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Depictive Secondary Predication and the Correlates of Inner Aspect

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Abstract

In this paper, I argue that depictive secondary predicates are sensitive to the inner aspect of the VP they are integrated into. I demonstrate that for adjectival depictives, adjective type can affect the acceptability of depictives that are predicated of the object of the matrix clause, and that this can be explained by the correlations between durativity and telicity in the verbal domain, and gradability and absoluteness in the adjectival domain. I propose the Depictive Aspectuality Constraint, and show that it makes a number of predictions about depictive behavior that are borne out.

Depictive Secondary Predication and the Correlates of Inner Aspect

Jake A. Farrell*

1 Introduction

Secondary predicates are constructions in which an 'extra' predicate specifies a property or state that holds of an entity in addition to the main predicate. They are generally divided into two classes – resultatives and depictives – which chiefly differ in how the secondary predicate relates to the entity and the main predicate:

(1) a. John hammered the metal flat.   [Resultative]

     b. John$_i$ hammered the metal drunk$_i$.   [Depictive]

Resultatives specify the result of the main predicate, whereas depictives describe a property or state that holds of the entity during the event time of the main predicate. Depictives and resultatives also differ in their potential 'orientations':

(2) a. John$_i$ ate the meal drunk$_i$.   [Subject-Oriented Depictive]

     b. John ate the meal$_i$ cold$_i$.   [Object-Oriented Depictive]

While depictives can be oriented towards the subject or the object, it is generally considered that resultatives can only be object-oriented. This is arguably due to syntactic differences; depictives are adjuncts, whereas resultatives are complements. However, this poses a problem for depictives, as the semantic relationship of being a predicate (albeit, not the main one) seems to be at odds with its syntactic status as an adjunct.

But even though there is a potential 'mismatch' between the syntax and the semantics of depictives, more attention has been given to resultatives, as depictives have generally been seen as the less complicated of the two constructions in terms of event structure. The integration of the resultative into the matrix event is a complicated process as it extends the matrix event itself, while in contrast, depictives 'merely' specify a property that holds during the time of the event, and at first glance does not seem to involve more than co-temporality.

But even though depictives may appear simpler than resultatives, the distribution of depictives and their integration into the matrix event is surprisingly more complicated than would be expected. Part of this difficulty stems from the above ability of a depictive to be predicated either of the subject or the object of the sentence; Subject-Oriented Depictives (SODs) and Object-Oriented Depictives (OODs) differ in what sort of sentences they can be integrated into, with OODs being more restricted in their distribution than SODs.

(3) a. John$_i$ ate the meal$_j$ cold$_{i/j}$.

     b. John$_i$ pushed James$_j$ drunk$_{i/*j}$.

Whether an OOD is acceptable in a sentence is seemingly dependent on the event structure of the matrix event it is being integrated into. This means that some sentences are unambiguous when we would expect them to show an ambiguity between the different oriented readings. While (3a) is ambiguous between John or the meal being cold, (3b) does not show a similar ambiguity – it can only be the case that John is drunk, not James. This missing interpretation is curious, as it is not immediately obvious why it should not be available.

A common analysis of the differences in (3) is that the verb class affects the availability of the OOD reading – *ate* is an accomplishment verb, while *pushed* is an activity verb. More specifically,

researchers have argued that OODs can only be predicated of objects within telic, durative VPs (Rapoport 1993, Irimia 2005, Motut 2010). If this is the case, we would then expect that OODs should not appear with other verb classes unless the VP has been coerced into being telic and durative. However, examples of OODs not following this pattern can be found in spontaneous usage:

   (4) a. I recognized him$_i$ dead$_i$ better than I had recognized him$_i$ alive$_i$.

       b. My sister played the guitar$_i$ untuned$_i$.

       c. She made no sounds as her feet hit the ground$_i$ [wet from dew and rain]$_i$.

