A Semantics for Object-Oriented Depictives

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Abstract

This paper presents a complex-predicate analysis of depictive secondary predicates (DSPs) in English that accounts for the restricted combinations of primary- and secondary-predicates for object-oriented depictives (OODs). I argue that these restrictions are the result of a presupposition introduced by the functional head, Dep, which introduces the depictive secondary predicate. This presupposition places a restriction on the main predicate, requiring that there be a subpart of the object in the primary predicate relation for every subsituation/subevent of the situation/event denoted by the primary predicate. I further argue that there is independent evidence for the use of the subpart relation in Dep's presupposition, since it explains a previously unnoted connection between the partitive construction and OODs: the partitive constraint on NP complements of partitive *of* parallels the constraint on objects that can form OODs.

A Semantics for Object-Oriented Depictives

Alexandra Motut[*]

1 Main Claims

This paper presents an analysis of English depictive secondary predicates (DSPs) that accounts
for the restricted combinations of primary- and secondary-predicates for object-oriented depictives
(OODs; see (1-a)), as opposed to subject-oriented depictives (SODs; see (1-b)), whose distribution
is less restricted (2).

(1) a. Sarah ate [the fish]$_i$ raw$_i$.
 b. John$_i$ drove the car home drunk$_i$.
(2) Jones$_i$ chased Smith$_j$ angry$_{i/*j}$.

Much previous literature (Williams 1980, McNulty 1988, Rapoport 1999, etc.) either falls
short of capturing this distribution accurately, or makes no mention of it (Pylkkanen 2002, 2008).
Furthermore, previous analyses cannot account for the curious minimal pair illustrated in (3).[1]

(3) a. *John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a gun.*)
 b. John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a camera.*)

I present a complex predicate analysis of OODs where their distributional restrictions are the
result of a presupposition on the functional head, Dep, which introduces the depictive secondary
predicate.

I further argue that there is independent evidence for the use of the subpart relation in Dep's
presupposition (this will be introduced below), since it explains a previously unnoted connection
between the partitive construction and OODs: the partitive constraint on NP complements of parti-
tive *of* parallels the constraint on objects that can form OODs.

2 Background

2.1 Properties of Depictives

A depictive, which (descriptively) denotes the state that a participant of an event is in for the duration
of that event, should not be confused with a resultative, (4-a), in which the resultative adjective
denotes the state of a participant as a result of the event. It should also not be confused with an
appositive phrase like that in (4-b), which is usually introduced by comma intonation and I assume
to have a different semantics. I will also assume that depictives are not small clauses like those in
(4-c)-(4-d) (but see Stowell 1981, 1983, Hornstein and Lightfoot 1987, among others, for a different
view). *Consider-* and *prefer*-type predicates (4-c)-(4-d), which may be analyzed as small clauses,
pattern differently from depictives like that in (1), and are therefore excluded from this analysis.

(4) Examples of things that are *not* depictives:
 a. John hammered the metal flat.

[1]Co-indexing in the examples that follow shows which argument the secondary predicate is associated
with/predicated of.

b. John ate the fish, raw and crawling with maggots.

c. Derek prefers his coffee black.

d. John considered Bill intelligent.

Some basic properties of English depictives that need to be explained by a satisfactory analysis are given in (5) below.

(5) Basic Properties of Depictives

a. No indirect object depictives

b. Temporal overlap with primary event

c. Restriction on primary predicate

d. Restriction on objects[2]

Below, I illustrate each of these properties separately. (6)-(7) illustrate that depictives in English can be subject- or object-oriented, but not indirect-object-oriented:

(6) a. Sarah ate [the fish]$_i$ raw$_i$.

b. John$_i$ drove the car home drunk$_i$.

(7) I$_i$ told him$_j$ the news drunk$_{(i/*j)}$.

In all interpretations of the depictive, there is temporal overlap between the event denoted by the primary predicate and the state denoted by the secondary predicate. For example, in (6-a), the fish being raw overlaps with Sarah's eating it. The third property is that not all (primary) predicates are compatible with object-oriented depictive secondary predicates (8).

(8) a. Jones$_i$ chased Smith$_j$ angry$_{i/*j}$.

b. Jones$_i$ pushed Smith$_j$ sick$_{i/*j}$.

c. Jones$_i$ phoned Smith$_j$ sad$_{i/*j}$.   (Rapoport 1999:654)

Finally, not all objects are compatible with object-oriented depictive secondary predicates (9).

