una vespa sulla spalla		
		John has a wasp on the shoulder		
	b.	La quercia ha una famiglia di uccelli s	ul 1	ramo
		The oak has a family of birds o	on.the l	branch

One possible approach to distinguishing the locative *have* sentences like (7) and (11) from the possessive *have* sentences like (6) and (8) would be to claim that there are two verbs *have*: HAVE<sub>1</sub>, the locative variety, which selects for a location subject, a locatee and a location PP, and HAVE<sub>2</sub>, the possessive variety, which selects for an animate possessor subject and a possessee. This approach would make the claim that 'Animacy' as a primitive is identified in the semantics of HAVE<sub>2</sub>. This, however, would require treating inanimate possessor subjects in inalienable possession constructions as locations, rather than as possessors, since only HAVE<sub>1</sub> would allow for inanimate subjects, an approach suggested in Belvin (1996) and adopted in Harley (1998).

The well-formedness of *avere* as an expression of inalienable possession for both animate and inanimate entities, however, suggests that this is the wrong approach (for a review of the literature and discussion, see Butt et al., 2005). Recall that Italian *avere* may *not* be used as a verb of location (contrast (9) with (11)). Both animate and inanimate entities may indeed be legitimate Possessor subjects of *have*; the only difference between them is in the kind of things that they can possess. This can be captured with recourse again to the notion of teleology: animate entities are teleologically capable of controlling unrelated items, while inanimate entities are not—indeed, one might claim that this is a criterial quality of any entity that is mentally represented as animate. This seems to be corroborated by the fact that as soon as a listener tries to interpret a sentence like *The tree has a bird*, they must construct a cartoon-style or fantasy scenario in which the tree is itself an animate entity. This allows for a unified semantics of *have*, as proposed by Belvin (1996), with the different interpretations following from non-linguistic facts about the mental representation of possession relations. The contrast, then, is not due to animacy as a grammatical primitive.<sup>5</sup>

# 4. Causation chain effects

As discussed in section 2 above, within the domain of argument structure relations, a distinction has consistently been made between Agent and Causer external arguments (e.g. Gruber, 1965 and much work since; for some recent discussion, see Travis, 2000; Davis and Demirdache, 2000; Doron, 2003; Levin and Rappaport-Hovav, 2005; Alexiadou et al., 2006; Kallulli, 2006; Alexiadou and Schäfer, 2007, among others), with the associated claim that Agent arguments are often animate. Above we have argued that some true Agent arguments can be inanimate, if they are appropriately internally configured. Here, we extend that point by focussing on restrictions on the role that different types of Causers can play in initiating events.

<sup>&</sup>lt;sup>5</sup> We remain agnostic here as to whether English locative *have* is a different verb from English possessive *have*. The fact that Italian *avere* is a translation equivalent for the latter but not the former might suggest that this is the correct approach. However, we suggest that another view might be equally appropriate, namely that the selectional properties of English *have* are more relaxed than those of Italian *avere*. We assume that the complement to *have* in a locative sentence (10) is a small clause, where the Theme *a bee* has the location *on his shoulder* predicated of it, in a structure like the following: [<sub>SC</sub> [<sub>DP</sub> a bee] [<sub>PP</sub> on his shoulder]]. English *have* allows such SC complements in its causative and experiencer readings (e.g. *John had Bill go to the store*), while Italian *avere* has no such usage. The locative reading, we argue, arises from *have* taking such a SC argument in which an embedded pronominal is coindexed with the subject of *have*—that is, the locative reading is a type of experiencer reading that arises from the selectional permissiveness of *have* in English as compared to the more rigid requirements on Italian *avere*. See Harley (1998) for discussion and structures.

A reviewer points out that the permissiveness of *have* with respect to its external argument with a SC complement, as opposed to the selectiveness of *have* with a nominal complement, parallels the same phenomena we discuss with  $v_{DO}$  and  $v_{CAUSE}$  in section 6. Since there we argue that the correlation betwen subject-selection and complement-type indicates that two distinct heads are involved ( $v_{DO}$  and  $v_{CAUSE}$ ), the same argument could well go through for English *have* here. This is indeed a promising line of investigation which we intend to take up in future work.

