

# EXISTENTIAL IMPERSONALS\*

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*Abstract.* We claim that impersonal passive constructions are a type of existential that assert the novel existence (or occurrence) of an event. We claim that the well-known restriction against telic predicates in impersonal passive constructions follows naturally from this characterization. Telic predicates are made up of two events; a process and an endpoint. We show, using standard tests for presuppositionality, that presupposition of the process component of the bipartite event structure in telics is forced by the assertion of the endpoint component. Presupposed elements are not pragmatically consistent with existentials, hence telic predicates are ruled out in these constructions. The approach presented here is contrasted with other analyses in the literature, particularly that of Goldberg 1995.

## 1. Introduction

A well-known fact about impersonal passive constructions cross-linguistically<sup>1</sup> is their sensitivity to the *aktionsarten* of the predicate. More precisely, impersonal passives are disallowed with telic intransitive predicates of the sort seen in the Dutch sentence (1b) below:

- (1) a. Er werd gelopen. (atelic)  
it was run  
'It was run.'
- b. \*Er werd gevallen. (telic)  
it was fallen  
'It was fallen.'

In this paper, we argue that this restriction can be reduced to the better-understood phenomenon of the definiteness restriction on existential constructions (Milsark 1974, 1977). More precisely we identify telicity<sup>2</sup> as

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<sup>1</sup> We do not disallow the possibility that there are different kinds of impersonal constructions in the world's languages, which may not share this restriction. For example, the so-called impersonal passive of Modern Irish is not sensitive to the telicity of the predicate. We believe, however, that the Irish impersonal is not of the same type as the Dutch impersonals presented here. In particular, we follow Stenson (1989) in claiming that Irish impersonals are really arbitrary subject constructions, in that they don't obey many of the restrictions generally found on true impersonals (such as the fact that they are allowed with unaccusatives, they involve a "rich" agreement structure etc.).

<sup>2</sup> We are, as a short hand, identifying the relevant property as telicity (*aktionsart*), rather than perfectivity (*aspect*). This may well prove to be incorrect. Distinguishing the two with syntactic and morphological evidence is notoriously difficult in languages like English and Dutch, and lies well beyond the scope of this paper. We will use the term 'telicity' here with the understanding that items that are carrying out the quantification may well be more accurately defined in terms of aspect rather than *aktionsart* (see, however, the discussion in footnote 10).

involving presuppositionality, identified by Heim (1982) as the source of the definiteness restriction (for one recent instantiation of this approach, see Zucchi (1995)). We claim that impersonal passives are essentially sentences that assert the existence (or more accurately, occurrence) of an event. As such they are, for all intents and purposes, existential constructions for events and are subject to the same kinds of restrictions as other existential constructions. In particular, we will show that the requirement that impersonal passives present an atelic event reduces to the requirement on existentials that the associate (or coda) DP be non-presuppositional. We claim that in complex (telic) events, the process portion of the event is presupposed. Atelic events, then, are compatible with existential constructions, while telic ones are not. We go on to briefly consider the homomorphism account of the Chinese *ba*-construction proposed by Liu (1998) that reduces the phenomena of definiteness and telicity to boundedness. While compatible with our analysis, we argue that Liu's approach does not extend to English and Dutch impersonal constructions. At the end of the paper, we consider an alternative approach to impersonal existentials: Goldberg's (1995) constructional grammar analysis, which we reject. We show that the facts considered by Goldberg can be accounted for directly in a modular view of grammar, where the pragmatic, semantic, lexical, and syntactic modules interact to produce the observed distribution of data.

## 2. Impersonal passive constructions as existential sentences

We claim that the English linguist's gloss of impersonal passive constructions in Dutch, using *there* constructions, is not accidental. In particular, we view impersonal passives as essentially being existential constructions. The discourse function of a regular *there*-sentence in English is to present the novel appearance of an entity in the domain of discourse. Impersonal passive constructions serve the same basic function for events. A speaker uses an impersonal passive to assert a novel occurrence of an event. The fact that the pragmatic function of these constructions is parallel makes it unsurprising that their structural properties (expletive subjects, auxiliary *be*, etc) should be similar too.

### 2.1. *Telicity and the impersonal passive*

As pointed out by Zaenen (1988) and expanded upon by Kathol (1991) and Goldberg (1995), treatments of the impersonal passive that rely on lexical argument-structure operations (such as Bresnan 1978, Levin & Rappaport 1995) fall short in one major respect. In ascribing

the difference in grammaticality of (1a) and (1b) to the availability of an Agent theta-role in (1a) and its absence in the unaccusative (1b), such treatments cannot account for facts like those illustrated in (2–4) below:

(2) a. \*Er werd opgestegen.

There was taking off.

b. Van Schiphol wordt er de hele dag opgestegen.

From Schiphol (airport) there is the whole day taking off.

(Data from Goldberg 1995)

(3) a. \*Er werd aangekomen.

There was arrived.

b. (In dat hotel heb ik geen oog dicht gedaan, want)

(In that hotel have I not a wink slept, for)

er werd de hele nacht aangekomen en vertrokken.

there was the whole night arrived and left.