(9) a. I drank the beers warm.

b. #I drank beers warm.

The primary predicate and object restrictions are, in particular, properties that have eluded precise generalization and analysis in the literature, and are the focus of this paper. This work also focuses primarily on the semantics of depictives, and does not deal with morphological properties of depictives. I also put aside statives, as previous authors on the subject have, as it is not clear that true depictives involving statives exist; or, if they do, what their properties are.

2.2 Previous Analyses

Pylkkänen (2002, 2008) presents a complex predicate analysis of DSPs, where the depictive is introduced by a functional head, Dep, with the semantics in (10).

(10) Pylkkänen's (2002, 2008) semantics for Dep:
$$\lambda f_{<e<s,t>>}.\lambda x.\lambda e.(\exists s)f(s,x) \wedge e_o s$$

Pylkkänen uses Geuder's (2000) overlap function,"$_o$", to stipulate temporal overlap between the secondary predicate and primary predicate. She also explains the ungrammaticality of indirect-object-oriented depictives in English by appealing to a type mismatch. Pylkkänen's analysis thus captures two of the above basic properties ((5-a) and (5-b)), albeit one by stipulation. Her analysis does not predict there to be restrictions on the kinds of primary predicates or objects available in these constructions.

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[2]A fifth property, that depictive adjectives are restricted to stage-level rather than individual-level predicates, is well-noted in the literature. I will not discuss this property in this paper.

Rapoport (1999) presents an analysis of the restriction on primary predicates for OODs, e.g., the data in (8) above.[3] Within the Aspectual Structure framework of Erteschik-Shir and Rapoport (1997), she proposes the following:

(11) All and only AS [Aspectual Structure] subjects can host DSPs.

Erteschik-Shir and Rapoport's (1997) framework "accounts for the variable behavior of verbs with a program of the free association of verbal nuclei with aspectual structure" (Rapoport 1999:656). (11) predicts that the *subjects* of activities, achievements, and accomplishments *can* host depictives,[4] because they are all underlying subjects (specifiers in Rapoport's framework). But only the *objects* of accomplishment verbs can host depictives, whereas the objects of activity and achievement verbs cannot, since only accomplishment verbs' 'objects' are actually underlying *subjects* (specifiers) (Erteschik-Shir and Rapoport 1997). This works for the examples in (8) but makes other incorrect predictions, for example, it predicts that the activity verbs in (12) should not be able to have OODs, and therefore the examples in (12) should be ungrammatical. Furthermore, neither Rapoport's nor Pylkkanen's account explains the minimal pair in (3), repeated below in (13).

(12) a. John threw [the ball]$_i$ wet$_i$.
      b. John pushed [the cart]$_i$ loaded$_i$.
      c. John juggled [the torches]$_i$ lit$_i$.
(13) a. *John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a gun.*)
      b. John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a camera.*)

Other attempts to explain the distribution of depictives have expressed it as a restriction on depictives being predicated of arguments with certain thematic roles. Williams (1980) argues depictives can only be predicated of themes, (where theme is defined as in Gruber 1965 and Jackendoff 1987 as "the object in motion or being located" (Gruber 1965)), but McNulty (1988:208) identifies a number of what she considers counterexamples.

(14) a. I marinated [the meat]$_i$ raw$_i$.
      b. I sanded [the floor]$_i$ wet$_i$.
      c. Mary destroyed [the novel]$_i$ unfinished$_i$.

She argues that in these examples, the DOs are clearly patients (defined in Jackendoff's sense as being possible in the frames "What happened to NP was..." and "What I did to NP was ...") rather than themes. However, she concludes that patients, although possible in (14), are not always available to host DSPs, as evidenced by example (15).[5] Her proposed generalization is given in (16).

(15) $^{?/}$*The policeman punched John$_i$ drunk$_i$.

(16) Adjunct predicates assign a theta role to NP only if NP bears *one of the following theta roles: theme, agent, patient. Patient* NPs are available as subjects [hosts of depictive secondary predicates] *only if the structure contains no theme*. (McNulty 1988:211, italics mine)

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[3]Rapoport notes that the object-oriented secondary predicates here are grammatical if read as resultatives rather than depictives. It should also be noted that a few speakers seem to report that they are able to get a OOD interpretation for these sentences (Monica Irimia, p.c.); however, this may be due to the availability of an object-oriented appositive reading confused with the depictive reading. More systematic grammaticality judgement tests may be required to clarify this. There seems to be a fairly robust set of speakers for whom the judgements are as in (8).