In particular, we consider causative change-of-state verbs, whose external arguments express the triggering entity or event, but are not agentively controlling the unfolding of the change-of-state event. There are significant constraints on the relationship between the internal constitution of the Causer itself and the types of events which it can initiate—the well-known 'direct causation' restriction (see, e.g. Shibatani, 1976 et seq.). These effects are particularly salient in Italian, so we illustrate our discussion with Italian examples below.

In (12), we provide a series of pairs of sentences with different well-formedness judgments, where the Causer of the event is either appropriate or inappropriate as an initiator:

(12)	a.	#Il temporale ha rotto la finestra
		The storm broke the window
	b.	?Il vento/Il colpo di vento ha rotto la finestra
		?The wind/The gust of wind broke the window
	c.	Il ramo ha rotto la finestra
		The branch broke the window

In (12a), although the windows might well have broken as a result of the storm's winds, the storm itself cannot be said to have 'broken' the windows. In (12b), however, the winds themselves can be said to break the windows, as long as they do so directly, e.g. with a sudden gust, and in (12c), the branch is a completely natural breaker of windows. Intuitively, the difference seems to be connected to the causation chain involved in each case: the storm is too indirectly related to the breaking event to be expressed as a direct Causer; the intervening action of the winds creates a situation in which the whole storm itself is not the most 'proximate cause' (in the terminology of Wolff, 2003).

The question of what makes a particular entity an appropriate 'direct Causer' for a given event can again be connected to the notion of teleological capability. In the cases here, the physical makeup of the Causers at hand directly determine their felicity in the external argument position. Because there's a lot more going on in a storm than just the particular gust of wind that breaks the window, the storm, as an entity, is really too global a cause to qualify—it is of the wrong granularity, in the terms of Wolff (2003).<sup>6</sup> (12b) illustrates this effect even more subtly: insofar as 'the wind' is an appropriate breaker of windows, it must be because it is interpreted as composed of a strong gust, which could itself directly break the window. The whole predicate, composed of the verb and its object, imposes a teleological requirement on its Causer subject.

One interesting question has to do with how linguistic this effect is, as opposed to how much it can be attributed to world knowledge, as we are suggesting above. Languages famously differ in what types of entities are appropriate direct Causers: certain languages are more restrictive than others. English is relatively free (*The storm broke a window* is quite felicitous in English), while Japanese, French, Italian and Dutch are fettered to different degrees in this regard. We speculate that this may have to do with the other lexical and grammatical resources available in these languages. For instance, Italian has an all-purpose causative verb *fare*, which is highly productive, and preferred in describing situations of more

<sup>&</sup>lt;sup>6</sup> Wolff (2003) explains examples like *William the Conqueror changed the English language* in terms of granularity despite the huge number of intervening causal events involved, the whole change can not be ascribed to any single one of those events. The only causal event of the correct granularity to initiate this enormous change is in fact the Conqueror's invasion and occupation of England in 1066.

indirect causation. English *make* is somewhat less productive. Indeed, Italian has a small class of unaccusative change-of-state verbs (*evaporare* 'evaporate', *scoppiare* 'burst', *appassire* 'fade', *esplodere* 'explode', *crescere* 'grow', and *tacere* 'quiet') which fail to alternate, although they may do so in English and other languages; the only way to express the causation of these events is with *fare*.

The converse of this effect can be seen in *fare* expressions, which embed events whose external arguments could in principle be Causers or Agents. In practice, however, only Agent embedded subjects are possible in *fare* causatives of transitive verbs, as shown in (13) below<sup>7</sup>:

(13) Gianni ha fatto rompere la finestra a Maria/#al ramo John has made break the window to Maria/#to.the branch 'John had Maria/#the branch break the window'

In these constructions, the causation is *necessarily* mediated—there is explicitly an embedded, intervening initiator. These embedded initiators *must* be animate. It's well-known that the interpretation of such causatives involves a sense of obligation: the matrix Causer is obliging the embedded Causer to initiate the embedded event (Kayne, 1975; Hyman and Zimmer, 1975; Alsina, 1992; Guasti, 1996; Ippolito, 2000; Folli and Harley, in press). This effect arises because there is no way for the subject of *fare* to be a direct cause of the embedded event other than by having control over the actions of the mediating initiator, which is acting on its own behalf. Because the matrix subject may not have control over the actions of Causes, inanimate entities cannot appear in the embedded subject position of these constructions.