(Data from Zaenen 1988)

(4) a. Er werd gelopen.

There was run.

b. \*?Er werd naar huis gelopen.

There was run home.

c. Er werd voortdurend naar huis gelopen.

There was constantly run home.

(Data from Goldberg 1995)

In (2a) and (3a), the verbs *opgestegen* ‘taken off’ and *aangekomen* ‘arrived’ are shown to be incompatible with the impersonal passive, like the unaccusative *gevallen* ‘fallen’ in (1a), while in (4a) the unergative verb *gelopen* ‘run’ accepts the impersonal passive. On an argument-structure based treatment, this is accounted for if the passive is only able to apply to verbs with true external Agent arguments.

What such an account fails to capture, however, is the fact that with the addition of adverbials or other modification that affects the event structure of the verb phrase, verbs that by themselves fail to accept the impersonal passives are suddenly passivizable, illustrated in (2b) and (3b). Furthermore, verbs that on their own are able to accept the impersonal passive can have their event structure modified in such a way that they cannot undergo impersonal passivization, as illustrated in (4b). What matters to the impersonal passive is not the argument structure of the verbs in question, but rather the aktionsart properties of the verb phrase that it applies to. Telic predicates (*arrive*, *fall*, *take off*, *run home*) are unacceptable with impersonal passives, while atelic predicates (*arrive all night*, *take off all day*, *constantly run home*) are acceptable with impersonal passives.

## 2.2. English deverbal existentials

The closest translation of impersonal passives in English is an existential construction using a nominalized<sup>3</sup> form of the verb ending in *-ing*. Interestingly, these constructions seem to be subject to the same telicity requirements as their passive counterparts in Dutch. Consider the following sentences:

- (5) a. There was dancing.  
 b. ?\*There was dancing up to the bar.  
 c. There was frequent dancing up to the bar.
- (6) a. There was running.  
 b. \*There was running into the house.  
 c. The crowd was agitated. At the sound of gunfire, there was panicked running into houses all around.
- (7) a. \*There was falling.<sup>4</sup>  
 b. In my dream, after the monster pushed me into the bottomless pit, it seemed like there was endless falling.
- (8) a. \*There was burning up.  
 b. There was burning everywhere we looked.
- (9) a. \*There was dying.  
 b. There was dying going on all around.

The examples in (5) and (6) are parallel to the Dutch example in (4), and those in (7–9) are parallel to the Dutch in (2) and (3). Changing a telic event into an atelic one, either through implied iteration (as in 6c or 8b and 9b), or through adjectival modification (as in 7b), improves the verb in the existential construction markedly.

We argue that the parallels between the Dutch impersonal passives and the English deverbal existential construction have a common source. In section 3 below, we argue that telic predicates are presuppositional. If a

<sup>3</sup> We can be sure that these are nominals, not gerunds, using the tests for distinguishing *-ing* nominals from *-ing* gerunds originally proposed by Lees (1961). For example, adverbial modification of a gerund is possible, while the same modification in an *-ing* nominal must be adjectival, not adverbial, as illustrated in (i) and (ii). In these existentials, modification of the *-ing* form must be adjectival, not adverbial, as illustrated in (iii) and (iv):

- i. [Quickly/\*quick mixing the batter] is the secret to tender banana bread.  
 ii. [Quick/\*quickly mixing of the batter] is the secret to tender banana bread.  
 iii. There was graceful dancing in the movie.  
 iv. \*There was gracefully dancing in the movie.

This is to be expected, given that existentials in English are standardly analyzed as NP-associate constructions, and hence would be ill-formed if the *-ing* associate was verbal, rather than nominal.

<sup>4</sup> Note that this sentence is grammatical with an iterative reading. However, what is relevant here is the truly telic punctual reading, which is at best odd, but probably ungrammatical.

presuppositional account like that of Reuland (1983, 1985) of the well-known Definiteness Restriction in existential sentences is correct, and if telic predicates are presuppositional, it follows that they should be ill-formed in existential constructions. Finally, if impersonal passives are existential, all the facts detailed above follow naturally.

### 3. Presupposition and telicity

Heim (1982) observed that the defining characteristic of ‘strong’ determiners such as *the, every, most...* etc. is the presupposition of existence that they carry.

- (10) a. There is/are a/some/a few/many/three fly/flies in my soup.  
 b. \*There is/are the/every/all/most fly/flies in my soup.

It is this presupposition of existence that makes strong determiners incompatible with the *there be* existential construction (Reuland 1983, 1985): existentials assert what strong determiners presuppose, and the pragmatic clash created when they are combined results in an ungrammaticality judgement for sentences like those in (10b). The effect is usually termed the Definiteness Restriction, since definite determiners fall into Milsark’s ‘strong’ classification.

If there is any reason to suppose that telic predicates are presuppositional, while atelic predicates are not, we can appeal to the DR<sup>5</sup> to explain the facts (5–8) in English.