   None of these are accomplishment verbs – (4a) contains an achievement verb; (4b) an activity verb; and (4c) a semelfactive. Applying the usual tests for telicity and durativity, we see that these sentences do not conform to the telic, durative VP generalization.

   Capturing these exceptions has proven difficult, and in this paper I will present a new analysis. I will argue that this relationship to durativity and telicity can be fulfilled not only by the properties of the VP they are in, but also the formal correlates of durativity and telicity in other domains (cf. the formal correlates between telic/atelic verbs and Mass/Count nouns). Using these formal correlates in the adjectival domain, I will demonstrate how acceptability of depictives can be manipulated by changing features of the adjective. I will show that this account not only explains the exceptions in (4), but also explains why there is a strong preference for OODs to be within telic, durative VPs.

   This paper is organized as follows. In Section 2, I look briefly at the depictive construction, and highlight the difficulties in accounting for its distribution. I focus on the asymmetry in distribution between SODs and OODs, and examine previous explanations for this behavior and its exceptions. By focusing on adjectival depictives, I argue that a sensitivity to inner aspect (e.g. Travis 2010) and the formal correlates of telicity and durativity in other, non-verbal domains are behind the difference in acceptability of OODs and SODs.

   In Section 3, I further explore this claim by showing how the structure of the adjective used can affect the acceptability of depictives predicated of the object of a sentence. Adjectives can be gradable, and this property of gradability has formal correlates with inner aspect. I argue that these formal correlates interact, similar to the interaction between Mass/Count nouns and the telicity of VPs. I propose the Depictive Aspectuality Constraint as a descriptive generalization that captures the behavior of OODs.

   In Section 4, I look at possible extensions of the proposed Depictive Aspectuality Constraint to explaining other properties of depictives, and how these reflect an underlying sensitivity to inner aspect. I suggest a possible origin for the Depictive Aspectuality Constraint.

   In Section 5, I conclude the paper.

2 Depictive secondary predicates

Depictives can be of multiple categories – APs, DPs, PPs, or VPs. But while depictives can be headed by different syntactic categories, APs tend to be the most common type found, as they are least restricted.

   (5) a. Mary$_i$ drove home drunk$_i$.   [AP]

       b. James returned a blonde.   [DP]

       c. John$_i$ left the meeting in tears$_i$.   [PP]

       d. John$_i$ fixed the car whistling a happy tune$_i$.   [VP]

   Depictives have a number of important properties. Syntactically, depictives are considered adjuncts, but semantically they form a predicative relationship with an entity in the matrix clause. This is unexpected, as generally predicative relationships of this type are associated with syntactic complements, such as resultative secondary predicates, or predicative complements.

Depictives differ from (most) adverbs in that they are *agent-oriented*, as compared to *event-oriented*[1] – in (6b), John actually has to have the property of being drunk, and it cannot be used to describe the manner in which the shouting was done. Compare this to the manner adverb *drunkenly*.

(6) a. John shouted drunkenly... though he was only pretending to be drunk.

   b. John shouted drunk... #though he was only pretending to be drunk.

Although more freely distributed than resultatives, depictives show a number of 'semantic restrictions'. The core focus of this paper is that depictives appear restricted depending on their orientation – depictives can either be predicated of the subject or the object of a sentence, and a long standing problem is that Subject-Oriented Depictives (SODs) and Object-Oriented Depictives (OODs) show different restrictions by their verb class:

(7) a. $John_i$ ate the $meat_j$ $cold_{i/j}$.   [Accomplishment]

   b. $John_i$ carried $Mary_j$ $drunk_{i/*j}$.   [Activity]

   c. $John_i$ recognised $Mary_j$ $drunk_{i/*j}$.   [Achievement]

   d. $John_i$ hit the $ground_j$ $frozen_{i/*j}$.   [Semelfactive]

While SODs are equally fine across verb classes, for OODs, it appears that they are only acceptable when predicated of an object of an accomplishment verb. Adopting a feature-based breakdown of verbs classes (see e.g. Smith 1991, Olsen 1994, Kearns 2011), this suggests more generally that the VP must be telic and durative.[2]

	Durative	Telic	OOD
Accomplishment	+	+	✓
Achievement	−	+	✗
Activity	+	−	✗
Semelfactive	−	−	✗

Table 1: Feature-based breakdown of verb class and OOD acceptability.