# 5. Licenses and permission

A very subtle case which we feel exhibits the teleology effect in a clear way can be seen in the following Greek, Russian and English examples<sup>8</sup>:

(14)	a.	O idioktitis mas epetrepse na exume skili, ala
		det owner us permit.PST.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'

<sup>&</sup>lt;sup>7</sup> Here we are discussing *fare* causatives of the 'Faire Infinitif' (FI) type, first described by Kayne (1975). For extensive discussion of these and also other *fare* constructions, see Folli and Harley (in press).

<sup>&</sup>lt;sup>8</sup> The Greek examples, due to Sabine Iatridou, were pointed out to us by Bridget Copley.

- 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'
- (15)Xozyain ime-t' pozvol-al nam sobak-u. a. Landlord.NOM permit-IMPF us.DAT have-INFIN dog-ACC, no my ne ime-l-i but we.NOM not have-PST-PL 'The owner permitted us to have a dog, but we didn't have a dog' pozvol-il nam ime-t' b. Xozyain sobak-u, Landlord.NOM permit-PF us.DAT have-INFIN dog-ACC ne ime-l-i no my but we.NOM not have-PST-PL 'The owner permitted us to have a dog, but we didn't have a dog' #Litsenzia pozvol-il-a nam ime-t' sobak-u, c. Licence.NOM permit-PF-FEM us.DAT have-INFIN dog-ACC, no my ne ime-l-i but we.NOM not have-PST-PL 'The license permitted us to have a dog, but we didn't have a dog' d. Litsenzia pozvol-al-a nam ime-t' sobak-u. Licence.NOM permit-IMPF-FEM us.DAT have-INFIN dog-ACC, no my ne ime-l-i but we.NOM not have-PST-PL 'The license permitted us to have a dog, but we didn't have a dog'
- (16) a. (In 1990) the landlord had permitted us to have a dog, but we didn't have one
  - b. (In 1990) the landlord permitted us to have a dog, but we didn't
  - c. #(In 1990), the licence had permitted us to have a dog, but we didn't have one
  - d. (In 1990), the licence permitted us to have a dog, but we didn't have one

In the above examples, we see that in all three languages, an animate subject of 'permit' is grammatical in both perfective and imperfective, shown in (14a)–(14b), (15a)–(15b), and (16a)–(16b). However, when the subject of 'permit' is changed to the (inanimate) noun 'licence', a difference emerges: the licence may imperfectively 'permit' but not perfectively as shown in (14c), (15c) and (16c).<sup>9</sup>

Again, we think that despite its surface relation to whether the external argument is animate or not, this effect is not about animacy, as the example below shows, where the inanimate subject can indeed be interpreted in the perfect:

(17) (At the time when I first met her), her way with animals had permitted her to have pets of many different species

We hypothesize that the badness of (14c), (15c) and (16c) rather has its source in the nature of the relationship between licenses and the permission that they grant, in composition with the semantic

<sup>&</sup>lt;sup>9</sup> This effect holds with verbs of permission and obligation more generally, assuming that the other relevant restrictions on the effect are met (i.e. if appropriate subjects can be found; see discussion below).

properties of the perfect (in (16)) or perfective (in (14) and (15)) constructions. As long as the license exists, the permission that it confers also exists. The aspectual marking of these sentences, however, asserts that the permission event is completed by reference time—in other words, the permission no longer exists.<sup>10</sup> Of course, the subject's existence and the reference time must overlap—otherwise, the property could not be predicated of the subject at the reference time. Accordingly, in the perfect and perfective examples above, the permission event must be over, but the subject must continue to exist. This creates no conflict in the case of the landlord (or in the case of *her way with animals* in (17), which continues to exist), but in the case of the license, it creates a contradiction: the license is presupposed to exist at reference time, but the permission is asserted to be completed at reference time, and consequently the licence must no longer exist at that time.<sup>11</sup> Ultimately, we think, this is again an effect due to the teleological characteristics of licenses—their ability to be granters of permission is inherent to their nature: while they exist, they grant permission, and when permission is over, the license itself no longer exists.<sup>12</sup>

# 6. Grammatical reflexes of teleology and animacy

Above we have considered cases where the effects of animacy seem to be best ascribed to the interaction between the Encyclopedic properties of lexical items and certain components of grammar: for example, we have seen how the syntax/semantics of perfect interacts with the encyclopedic meaning of the noun *license* to systematically rule out its occurrence with this tense in several languages. The underlying conclusion we drew was that the notion of teleology provides us with a better tool to capture the phenomena under discussion. Here we would like to turn our attention to cases where animacy seems to have a more properly syntactic effect.