#### 3.1. *The internal structure of telic events and presupposition*

Pustejovsky (1991), Dowty (1991) and Krifka (1998) adopt similar approaches to the semantic analysis of telic and atelic predicates. Atelic predicates have a simple semantic representation: they are processes. For Pustejovsky, as for Dowty (1979), a process is a primitive event type. A process is any dynamic event sustained over any time interval larger than a moment. If an expression containing a process verb *P* is true at an interval *I*, then that expression is also true of all subintervals of *I* larger than a moment.

Unlike processes, telic predicates are compositional. For Pustejovsky, telic predicates are transitions from a state  $\neg S$  to a state *S*, which is accomplished via a process *P*. The mapping of the event structure onto Lexical Conceptual structure essentially interprets the process portion of the transition as Dowty’s BECOME operator. The particular theory of representation need not concern us here.

<sup>5</sup> Notice, of course, that as far as the syntactic structure of these event nominals goes, they are all determinerless and hence indefinite.

What is essential to all three accounts of telicity, however, is that while atelic events consist only of one eventuality type, telic events are composed of two: the process and the endpoint. Consider the following famous contrast between telic and atelic predicates:

- (12) a. The paper is burning up, but it hasn't burned up yet.  
 b. #The athlete is running, but he hasn't run yet.

On the standard analysis, the homogenous nature of an Activity (Process) like *running* means that as soon as you run for any time at all, you can be said to have run. Since Accomplishments like *burning up* are made up of both a Process and a State, if something is in the middle of burning up, it has not burned up yet. The event is thus complex. We claim that the assertion of a telic event is an assertion of the existence of a final state, and thus forces the presupposition of the process that results in that final state.<sup>6</sup>

Now consider standard tests for presupposition. (13a) presupposes (13b), as the negative and interrogation contexts in (13c) and (13d) demonstrate (each of those still presuppose (13b)):

- (13) a. The athlete stopped running.  
 b. The athlete ran.  
 c. The athlete didn't stop running.  
 d. Did the athlete stop running?

Consider the same set of data with an Accomplishment predicate:

- (14) a. The paper stopped burning up.  
 b. The paper started burning up (*or* The paper was burning up)  
 c. The paper burned up.  
 d. The paper didn't stop burning up.  
 e. Did the paper stop burning up?

(14a), (14d) and (14e) do *not* presuppose (14c), in line with the standard observation about progressives of accomplishments in example (12). However, what *is* presupposed by all of (a, d, e) is (14b), that is, the *process* of burning up, although not the end-state.

If the assertion of a telic predicate presupposes the Process portion of the compositional event, we can understand why it cannot occur in existentials. Existentials assert the existence of things or events, and are incompatible with presupposition.

<sup>6</sup> Note that this approach entails a treatment of telic predicates like that in Landman (1992), according to which they denote only completed events of the appropriate type, and rules out an approach like that of Parsons (1990), where telic predicates denote both bounded and unbounded events of the appropriate type; if a predicate like *burn up* can denote unbounded events, then certainly must not necessarily presuppose them. For a comparison of these two theories, see Zucchi (1999).

In essence, our claim is that in order to assert that an endpoint has been reached, a process for reaching it must be presupposed. The situation is comparable to the difference between ‘John ate an apple’ and ‘John ate’. The former sentence asserts the existence of a particular *type* of eating event (apple-eating), which presupposes the existence of an eating event. The second sentence asserts the existence of an eating event, *tout court*.

### 3.2. *Scope and tests of presuppositionality*

The skeptical reader may have noticed that what appear to be more transparent cases of applying presuppositionality tests to telic predicates seem to give less reliable results (as we will see below). In fact, we claim, this is merely the result of applying the tests with either too fine or too broad a granularity in terms of the scope of the speech-act operators that are manipulated.

Consider first the projection test of Karttunen & Peters (1979). The presupposition of the complement of *it's unlikely* is thought to project to the global environment.

- (15) a. Paul knows that Martha loves lima beans.  
 b. It is unlikely that Paul knows that Martha loves lima beans.  
 c. *Presupposition*: Martha loves lima beans.

The presupposition in (15c), present in (15a) survives in (15b). Now let us apply this test to a telic predicate. Recall that what we are looking for is the presupposition of the process sub-event. We use progressive verb forms to narrow in on this subevent.

- (16) a. Robert fell.  
 b. It's unlikely that Robert fell.  
 c. *Presupposition*: Robert was falling.

Unfortunately, this test fails to give us the desired result. While (16a) entails (16c), (16b) does not. So we might conclude that the process is not presupposed. In fact, we get identical results for this test when we apply it to atelic predicates, which we claim lack a presupposed process (they assert the process instead).

- (17) a. Adam ran.  
 b. It is unlikely that Adam ran.  
 c. Adam was running.

Similar to the examples in (16), (17a) entails the process (17c), but (17b) does not. This appears to cast some doubt on our characterization of the unavailability of existential (impersonal passive) constructions for telic predicates in terms of the presupposed status of the process.