[4]Rapoport also sets aside statives, as this work does.

[5]However, McNulty may not be correct in presenting the examples in (14), with 'patient' objects, as counterexamples. Although the objects in (14) are patients, they could also be themes in Jackendoffs framework, since patient and theme roles are on different thematic tiers (Jackendoff 1987:394-395). If the conceptualization of theme is not limited only to objects in motion along a purely spatial dimension, then the DOs of change of state verbs, like those in (14), could potentially also be themes. Thank you to Elizabeth Cowper, p.c., for pointing this out.

However, stipulating a compatibility with certain theta roles seems less explanatory than we would like. What is special about themes, patients and agents? Why should it be that patients are available for depictive predication only if there is no theme argument in the sentence? Second, we might tie ourselves into knots trying to determine the right definition of the relevant theta roles. For example, for McNulty's argument to go through, the 'puncher' in (15) must be a theme (to block the patient, *John*, from taking a depictive), while the 'sander' in (14-b) must not be. But in what meaningful sense is the 'puncher' in (15) a theme while the 'sander' in (14-b) is not (and is presumably an agent)? This being said, one aspect of McNulty's generalization in (16) that I do find useful is that it excludes goals from hosting OODs, which dovetails nicely with the analysis I propose (I return to this point in §3.3 below).

In sum, Pylkkänen (2002, 2008) accounts for the object, subject, *indirect object distribution, and stipulates temporal overlap, but does not account for the restrictions on primary predicates or objects. Rapoport (1999) attempts to capture the primary predicate restrictions, but her analysis seems to make some wrong empirical predictions. She does not touch on the temporal overlap or object restrictions, and it's not clear what her framework/analysis would predict about the indirect objects. Williams' (1980) claim that depictives can only be predicated of themes is too strong, and while McNulty's generalization over thematic roles is more satisfactory, again it seems the generalization falls short of being entirely explanatory. Furthermore, neither Williams nor McNulty mentions or explains the object restrictions.

3 Analysis

The analysis presented in this section captures the object/*indirect object distribution; explains more accurately and less stipulatively the primary predicate restrictions; derives temporal overlap rather than stipulating it; and, accounts for some hitherto un-noticed object restrictions, relating them to already-observed restrictions on the NP complements to partitive *of*.

3.1 An Interesting Minimal Pair

None of the analyses discussed in the preceding section accounts for the minimal pair in (3), repeated below as (17).[6] The examples in (17) correspond (approximately) to the contexts/paraphrases in (18).

(17) a. *John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a gun.*)
     b. John shot [the bear]$_i$ sad$_i$. (*I.e., he shot it with a camera.*)
(18) a. *He shot the bear with a gun and in that shooting event, the bear was sad.*
     b. *He shot a picture of the bear with a camera and in that shooting event, the bear was sad.*

These examples particularly show that requiring temporal overlap between the event of the primary predicate and that of the secondary predicate does not adequately capture the semantics of OODs, since in both of these examples, the state denoted by the secondary predicate (in this case, the state of being sad) overlaps temporally with the event denoted by the primary predicate, (i.e., the shooting); however, in a (more or less) out-of-the-blue context, we find that one shooting event (that involving the camera) allows a grammatical reading for this sentence, while the other kind of shooting event (that involving a gun and a bullet) does not result in a grammatical reading.

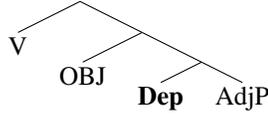## 3.2 The Semantics of Dep

Assume that a depictive adjective phrase is introduced by a functional head, Dep. This is supported empirically: "The presence of a separate depictive head is empirically plausible since in many languages depictives are morphologically distinct from their underlying adjectives. For example, in

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[6]Thank you to Daniel C. Hall for first drawing my attention to this example.