In particular, Folli and Harley (2005) notice that a change in the type of subject is associated with a change in the internal structure of the VP in examples like the following:

a.	John ate the apple
b.	John ate up the apple
c.	*The sea ate the beach
d.	The sea ate away the beach
e.	Gianni ha mangiato una mela
	G. has eaten an apple
	'Gianni has eaten an apple'
f.	Gianni si é mangiato una mela
	G. REFL is eat.PST an apple
	'Gianni ate an apple up'
g.	*Il mare ha mangiato la spiaggia
0	The sea has eat.pst the beach
	'The sea ate the beach'
	a. b. c. d. e. f.

<sup>&</sup>lt;sup>10</sup> For recent discussion of the semantics of these constructions, see Bhatt (1999), Iatridou et al. (2001), Pancheva (2003) among many others.

<sup>&</sup>lt;sup>11</sup> As noted by a reviewer, this effect may be similar to the oddness of sentences like *#Einstein has visited Princeton*, which exhibits the so-called 'lifetime effect' in present perfects. For some recent discussion, see Portner (2003).

<sup>&</sup>lt;sup>12</sup> Note that in Italian the contrast noted above in (14) does not carry over. In Italian the noun 'licenza' license can be used both with imperfect and with the perfect form (the *passato prossimo*). We speculate that this is related to the fact that the *passato prossimo* in Italian does not always imply completion (see e.g. Bertinetto, 1986; Giorgi and Pianesi, 1997; Arosio, 2004 for further discussion).

h. Il mare si é mangiato la spiaggia The sea REFL is eat.PST the beach 'The sea ate the beach away'

In (18a)–(18d), we see that when the subject of a verb of consumption like *eat* is not animate or intentional, as is the case in (18c)-(18d) where the sea is the subject, a Small Clause structure is required in English. In other words, a change in the animacy/intentionalilty of the external argument of *eat* forces the necessary appearance in English of the particle *away*, hence of a Small Clause structure. Conversely an animate subject of a verb of consumption (e.g. John in (18a)) may felicitously be combined with a nominal complement. Similar facts obtain in Italian, where the change to a structure containing reflexive 'si' is associated with an inanimate subject, as in (18g)-(18h). Folli and Harley (2005) analyze this paradigm by assuming that the ontology of external argument-introducing little vs (Kratzer, 1996) has to be expanded: little v comes in different flavours depending on two things, the external argument it introduces and the complement it takes. True Agent-selecting  $v_{DO}$  may take a nominal complement, while the v<sub>CAUSE</sub> which can introduce Causer external arguments c-selects for a Small Clause complement. In the terms of the discussion here,  $v_{DO}$  requires a teleologicallycapable Agent argument in its specifier, while  $v_{CAUSE}$  does not. Hence, when a DP which can only be a Causer, not an Agent, with respect to the verbal activity (such as the sea, above, due to its teleological (in)capability), is inserted in the external argument position of vP, it forces an interpretation on the sentence according to which little v is CAUSE, not DO. In that case, the complement to v is required to be a small clause, rather than a nominal. Accordingly, the structures proposed for the two constructions in English and Italian are illustrated in (19) below<sup>13,14,15</sup>:

(19) a. John ate the apple/Gianni ha mangiato la mela VP  $DP_{Agent}$  John v DP Gianni  $\Delta$  (DO) the apple ate una mela

mangiato

<sup>&</sup>lt;sup>13</sup> The treatment of *si* as a realization of the head of a functional projection rather than as a pronominal clitic in these and other constructions is motivated in Italian in Folli (2001), in Spanish by Zubizarreta (1987) and Zagona (1996) and in Kannada by Lidz (1998).

<sup>&</sup>lt;sup>14</sup> We assume that the Italian word order (participle-object, not object-participle as shown here) is either derived via head-movement of the participle upwards in the tree, or is the result of a base-generated participle-object order in accordance with the rightward-specifier hypothesis of Guasti (1996) for Italian causatives (see Folli and Harley, in press, for discussion).