More troubling still, the standard negation test has similar results. We use here Horn's (1996) formulation, based on internal negation and semantic entailment:

- (18) a.  $\pi \Vdash \pi$  ("π necessitates π" or "π semantically entails π")  
 if and only if whenever π is true π is also true.  
 b. π presupposes π if and only if  $\pi \Vdash \pi$  and  $\neg\pi \Vdash \pi$

To see this in action, let's apply it to the straightforward case in (15), reformulated here in (19).

- (19) a. Paul knows that Martha loves lima beans ( $\pi$ )  
 b. Paul doesn't know that Martha loves lima beans ( $\neg\pi$ )  
 c. Martha loves lima beans ( $\pi$ )

We can see clearly here that both (19a) and (19b) entail (19c), so (19c) is presupposed by both. Again, unfortunately, negative results apply when we try to check the presuppositionality of the process, in both telic (20) and atelic predicates (21).

- (20) a. Robert fell ( $\pi$ )  
 b. Robert didn't fall ( $\neg\pi$ )  
 c. Robert was falling ( $\pi$ )
- (21) a. Adam ran ( $\pi$ )  
 b. Adam didn't run ( $\neg\pi$ )  
 c. Adam was running ( $\pi$ )

While it is true that both (20a) and (21a) entail (20c) and (21c) respectively, their negative counterparts (20b, 21b) do not. At first blush, this would seem to contradict our analysis of a presupposed process. We claim, however, that the effects seen above are epiphenomenal, where the presupposition is defeated or cancelled by crude application of the tests themselves.

Let's examine carefully what the tests for presuppositionality<sup>7</sup> reveal. Projection tests, like that in (15), expose whether or not a proposition exists independently of the syntactic context in which it appears or is introduced in the course of the utterance. Notice that in the examples in (15), the concept that is being presupposed (Martha loves lima beans) is not directly modified by *it's unlikely*. By contrast, the examples in (16) and (17) the concept being tested (the processes denoted by *falling* and *running*) are part of the predicate that is immediately modified by *it's unlikely*. We can roughly schematize this difference as (22), where π represents the element under consideration for presuppositionality.

<sup>7</sup> We have not yet examined the other major class of presuppositionality tests, which involve defeasability. We return to this topic below.

- (22) a. (=15b) UNLIKELY'(knows '(John,  $\pi$ )),  $\pi$  = *Martha loves lima beans*  
 b. (=16b) UNLIKELY'(fall' (Robert)),  $\pi$  is contained in the predicate fall'  
 c. (=17b) UNLIKELY'(run' (Adam)),  $\pi$  is contained in the predicate run'

While this structural difference is enough to give one pause, it is not the end of the story. One might think that this problem might be simply solved by adding an intermediate factive predicate, such as *know*.

- (23) a. John knows that Robert fell.  
 b. It is unlikely that John knows that Robert fell.  
 c. Robert was falling.

While it is true that the presupposition of the process (23c) is projected in (23b), this again is a false result for us, since using this test we still cannot distinguish telic from atelic predicates. We see this in (24), where the atelic predicate's process is also presupposed:

- (24) a. John knows that Adam ran.  
 b. It is unlikely that John knows that Adam ran.  
 c. Adam was running.

The problem that seems to be occurring here is that we are unable, without refinement, to apply this test targeting a *part* of the event of a simple proposition. When we add a factive predicate, such as *know* in (23) & (24), we merely test for the presuppositionality of the entire proposition. When we limit the scope of *it's unlikely* (as in 15 and 16) to a simple proposition, a different problem emerges. Here, the scope of the speech-act operator is too narrow, with the result that it cancels any presupposition internal to the event. To see why this is the case, consider the structure of the complex telic event (25a). When the operator takes scope over this event, it has scope over both parts (by distributivity<sup>8</sup>).

- (25) a. [P & S]  
 b. UNLIKELY[P & S]  
 c. [UNLIKELY(P) & UNLIKELY(S)]

Now consider the sentence *Robert fell*. A Dowty-style event representation of this sentence is given in (26):

<sup>8</sup> We represent the combination of the sub-events here as a conjunction in order to allow us to apply such rules as distributivity. However, it should be clear that the real relationship between the two sub-events is not merely logical conjunction, since there is a temporal sequencing and a causal relationship between them. This suggests that the relationship is really closer to that represented by the natural language conjunction *and*, or perhaps *then*. The diagrams in (25) should be read with this proviso in mind.

(26) [Falling'(e) & Fallen'(e)](Robert)

The element (the process) we are testing to be presupposed is underlined. Now consider the representation of the “It’s unlikely” version of this sentence:

(27) a. UNLIKELY[Falling'(e) & Fallen'(e)]'(Robert)  
 b. [UNLIKELY(Falling'(e)) & UNLIKELY(Fallen'(e))]'(Robert)

The scope of the UNLIKELY operator over the process sub-predicate is the source of the problem. This operator simply cancels the presupposition. It is unsurprising then, that it doesn’t project. Contrast this to the factive examples, where UNLIKELY doesn’t defeat the presupposition of the embedded proposition because it doesn’t have immediate scope over it (another predicate intervenes between the operator and the proposition itself).