This analysis is supported by the improvement of OOD acceptability when an otherwise durative, atelic VP is made telic. For example, it is known that adding a directional adverbial to an activity verb turns the VP telic, as compared to adding a locative adverbial.

(8) John carried the cart {for a minute/*in a minute}.

   a. John carried the cart on the stage {for a minute/*in a minute}.

   b. John carried the cart off the stage {*for a minute/ in a minute}.

Using this to manipulate the telicity of the activity VP, we can see that directional adverbial improves the acceptability of the OOD, while the locative adverbial does not.

(9) ??John carried the $cart_i$ $broken_i$.

   a. ??John carried the $cart_i$ on the stage $broken_i$.

   b. ?/^{ok}John carried the $cart_i$ off the stage $broken_i$.

Based on evidence like this, it has been claimed that depictives can only be predicated of objects inside telic, durative VPs (e.g. Rapoport 1993, Irimia 2005, Motut 2010). But this predicts that both sentences in (10) should be unacceptable:

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[1] Also classified as Participant-Oriented Adjuncts, see Himmelmann and Schultze-Berndt (2006).

[2] I use +/- here purely for ease of notation, and a privative system could equally be assumed.

(10) a. John carried the bag$_i$ empty$_i$.

     b. *John carried the bag$_i$ light$_i$.

Applying the usual tests for telicity to (10a), we can see that it is atelic. However, although such exceptions do exist, there is still a strong preference for OODs to be within durative, telic VPs. This then presents a difficulty, as a theory of depictive behavior should not only explain such examples in (10), but why there appears to be a general preference for OODs to be within durative, telic VPs.

Here, it is instructive to look at previous attempts to account for this behavior. Most previous accounts have focused on the thematic role involved (e.g. Williams 1980, Rothstein 1983, Koizumi 1994), with a common suggestion being that OODs can only be predicated of an affected theme object.

(11) a. *John hit Tom$_i$ naked$_i$.

     b. *Mary praised the professor$_i$ drunk$_i$.   (Koizumi 1994:64)

This would account for the unacceptability of the sentences in (11). However, this cannot be the case, as it predicts that (12) should be unacceptable:

(12) The photographer praised the model$_i$ naked$_i$.   (Richardson 2007:122)

In order to deal with this, thematic role-based accounts have generally suggested that the OOD can only be predicated of a subset of thematic roles. For example, Williams (1980) suggests that OODs can only be predicated of themes. But McNulty provides the counter-example (13):

(13) I marinated the meat$_i$ raw$_i$.   (McNulty 1988)

McNulty suggests as an alternative that depictives can only be predicated of themes, agents, or patients, with depictives predicated of patients being only acceptable if no theme is present. But this too does not seem to be the right account – it predicts that (14a) contains a theme, but (14b) does not, which seems unlikely.

(14) a. I marinated the meat$_i$ raw$_i$.

     b. $^{??}$I patted the meat$_i$ raw$_i$.

As a final example, Rothstein (1983) argues that OODs cannot be predicated of goals. However, this too has issues, with Jackendoff (1990) providing counterexamples:

(15) a. John$_i$ received the letter drunk$_i$.

     b. Bill buttered the bread$_i$ warm$_i$.   (Jackendoff 1990:32)

In general, thematic role-based accounts have not been successful in capturing both the generalizations and exceptions of depictive distribution. Further still, thematic role-based accounts seem fundamentally ill-suited in explaining differing acceptability of OODs by verb class, or the increase in acceptability from turning a VP telic. This all points to a need for an alternative account.