<sup>&</sup>lt;sup>15</sup> Note that the verb root in the English structures and in the Italian verb of consumption appears directly in  $v^{\circ}$ , rather than arriving there via head-movement from a projection lower in the structure. We assume the existence of a Manner Incorporation operation, quite free in English but only somewhat available in Italian (Talmy, 1985), which permits  $v^{\circ}$  to be merged with an element describing the Manner component of the event. For some discussion, see Harley (2005), Folli and Harley (2006).

b. The sea ate the beach away/II mare si é mangiato la spiaggia



What is crucial is that although the two languages present several differences in the actual morpho-syntactic realisation of the augmented structure, (in English the Small Clause appears with a particle as the predicate, while in Italian it is the participle itself that realizes the small clause predicate), the structural change introduced is identical in the two languages, i.e. a small clause is present with the non intentional external argument.<sup>16</sup>

The same structural account seems in fact to apply to the examples discussed above in section 2 with verbs of sound emission such as *whistle*. On the one hand, we argued, the notion of teleology was crucial in accounting for the array of nouns (as in *John/the train whistled*) that could occur as proper initiators: only entities that can produce or generate the event, in this specific case a whistling event, can be 'agents'. On the other hand, we also discussed examples such as *The bullet whistled \*(into the room)* whereby the availability of a (non-teleologically capable) Causer as the external argument of 'whistle' is again associated with a change in the syntactic structure: a Small Clause introduced by the secondary predicate 'into' has to be present for the sentence to be grammatical.<sup>17</sup> On the present account, this, again, is intrinsically connected to a change in the light verb realized by the predicate *whistle* and more generally this is a case where the presence of a non-teleologically capable Causer, rather than a teleologically capable Agent, has an effect on the syntactic structure required.

# 7. Conclusions

In this paper, we have argued that the notion of teleological capability is crucial in correctly diagnosing apparent animacy effects in the interaction of grammar and conceptual structure. The relevant notion which distinguishes Agents from Causers is the subject's internal teleological capability of generating the event on their own, from start to finish—*not* the animacy of the subject. The two notions overlap in many cases, since there are many verbal events which can only be generated by animate entities, but in the case of verbal events which can be internally generated by inanimate entities, we see that the syntactic behavior of the external argument does not change. Conversely, Causers (again which may be animate or inanimate) may trigger the initiation of an event, but do not exercise control over its unfolding, due to their teleological *incapability*. (The same remarks obtain with respect to Possessor versus Location interpretations of *have*, in section 3 above.)

<sup>&</sup>lt;sup>16</sup> We follow here several proposals regarding the structure of resultative Small Clauses as in Chomsky (1981), Stowell (1983), Hoekstra (1984), Kayne (1985), Levin and Rappoport-Hovav (1995), Harley (1995) and Mateu (2002), among many others.

<sup>&</sup>lt;sup>17</sup> Notice that in this case the little v that is instantiated is the flavour little  $v_{\text{BECOME}}$  which takes a SC complement but lacks an external argument.

In the last section, we put forward a view according to which the  $v^{\circ}$  which introduces the external arguments is different when the external argument is a Causer, rather than an Agent, and supported this argument with evidence from a change in the requirements on the internal structure of the VP when the external argument's role in the event changes. Although we have ascribed the distinction to the c-selectional properties of the particular  $v^{\circ}$  which introduces the Agent or Causer argument above, it is rather perhaps because Causers cannot control the resultant event that the extent of the event in question must be structurally specified with a small clause complement when the subject is a Causer, rather than an Agent—that is, this may also be an s-selectional effect, rather than a c-selectional effect. We leave this possibility open for future research.