A related effect is found with the negation examples. The scope of negation here is narrow, but not narrow enough. It takes scope over the whole predicate, including both sub-parts.

(28) a.  $\neg$ [Falling'(e) & Fallen'(e)]'(Robert)  
 b. [ $\neg$  (Falling'(e)) &  $\neg$  (Fallen'(e))]'(Robert)

When we test the entailments, a contradiction results. In (29a) we assert that Robert is in a state of having fallen, which (putatively) presupposes that there was an act of falling. However, in (29b) we are asserting *negation* as well as asserting the end-state. This negation scopes over the process, and cancels the presupposition.

(29) a. Robert fell.  
 b. Robert didn’t fall.

Consider the LFs in (30) for our straightforward factive cases, which illustrate clearly the requirement that the presupposed element not immediately fall within the scope of the speech act operator.

(30) a. Paul knows Martha loves lima beans.  
 knows'(e<sub>1</sub>, Paul, [loves'(e<sub>2</sub>, Martha, lima beans)])  
 b. It is unlikely that Paul knows that Martha loves lima beans.  
 UNLIKELY[knows'(e<sub>1</sub>, Paul, [loves'(e<sub>2</sub>, Martha, lima beans)])]  
 c. Paul doesn’t know that Martha loves lima beans.  
 $\neg$ knows'(e<sub>1</sub>, Paul, [loves'(e<sub>2</sub>, Martha, lima beans)])

In each of these sentences the presupposition survives, because the operator immediately affects the root predicate *know*. In parallel to the tests given above that give false results when testing the process, consider what happens when the negation or UNLIKELY operators scope too low in these factive constructions. Just like in the telic cases, the presupposition is cancelled by the operator itself:

- (31) a. Paul knows that it is unlikely that Martha loves lima beans.  
 [knows'(e<sub>1</sub>, Paul, UNLIKELY[loves'(e<sub>2</sub>, Martha, lima beans)])]  
 b. Paul knows that Martha doesn't love lima beans.  
 [knows'(e<sub>1</sub>, Paul, ¬ [loves'(e<sub>2</sub>, Martha, lima beans)])]

Since they introduce obvious contradictions, no one would ever allow the sentences in (31) to stand as projection or negation tests for *Mary loves lima beans*. We claim the same is true of the telic examples. The failure of the tests is not due to a lack of presupposition, but rather to due to the fact that the tests themselves introduce contradiction of the proposition being tested for presuppositionality.

The task of getting the correct granularity for the presuppositionality task is not simple. Essentially, we need to be able to create contexts where the speech-act operator holds scope only over that material that we are not claiming to be presupposed. In other words, we need to construct pairs of sentences with LFs such as those in (32) and (33).

- (32) a. [(Falling'(e)) & (Fallen'(e))]'(Robert)  
 b. [(Falling'(e)) & UNLIKELY(Fallen'(e))]'(Robert)
- (33) a. [(Falling'(e)) & (Fallen'(e))]'(Robert)  
 b. [(Falling'(e)) & ¬ (Fallen'(e))]'(Robert)

In the (b) structures in these LFs, the element we are testing for presuppositionality is not within the immediate scope of the speech-act modifier. Interestingly, there is a fairly straightforward way to do this. Adverbials such as “all the way” or “entirely” force an interpretation where negation or other speech-act operators only affect the end-state portion of the complex event, allowing the presuppositionality of the process portion to project.<sup>9</sup>

When we use these adverbially modified sentences, a robust set of judgments emerges, which clearly shows that the process component of telic predicates is presupposed.

- (34) a. The door opened all the way.  
 b. It is unlikely that the door opened all the way.  
 c. *Presupposition*: The door was opening (process).

<sup>9</sup> The evidence for this claim comes from the behavior of atelic predicates when modified by “all the way”. As an anonymous reviewer notes, when “all the way” is attached to an atelic predicate, (such as *fall* or *run*) an endpoint appears to be introduced (coerced). We take this as weak evidence that “all the way” is crucially linked to endpoints and not to processes. Further, we note, that when negated, atelic predicates modified by ‘all the way’ retain the presupposition (at least as the easiest reading) that the process has occurred but the endpoint has not been reached. For example, *He didn't fall all the way*, has at least one reading where there was falling, but it was interrupted before the implied endpoint; the endpoint is negated but the process is not. (The reading with the wider scope, where there was no falling, is also possible, but we feel much less natural.)

The presupposition in (34c) is found in both (34a) and (34b). The negation test produces identical results:

- (35) a. The door opened all the way ( $\pi$ )  
 b. The door didn't open all the way ( $\neg\pi$ )  
 c. The door was opening ( $\pi$ )

Both the positive sentence (35a) and its negation (35b) entail the process (35c). The reader will be able to generate similar examples for other telic predicates.<sup>10</sup>

#### 4. Canceling the process presupposition

Let us now turn to the question of how the presupposition is cancelled in examples such as (2–9) above, some of which are repeated here for the reader's convenience.