A recent example of non-thematic role based account is suggested by Motut (2014), who argues that the depictive must be mappable to every subpart of the situation. While the move away from thematic roles is a promising avenue, this formulation rules out depictives predicated of goals, which incorrectly predicts the unacceptability of the examples in (15). Further, it is not clear how it would account for the minimal pair in (16).

(16) a. John carried the bag$_i$ empty$_i$.

     b. $^{??}$John carried the bag$_i$ light$_i$.

This minimal pair suggests that the difference in acceptability may be localized to the adjective inside the depictive itself. As such, I argue that the structure of the adjective affects the acceptability of the depictive, which can account for the pair in (16).

3 Adjectival structure and its formal correlates of inner aspect

Adjectives can be split into gradable and non-gradable. An adjective is gradable when it can have more or less of a property, as compared to non-gradable adjectives, for which something either has the property or not. For example:

(17) a. #This number is very prime. [Non-gradable]

    b. This glass is very hot. [Gradable]

Both adjectives in (16) are gradable, which suggests that gradability itself is not (solely) responsible for the difference in acceptability. Concentrating on gradable adjectives, we can see that they can be further split into *absolute* and *relative* adjectives. Absolute and relative adjectives differ in whether the threshold for having a particular property is lexically specified or set by context. For example, whether something is closed does not depend on context, whereas whether something is tall does – something may be tall in one context, but not another, but it is unlikely that things vary in being closed or not from context to context.[3]

Adjectives

Non-gradable   **Gradable**
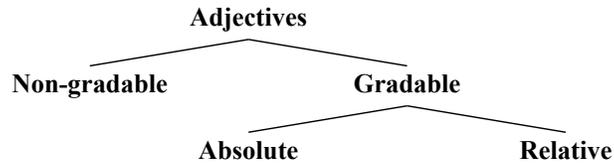
Absolute   **Relative**

Figure 1: Gradable and non-gradable adjectives.

Returning to the minimal pair in (16), we can see that although they are both gradable adjectives, *empty* is an absolute adjective, while *light* is a relative adjective. This suggests the possibility that the structure of the adjective is interacting with the inner aspect of the matrix verb – particularly, that the difference between absolute and relative adjectives is affecting the acceptability of depictives with activity verbs.

If this is the case, then this raises the question of what exactly the difference is between absolute and relative adjectives that could affect the acceptability of OODs. Given the difference in acceptability by verb class, and the interaction of OODs with directional adverbials, this hints that telicity and durativity are important to depictives.

If telicity and durativity and factors in depictive acceptability, then this suggests a possible route to explain the change in acceptability by differences in adjectival structure – we would expect that there should be a correlation of absolute/relative adjectives with telicity and durativity in the adjectival domain. Previous research has indicated that there are formal correlates between telicity in non-verbal domains, e.g. the Mass-Count distinction (Bach 1986), and so it is plausible this applies to the adjectival domain too. Indeed, previous research has argued exactly this. There is a correspondence between durativity of an event, and gradability of scales (Wyngaerd 2001, Beavers 2002, Wechsler 2005) – durative events require gradable scales, while punctual events require non-gradable scales. Beavers (2013) argues that dynamic predicates correlate durativity with gradability. Likewise, the difference between relative and absolute adjectives has shown to correspond to the difference between atelic and telic verbs (Hay et al. 1999, Kennedy and Levin 2008, Bochnak 2010).

> [Absolute adjectives] come with 'natural transitions': the transition from a zero to a non-zero degree on the scale (from not having any degree of the measured property to having some of it) ... [or] ... the transition from a non-maximal to a maximal degree...
>
> (Kennedy and Levin 2008:169)

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[3]Absolute adjectives can be more finely divided into partially closed and totally closed scales. While there does seem to be a finer-grained interaction with the particular type of scale structure, I focus on the Absolute/Relative divide to highlight their difference in interactions with OODs.