#### References

- Alexiadou, A., Schäfer, F., 2007. Instrument subjects are agents or causers. In: Baumer, D., Scanlon, M. (Eds.), Proceedings of WCCFL 25. University of Washington.
- Alexiadou, A., Anagnostopoulou, E., Schäfer, F., 2006. The properties of anticausatives crosslinguistically. In: Frascarelli, M. (Ed.), Phases of Interpretation. Mouton de Gruyter, Berlin/New York, pp. 187–212.
- Alsina, A., 1992. On the argument structure of causatives. Linguistic Inquiry 23 (4), 517–555.
- Arosio, F., 2004. Temporal homogeneity and the Italian perfect. In: Alexiadou, A., Rathert, M., Stechow, A. (Eds.), Perfect Explorations. Mouton de Gruyter, Berlin/New York, pp. 37–66.
- Belvin, R.S., 1993. The two Causative Haves are the two Possessive Haves. In: Lindblad, V., Gamon, M. (Eds.), Papers from the Fifth Student Conference in Linguistics, MITWPL 20. MITWPL, Cambridge, pp. 19–34.
- Belvin, R.S., 1996. Inside Events: the Non-Possessive Meanings of Possession Predicates and the Semantic Conceptualization of Events. University of Southern California, Los Angeles.
- Bertinetto, M., 1986. Tempo, Aspetto e Azione nel verbo italiano: Il sistema dell' indicativo. Accademia Della Crusca, Firenze.
- Bhatt, R., 1999. Covert Modality in Non-finite Contexts. Ph.D. dissertation, University of Pennsylvania, Philadelphia. Available at: http://uts.cc.utexas.edu/bhatt/diss.pdf.
- Butt, M., Tantosand, A., Gohl, C., 2005. English Light Have and the Lexicon-Discourse Interface. Talk Presented at the 2005 Meeting of the Linguistic Association of Great Britain. Fitzwilliam College, Cambridge University.
- Chomsky, N., 1981. Lectures on Government and Binding. Foris, Dordrecht.
- Chomsky, N., 1995. The Minimalist Program. MIT Press, Cambridge.
- Davis, H., Demirdache, H., 2000. On lexical verb meanings: evidence from Salish. In: Pustejovsky, J., Tenny, C. (Eds.), Events as Grammatical Objects: The Converging Perspectives of Lexical Semantics and Syntax. CSLI, Stanford University Press, pp. 97–142.
- Doron, E., 2003. Agency and voice: the semantics of the semitic templates. Natural Language Semantics 11 (1), 1-67.
- Folli, R., 2001. Constructing Telicity in English and Italian. Ph.D. dissertation, University of Oxford, Oxford.
- Folli, R., Harley, H., 2005. Consuming Results in Italian and English: Flavors of v. In: Kempchinsky, P., Slabakova, S. (Eds.), Aspectual Inquiries. Springer, Dordrecht, pp. 95–120.
- Folli, R., Harley, H., 2006. On the licensing of causatives of directed motion: waltzing matilda all over. Studia Lingustica 60 (2), 1–35.
- Folli, R., Harley, H., 2007. Causation, obligation and argument structure: on the nature of litte v. Linguistic Inquiry 38 (2).
- Giorgi, A., Pianesi, F., 1997. Tense and Aspect: From Semantics to Morphosyntax. Oxford University Press, New York.
- Gruber, J., 1965. Studies in Lexical Relations. Ph.D. dissertation, MIT Working Papers in Linguistics.
- Guasti, M.T., 1996. Semantic restrictions in romance causatives and the incorporation approach. Linguistic Inquiry 27, 294–313.
- Hale, K., Keyser, S.J., 1993. On argument structure and the lexical expression of syntactic relations. In: Hale, K., Keyser, S.J. (Eds.), The View from Building 20. MIT Press, Cambridge, pp. 53–109.
- Hale, K., Keyser, S.J., 2002. Prolegomenon to a Theory of Argument Structure. MIT Press, Cambridge.
- Harley, H., 1995. Subjects, Events and Licensing. Ph.D. dissertation, MIT Working Papers in Linguistics.
- Harley, H., 1998. You're Having Me on: Aspects of Have. In: Guéron, J., Zribi-Hertz, A. (Eds.), La Grammaire de la Possession. Université Paris X–Nanterre, Paris, pp. 195–226.