- (2) a. \*Er werd opgestegen.  
 There was taking off.  
 b. Van Schiphol wordt er de hele dag opgestegen.  
 From Schiphol (airport) there is the whole day taking off.  
 (data from Goldberg 1995)
- (5) a. There was dancing.  
 b. ?\*There was dancing up to the bar.  
 c. There was frequent dancing up to the bar.
- (6) a. There was running.  
 b. \*There was running into the house.  
 c. The crowd was agitated. At the sound of gunfire,  
 there was panicked running into houses all around.

<sup>10</sup> All of the examples of telic predicates that we considered in this section have been Accomplishments. Achievements are also telic, and are equally poor in existential and impersonal constructions (consider, for example, the achievement predicate *die* in example (9) above). For the account we propose here, the difference between Achievements and Accomplishments should be technically irrelevant, as Achievements are treated by, e.g. Pustejovsky as also composed of two sub-events, a pre-existing state and the result state, which marks the endpoint of the Achievement transition. Achievements should therefore behave like Accomplishments with respect to existential and impersonal constructions, as the pre-existing state must be presupposed when the result state which marks the endpoint is asserted. However, in Achievement predicates, it is much more difficult to conduct the tests we use here to separate out the endpoint from the rest of the predicate, as the actual transition is instantaneous, and endpoint adverbials like *all the way* make no sense in such a context, or if they do, represent coercion to an Accomplishment reading (*#Sue died all the way*). Nonetheless, if we assume a two-eventuality analysis of Achievements like that of Pustejovsky and others, our account as outlined above for Accomplishments generalizes naturally to Achievements.

- (7) a. \*There was falling.  
 b. In my dream, after the monster pushed me into the bottomless pit, it seemed like there was endless falling.
- (8) a. \*There was burning up.  
 b. There was burning everywhere we looked.

One surprising observation about all the examples above is that the adverbials and other contextual elements that seem to be canceling the presupposition (and thus allowing the predicates to appear in existential constructions) seem to semantically modify the end point. This is somewhat surprising if the presupposition that is cancelled is the process. The explanation for this, however, is quite straightforward. When an adverbial or other modifier changes the structure of the predicate from telic to atelic, it essentially removes the endpoint from the semantic representation of the predicate; in Pustejovsky's terms, changing the predicate type T to type P. This, in turn, removes the presupposition on the process. In such circumstances the process is not longer presupposed but simply asserted, and thus these altered predicates are compatible with existential constructions.

### 5. Homomorphism and the relationship between definiteness and telicity

Liu (1998), in a compelling analysis of the Chinese *ba* construction, shows that in order for *ba* to appear, a sentence must meet two requirements: the event it denotes must be bounded, and at the same time, the object DP to which *ba* attaches must be specific. She argues that these requirements can be elegantly explained on an event-argument homomorphism account like that of Dowty (1991). The *ba* construction requires that both the object DP and the event be subject to an 'all-of' relation which maps the one to the other, which forces the DP to be specific and the event to be bounded. (Of particular relevance here, the boundedness of the event need not be inherent to the verbal predicate, but rather can be constructed by the addition of resultative, adverbial or other material to the VP — in parallel with the constructed telicity or atelicity of the predicates we are considering here.<sup>11</sup>)

Given this evidence that specificity and telicity must be related via a homomorphism from objects to events in Chinese, and, in addition, the

<sup>11</sup> Liu (1998) shows that boundedness can also be constructed aspectually, by the addition, for instance, of perfective marking. as we noted above the boundedness that we discuss with respect to impersonal constructions must be aktionsart-related, not aspectual. We can see that perfective marking does not affect the grammaticality of unergative verbs in this construction in English; consider (i):

(i) There had been dancing.

Here, the event is bounded, but the process is still not presupposed; the event is perfective but not telic. We leave the effect of aspectual marking on impersonal existentials for later investigation.

well-known association between specificity and the Definiteness Restriction on existentials, it might seem that we could reduce the anti-telicity restriction in impersonal passives to the Definiteness Restriction via a homomorphism. Essentially, if telicity for events is the same thing as specificity for objects in English and Dutch as well as Chinese, then it would not be surprising that telic predicates should be disallowed in existentials, in the same way that specific DPs are. We claim, however, that Chinese constructs telicity and boundedness in a significantly different way from English and Dutch, and this accounts for the mismatch between specificity and the count/mass distinction in the latter languages.

Dowty's original homomorphism accounts of telicity in English and related languages, however, involves simple boundedness or individuation, not specificity. Consider the examples in (36):

- (36) a. John ate an apple #for an hour/in an hour.  
 b. John ate apples for an hour/#in an hour.  
 c. John drank a beer #for an hour/in an hour.  
 d. John drank beer for an hour/#in an hour.