Gradable Adjectives

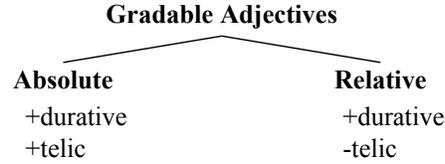| Absolute	Relative
+durative	+durative
+telic	-telic

Figure 2: Gradable adjectives and correlates of inner aspect.

These correspondences offer a potential explanation for the behavior of OODs – I propose that OODs have a constraint that requires telicity and durativity within the VP be met, but this requirement can also be fulfilled by their *formal analogues in another domain*:

(18) **Depictive Aspectuality Constraint**: For Object-Oriented depictives, the verb-object-depictive complex must be aspectually compatible with durativity and telicity.

By 'aspectual compatibility', I mean that a VP is durative and telic, or has formal analogues of these properties introduced into the verb-object-depictive complex. To give an example of how this works, consider an OOD predicated of an object of an activity verb. As activity verbs are 'missing' telicity, then this would be unacceptable and ruled out by the above constraint. But if the depictive is an absolute adjective, then this can provide the 'missing part' of the constraint, and so would be acceptable.

This 'missing features' account not only accounts for the difference in (16), but also makes a number of predictions. First, activity and semelfactive verbs should be improved by absolute adjectives but not relative adjectives, while achievement verbs should be improved by both absolute and relative adjectives.

	Missing Properties	Adjective type
Accomplishment	*None*	Any
Achievement	+Durative	Gradable
Activity	+Telic	Absolute
Semelfactive	+Telic, +Durative	Absolute

Table 2: Possible suppliers of the 'missing feature(s)' of an Object-Oriented Depictive.

We can see that this prediction is borne out, by comparing minimal pairs of OODs with different adjective and verb types:

(19) a. She found the bag$_i$...
  (i)   ...empty$_i$/closed$_i$.   [Absolute]
  (ii) ...hot$_i$/broken$_i$.   [Relative]

  b. She carried the bag$_i$...
  (i)   ...empty$_i$/closed$_i$.   [Absolute]
  (ii) ??...hot$_i$/broken$_i$.   [Relative]

  c. She hit the bag$_i$...
  (i)   ...empty$_i$/closed$_i$.   [Absolute]
  (ii) ??...hot$_i$/broken$_i$.   [Relative]

As expected, OODs formed from absolute adjectives are acceptable with achievement, activity, and semelfactive verbs. In contrast, those formed from relative show degraded acceptability when with activity and semelfactives verbs, but not with achievement verbs.[4]

A further prediction is that OODs should disambiguate adjectives with absolute and relative readings. For example, *wet* is ambiguous between an absolute reading, and a relative reading:

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[4]Care must be taken to distinguish the OOD interpretation from the interfering resultative interpretation. This can be done by paraphrasing the interpretation of e.g. hitting the bag *while* empty, closed, hot, broken etc.

(20) The countryside is wet.

    a. Amount of water present   [Absolute reading]

    b. General precipitation of an area   [Relative reading]

On the above analysis, when using *wet* as an OOD, we would expect that only the absolute adjective would be acceptable, as only it can supply the 'missing feature' in this case. We can see that when comparing (20) with a similar OOD construction in (21), while the former is ambiguous, only one reading is available for the latter:

(21) John visited the countryside$_i$ wet$_i$.

    a. It had rained heavily for weeks.   [Absolute reading]

    b. $^{??}$It was a usual spring.   [Relative reading]

Importantly, the VP is not being coerced into being telic in the above examples, which suggests that the formal correlate of telicity is what affects acceptabilty, not telicity itself.

(22) John carried the bag$_i$ empty$_i$ {for an hour/$^{??}$in an hour}.