- Harley, H., 2005. How do verbs get their names? Denominal verbs, manner incorporation and the ontology of verb roots in English. In: Erteschik-Shir, N., Rapoport, T. (Eds.), The Syntax of Aspect. Oxford University Press, Oxford, pp. 42–64.
- Higginbotham, J., 1997. Location and Causation. Ms., University of Oxford, Oxford.
- Hoekstra, T., 1984. Transitivity: Grammatical Relations in Government and Binding Theory. Foris, Dordrecht.
- Hoekstra, T., Mulder, R., 1990. Unergatives as copular verbs. The Linguistic Review 7, 1-79.
- Hyman, L.M., Zimmer, K., 1975. Embedded topic in French. In: Charles, N.L. (Ed.), Subject and Topic. Academic Press, New York, pp. 191–211.
- Iatridou, S., Anagnostopoulou, E., Izvorski, R., 2001. Observations about the form and meaning of the perfect. In: Kenstowicz, M. (Ed.), Ken Hale: A Life in Language. MIT Press, Cambridge, pp. 189–238.
- Ippolito, M., 2000. Remarks on the Argument Structure of Romance Causatives. MIT Press, Cambridge.
- Kallulli, D., 2006. A unified analysis of passives, anticausatives and reflexives. In: Bonami, O., Cabredo-Hofherr, P. (Eds.), Empirical Issues in Formal Syntax and Semantics, vol. 6. pp. 201–225.
- Kayne, R., 1975. French Syntax. MIT Press, Cambridge.
- Kayne, R., 1985. Principles of particle constructions. In: Guéron, J., Obenauer, H.-G., Pollock, J.-Y. (Eds.), Grammatical Representation. Foris, Dordrecht, pp. 101–140.
- Kratzer, A., 1996. Severing the external argument from its verb. In: Rooryck, J., Zaring, L. (Eds.), Phrase Structure and the Lexicon. Kluwer, Dordrecht, pp. 109–137.
- Levin, B., Rappaport-Hovav, M., 1991. Wiping the slate clean: a lexical semantic exploration. Cognition 41, 123–151.

Levin, B., Rappoport-Hovav, M., 1995. Unaccusativity. MIT Press, Cambridge.

- Levin, B., Rappaport-Hovav, M., 2005. Argument Realisation. Cambridge University Press, Cambridge.
- Lidz, J., 1998. Causativity, late insertion and vP. In: Pylkkänen, L., van Hout, A., Harley, H. (Eds.), Papers from the UPenn/MIT Roundtable on the Lexicon, MITWPL 35. MIT Working Papers in Linguistics, Cambridge, pp. 117–136.
- Marantz, A., 1997. No Escape from Syntax: Don't Try Morphological Analysis in the Privacy of your own Lexicon. University of Pennsylvania Working Papers in Linguistics 4 (2), 201–225.
- Marantz, A., 2005.In: Objects Out of the Lexicon: Objects as Event. Talk Presented at the University of Vienna, Vienna.
- Mateu, J., 2002. Argument Structure. Relational Construal at the Syntax-Semantics Interface. Ph.D. dissertation, Universitat Autònoma de Barcelona, Barcelona. Avaliable at: http://seneca.uab.es/ggt/Tesis/argument-structure1.pdf, http://seneca.uab.es/ggt/Tesis/argument-structure2.pdf.
- Pancheva, R., 2003. The aspectual makeup of perfect participles and the interpretations of the perfect. In: Alexiadou, A., Rathert, M., von Stechow, A. (Eds.), Perfect Explorations. Mouton de Gruyter, Berlin/New York, pp. 277–306.
- Portner, P., 2003. The (temporal) semantics and (modal) pragmatics of the perfect. Linguistics and Philosophy 26 (4), 459–510.
- Pylkkänen, L., 2002. Introducing Arguments. Ph.D. dissertation, MIT Working Papers in Linguistics
- Shibatani, M., 1976. The grammar of causative constructions: a conspectus. In: Shibatani, M. (Ed.), Syntax and Semantics VI: The Grammar of Causative Constructions. Academic Press, New York, pp. 1–40.
- Stowell, T., 1983. Subject across categories. The Linguistic Review 2, 285-312.
- Talmy, L., 1985. Lexicalization patterns: Semantic structure in lexical forms. In: Shopen, T. (Ed.), Language Typology and Syntactic Descriptions III. Cambridge University Press, Cambridge, pp. 57–149.
- Travis, L., 2000. Event structure in syntax. In: Tenny, C., Pustejovsky, J. (Eds.), Events as Grammatical Objects: The Converging Perspectives of Lexical Semantics and Syntax. CSLI, Stanford, pp. 145–185.
- Wolff, P., 2003. Direct causation in the linguistic coding and individuation of causal events. Cognition 88, 1-48.
- Zagona, K., 1996. Compositionality of aspect: evidence from Spanish Aspectual Se. In: Aspects of Romance Linguistics: Selected Papers from the Linguistic Symposium on Romance Languages XXIV. Georgetown University Press, Washington, pp. 475–488.

Zubizarreta, M.L., 1987. Levels of Representation in the Lexicon and in the Syntax. Foris, Dordrecht.