Although none of the object DPs in (36) are specific, they do measure-out — that is, they are Incremental Themes, in Dowty's sense. In (a) and (c), the non-specific object DP is physically bounded and hence the entire predicate is telic, as illustrated by its behavior with the frame adverbials *in/for an hour*. In (b) and (d), the (still non-specific) object DP is unbounded, and hence the entire predicate is atelic. Note in particular the examples in (36c–d), where it is clear that the relevant distinction is not specific/non-specific, but mass/count. It is clear that the mass/count distinction has no bearing on the grammaticality of existential constructions, as shown in (37a–b):

- (37) a. There is beer in the fridge.  
 b. There is a beer in the fridge.

Since it is boundedness, not specificity, that is relevant to telicity, and specificity (on some accounts), not boundedness which is relevant to the Definiteness Restriction, an account that equates the two cannot succeed for English or Dutch. On our account, it is the fact that telic predicates encompass two sub-events and are hence inherently presuppositional that accounts for the correlation with specifics in existential constructions, which are also presuppositional.

The question then arises of why such direct association should arise in Chinese. While we cannot provide a complete discussion of the Chinese facts here, we feel we can point at a relevant typological generalization that suggests an answer.

DP specificity is connected with boundedness even in English in that the presupposition of existence that is associated with specific DPs entails

boundedness. That is, aside from reference to kinds, specific DPs are bounded, as they pick out some particular discourse-established entity. The familiar alternation between a telic and atelic event that is associated with a singular non-specific Incremental Theme and the plural form of the same Incremental Theme (in 36 a, b above) disappears when the Incremental Theme is definite:

- (38) a. John ate the apple in an hour/#for an hour.  
 b. John ate the apples in an hour/#for an hour.

Since the definite determiner picks out a salient set of apples previously referred to in the discourse, the definite DP must be bounded, no matter how many apples are actually referred to.<sup>12</sup> So specificity is one manifestation of boundedness, but (as just shown), plurality and the lexicalized<sup>13</sup> count/mass distinction have the same effect in English (and Dutch).

Why is it specificity, and not simple lexical boundedness, that is relevant to the Chinese *ba* construction? Here, we can only speculate, but it seems significant that Gil (1987) and Chierchia (1998a, 1998b) have argued that a class of languages, including Chinese, does not lexicalize a mass/count distinction. All bare Ns in Chinese are unbounded unless grammatically marked otherwise. In such a language, it may be that creating a specific DP the *only* way to produce a bounded DP that can then be homomorphically mapped to a bounded event, measuring it out.

It is worth noting that Liu argues that verbs in Chinese may not be lexically telic, either. All predicates that participate in the *ba* construction are made up of the verb plus some additional material: a resultative phrase, an adverbial phrase or a perfective marker, for instance. She gives as an example a predicate that is lexically telic in English which, without supplemental perfective marking (which appears in 39a), cannot appear in the *ba* construction (39b) and does not accept modification with an *in*-frame adverbial (39c):

- (39) a. Ta ba neiliang che mai-le  
 he BA that:CL car sell-PERF  
 'He sold that car.'  
 b. \*Ta yao ba neiliang che mai  
 he will BA that:CL car sell.  
 'He will sell that car.'  
 c. \*Wo xiwang zai yige xingqi nei mai neiliang che.  
 I hope at one:CL week in sell that:CL car.  
 'I hope to sell that car in a week.'

<sup>12</sup> Another way of saying this is that infinity, *a.k.a.* unboundedness, is a necessarily indefinite concept.

<sup>13</sup> By this, we mean that in English (and languages like English), it is a matter of lexical marking that some nouns are mass and others are count. See Gil (1987) for more on the arbitrariness of this distinction.

Notice in particular that the English gloss of (39c) is perfectly grammatical, in the absence of any perfective or past tense marking: the telicity of the predicate *sell the car* is enough to license the frame adverbial *in a week*. Not so in Chinese. If boundedness of both events and things in Chinese must be grammatically constructed, and if boundedness of things can only be constructed via specificity, then the correlation that Liu observes follows but cannot be adapted wholesale to the facts under discussion here. Languages like English and Dutch, which allow lexical boundedness of both things and events, unlike Chinese, allow us to tease apart specificity and boundedness, and force us to the presuppositional account of the telicity restriction on existentials that is proposed here. Liu's discussion of Chinese, then, is compatible with the approach proposed here, but we cannot reduce the boundedness effect in impersonal passive existentials to Liu's homomorphism directly.

## 6. Construction grammar or pragmatics?

A common approach to the question of the relationship (see for example, Bresnan 1978, Pinker 1989, Levin 1985, Levin & Rappaport 1995 among many others) between argument structure and aktionsarten holds that alternate forms of verbs are related to one another through the use of lexical rules, which operate on lexical conceptual structures (LCS). For example, the passive rule acts on the LCS of an active verb to suppress the agent theta role. The various lexical forms created by these rules are then mapped into the syntactic configurations by means of linking or mapping principles (the Universal Theta Alignment Hypothesis or UTAH being a prototypical example), which determine which syntactic position an argument is mapped to. This lexical rule view stands in marked contrast to the functionalist Construction Grammar view (Fillmore & Kay 1993, Lakoff 1987, Lambrecht 1994, and most importantly Goldberg 1995). Construction Grammar rejects the rule/lexicon distinction, in favor of a generalized notion of form-meaning pairs, including constructions or schemata, which are themselves essentially lexical items. Constructions are not epiphenomenal, as is assumed in the Chomskyan Generative<sup>14</sup> tradition, but rather are primitives of the grammar. Goldberg's arguments for this approach are robust and offer a significant challenge to much current thinking on the question of grammar design. We will not address all of Goldberg's arguments here (and couldn't possibly do them justice in such a short paper), instead we will focus only on the arguments she draws from the data presented above in sections 1 and 2 from telicity and impersonal passives.