4 Further extensions

A final puzzle is why SODs are not subject to this condition. I argue this stems from differing syntactic heights within the VP. On a syntactic approach to inner aspect (Arsenijević 2006, MacDonald 2008, Travis 2010), telic and durative features are tied to syntactic projections. Assuming that SODs are adjuncts at VoiceP, while OODs are adjuncts at AspP, then OODs are within the domain of durativity and telicity, whereas SODs are not.[5]
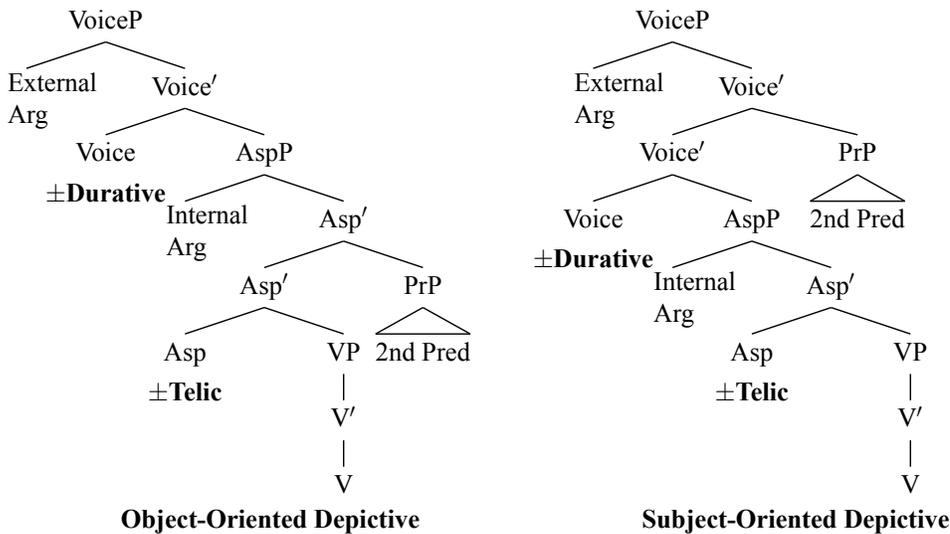

Figure 3: Proposed structure of the VP for depictives.

[5]Suggestive evidence for this comes from unaccusatives. Unaccusative SODs appear to pattern with restrictions for OODs, unlike other SODs:

(i) The box arrived closed/??heavy

However, judgments for these sentences are mixed, and are likely affected by coercion of the adjective from relative to absolute.

The Depictive Aspectuality Constraint can also be extended to explain other curious properties of depictives – for example, depictives are generally Stage-Level Predicates (SLPs), with Individual-Level Predicates (ILPs) mostly being unacceptable:[6]

(23) a. John$_i$ sat in the car drunk$_i$.   [Stage-Level Predicate]

     b. ??John$_i$ sat in the car French$_i$.   [Individual-Level Predicate]

Although it has been commonly claimed that depictives can only be SLPs, examples of ILP depictives can be found, though they tend to be rare:

(24) a. Poe died a pauper.

     b. They left the Army fervent noninterventionists.

     c. My dad was born compulsive and will die compulsive.

     d. The tablecloth went to the cleaners white and came back yellowish.

(McNally 1994)

Importantly, as McNally (1994) argues, these are not examples of coercion.[7] First, she points out that the examples in (24) do not have to be temporary properties in order to be true. Second, she notes that ILP depictives "yield a conversational implicature that the event expressed by the main predicate marks a contextually significant boundary just after the believed beginning or just before the believed end of the interval during which the adjunct predication holds" (McNally 1994:5). Condoravdi described this as an "inference of temporal persistence":

> Individual-level predicates are associated with an inference of temporal persistence, stage-level predicates are not. The inference of temporal persistence in effect specifies the following: if an eventuality is going on at time t and you have no information that it is not going on at some later time t', then infer that it is going on at that later time t' as well. Note that this is a default inference, surfacing only if there is no information to the contrary. (Condoravdi 1992:9)

Importantly, SLPs do not trigger this, which means that if an ILP is being coerced into a SLP in the context of a depictive, then we should expect no such inference. But consider:

(25) Joe went in to the exam unprepared, he went in to the exam tired, he went in to the exam without a calculator. *But he didn't go into the exam stupid.* And so it turned out that he got the highest grade in the class, despite himself.   (McNally 1994:11)

In (25), there is no implication that John has changed from being stupid, or that he will soon become stupid. As such, it seems that *stupid* remains a ILP, and that no coercion has taken place. So while there seems to be a strong preference for depictives to be SLPs, ILPs are also acceptable in certain circumstances. This is similar to the issue of OODs and verb classes, and ILPs and SLPs can also be analyzed from a feature point of view, on which they differ in the 'telic' feature; the presence of this feature is given as the reason why SLPs are interpreted as being transitory.