<sup>14</sup> There are, of course, generative grammars such many recent versions of HPSG which use a notion of construction, as derived through inheritance hierarchies.

Goldberg argues “the constraint on the impersonal passive seems to be a constraint on the aspect of the entire expression, rather than one directly on the aktionsart of the main verb.” (Goldberg 1995:15). At the heart of her argument lies the fact that adjunct material –not present in the LCS or argument structure–can affect the aspect or aktionsarten of the clause, and hence its compatibility with the impersonal passive construction. In a constructional approach this restriction can be stated as a stipulation on the entire construction. Goldberg argues, furthering a claim originally made by Zaenen (1988), that lexical rules, which might generate multiple senses of a verb (which differ in aktionsarten), are not the source of variation in grammaticality of the impersonal passive construction. Goldberg reports Zaenen’s conclusion that there are other phenomena that are sensitive to the aktionsarten of the verb, which cannot be changed by the addition of adverbial material. For example, in Dutch auxiliary selection is sensitive to the aktionsarten of the predicate: *Zijn* is used with telic verbs and *hebben* is used with atelic ones, quite independently of the aktionsarten of the complete construction.

- (40) a. Hij is opgestegen.  
           It has taken off.  
       b. Hij is dagelijks opgestegen.  
           It has taken off daily.

If the effect seen in impersonal passive constructions were triggered by a lexical rule which itself changes the aktionsarten of the verb perhaps triggered (atypically) by a change in the “adverbial” argument structure, then we would expect it to also change in examples such as (40), thereby triggering a change in auxiliary. These facts are not borne out by the data. Goldberg thus concludes that such phenomena as sentence level aspect/aktionsart is derived constructionally instead of by lexical rule followed by linking to the syntax.

We agree with Goldberg that the acceptability of impersonal passive sentences cannot be determined by lexical rules, and further we agree with her that the result must be, in some sense, constructional. However, we do not view these constructions as being primitives as she does. Instead, we appeal to an account where the (un)acceptability of such sentences follows from mapping between the syntax, semantics and pragmatics, and not the syntax alone. In this, we follow Heim’s (1982) account of existential constructions, where the acceptability follows from pragmatic factors. In the essentially minimalist model of grammar we are assuming, pragmatic factors come into play only after the sentence is fully constructed, thus giving the outward appearance of some kind of constructional effect. Since pragmatic effects (such as sensitivity to presuppositionality) arise only after the entire sentence has been generated, it is unsurprising that they can be sensitive to all the elements

in a particular construction (including adverbials). This does not mean that constructions are primitive and not rule derived, instead it simply means that the relevant constraints hold at a level after the sentence is generated.

While the phenomenon is primarily pragmatic, we still hold that it has a lexical origin. In particular, we claim that the lexical meaning of existential quantification (presumed to be present in both impersonal passives and existentials) is essentially “I, the speaker, assert the following item mentioned in the coda exists and is discourse-new”. When the derivation reaches the pragmatic level, this meaning is incompatible with anything presuppositional, including definites and telic verbs.

The effects from impersonal passive constructions thus don't necessarily serve as an argument against a generative, rule-based approach to grammar. A system like the one we adopt here based on a modular approach to the grammar derives the same effects. Further, we believe there is a strong conceptual argument to be made in favor of our approach. Under Goldberg's construction grammar, the constraint on impersonal passive constructions must simply be stated as a stipulation on impersonal passive schema. This misses the greater generalization that these effects are identical to those seen in existentials, a semantically related construction. Our account, by contrast, derives the effect in both constructions from a single source, that is our real-world (and common sense) understanding that asserting that something is both new and presupposed at the same time is a logical contradiction.

## **7. Conclusion**

We have argued that the effects of telicity on the acceptability of impersonal passive constructions can be accounted for if impersonal passives are subject to the same constraints as garden-variety existential sentences. In particular, it is well-known that existential sentences are incompatible with DPs that encode presuppositionality. We argue that telic predicates are also presuppositional: they are structurally composed of two sub-events, one of which (the process) is presupposed. It is this presuppositional aspect of telic predicates which is incompatible with existential constructions in English and impersonal passives in Dutch. We went on to show that an account directly equating telicity with specificity, like that of Liu (1998), is not adequate to account for the English and Dutch facts. Finally, we argued that the approach presented here is preferable to a constructional approach like that of Goldberg (1995), in that the effects we discuss fall out from independently motivated constraints in different modules of the grammar, and do not require constructions to exist as lexical entries, listed with individual meanings of their own.

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