	Dynamic	Durative	Telic
SLP	−	+	+
ILP	−	+	−

Table 3: Feature-based breakdown of SLPs and ILPs.

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[6]Given the correspondence between Mass/Count nouns and telicity, we would then further expect an interaction of OODs with Mass nouns. See Farrell (2017) for discussion of an interaction that may fit this.

[7]See also Condoravdi (1992), Filip (2001), Fernald (2000).

McNally argues that there is a simultaneity condition on depictives, so that the property denoted by the depictive has to hold at the same time as the matrix event. However, this condition cannot be trivially met, e.g. by ILPs, for which it is interpreted that the property denoted always holds of the entity it is predicated of. But by providing a suitable context as in (25), ILP depictives can be rendered acceptable. On the Depictive Aspectuality Constraint account, this would effectively be a case of providing a missing analogue of telicity through another domain – in this case, structuring the context such that the depictive can be interpreted to meet this condition, without requiring an explicit coercion of the depictive.

This leaves open what is the reason for the Depictive Aspectuality Constraint. As a sketch of an idea, it is possible that this arises from the co-temporality requirement of depictives – depictives describe a property that holds of an entity during a matrix event. However, this co-temporality requirement is more properly described as *co-initiality*. The depictive property needs to hold at the beginning of the event, but need not extend for the entirety of the event. For example:[8]

(26) They boiled the lobster$_i$ alive$_i$.

In (26), the lobster is only required to be alive at the beginning of the boiling event, since presumably it is no longer alive by the end of it. This raises the issue of how the property is integrated into the event. In part, the depictive needs to be a property that saliently holds of the entity it is predicated of, and it needs to hold for a period of time. The requirement for telicity and durativity and their correlates could stem from the need to align the property denoted by the depictive with the matrix event. That is, the depictive must have certain formal properties in order for it to be able to 'line up' with the beginning of the matrix event.

It also remains to be seen how this account fares cross-linguistically, but preliminary research suggests that this account extends at least to other Germanic languages, such as German, Dutch, and Frisian. We would expect that languages with different aspectual systems should not show the same restrictions as English. This appears to be the case with Russian, which does not show the same OOD restriction as English (data from Richardson 2001):

(27) a. *Ja tolknula Ivana$_i$ p'janogo$_i$.*
I pushed Ivan-ACC drunk-ACC

 b. *I pushed Ivan$_i$ drunk$_i$.

5 Conclusion

In this paper, I have argued that depictive acceptability is best explained by reference to its interaction with the inner aspect of the verb phrase it is being integrated into. This analysis has the benefit of explaining the restriction of OODs based on verb class and its exceptions, and makes a number of novel predictions about their interaction with types of adjectives.

Although interactions between different domains has been noted previously (e.g. Mass/Count nouns and (a)telicity), this interaction is unusual in that it does not result in a change of features – a Count noun can 'measure out' a VP with a verb like *eat*, causing it to become telic, but an absolute adjective depictive does not cause an activity VP to become telic. Instead, the absolute adjective appears to meet the requirement in another way, that could otherwise be met by the VP, if it were to be explicitly coerced into telicity. This suggests that some constraints may make reference not to a particular feature within a domain (e.g. telicity within the verbal domain, 'absoluteness' within the adjectival), but to a more general, underlying distinction that surfaces across different lexical categories.

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[8]I am grateful to Benjamin Bruening for suggesting this example.

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