Finnish, depictive secondary predicates carry essive case" (Pylkkänen 2002:28; see source for examples). I further assume Dep has the position in the syntax in (19) and the semantics in (20). Note that Dep takes the verb as an argument, semantically, but not necessarily syntactically.[7]

(19)

$$
\begin{array}{ccc}
V & & \\
 & OBJ & \\
 & & \textbf{Dep} \quad AdjP
\end{array}
$$

(20) **Dep**: $\lambda P_{<e,<l,t>>}.\ \lambda x.\ \lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]]$
   $.[P(x)(s_1) \wedge Q(x)(s_1)]$

Here we go through the denotation in (20) step by step: Dep takes, as arguments, the secondary predicate adjective, **P**; the direct object (DO), **x**; and the primary predicate, **Q**. $(\lambda P_{<e,<l,t>>}.\ \lambda x.\ \lambda Q_{<e,<l,t>>}\ ...)$. Dep further imposes a presupposition on the primary predicate (Q) such that for all subsituations (i.e., subparts of the event), there is a (sub)part of the object in the Q relation with that subsituation. $(...\forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]]...)$. In other words, there is a (sub)part of the object (or possibly the entire object) "being Q-ed" (where Q is the primary predicate), in every sub-event/situation of the larger event/situation denoted by the primary predicate. Dep further *asserts* that P, the secondary predicate relation and Q, the primary predicate relation, hold of x (the object) and the situation $(...[P(x)(s_1) \wedge Q(x)(s_1)])$.

Dep introduces an open situation variable, s_1, existentially bound by a higher aspectual operator (Kratzer 1998). The external argument is introduced by Voice (Kratzer 1996). Situations are assumed to contain both states and events (in (20), s denotes a situation, and l is the type of situations). The derivation of the VP in (21) and the tree in (22) below illustrate the composition.[8]

In sum, Dep requires a secondary predicate, an object, and a primary predicate, in that order. It places a restriction, in the form of a presupposition, on the predicate Q, such that for all subsituations of s_1, there is a subpart of the object, $x\prime$, of which the predicate Q holds between that subpart and $s\prime$.[9] This presupposition is what accounts for the restricted distribution of OODs: they are only able to form depictive constructions with primary predicates for which the presupposition is satisfied.
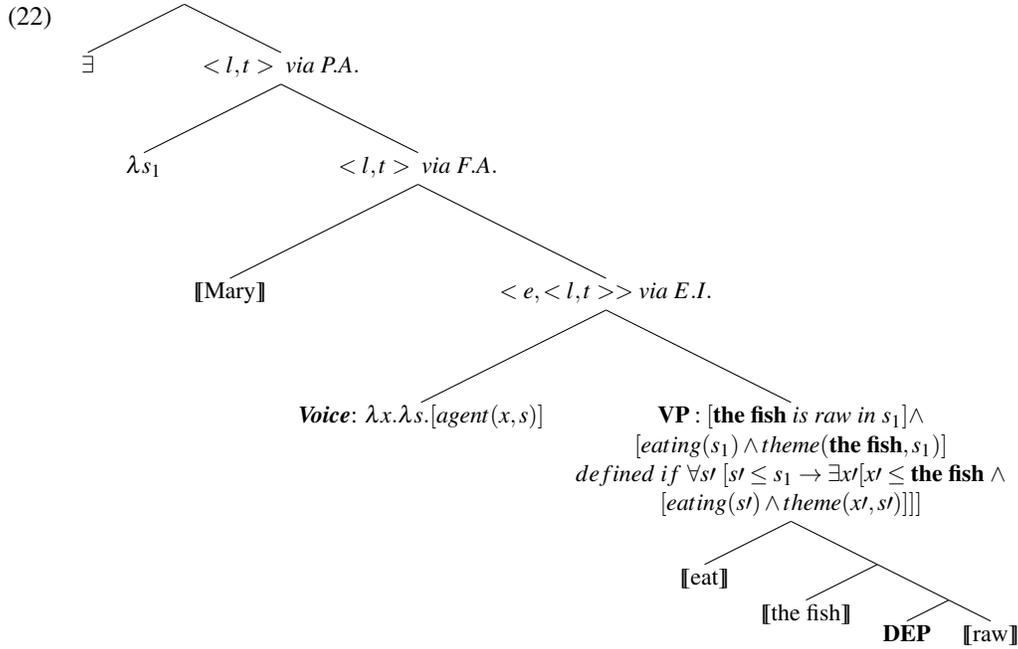
(21) Derivation of VP [Alex ate the fish raw]:
   a. $\lambda P_{<e,<l,t>>}.\ \lambda x.\ \lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]]$
      $.[P(x)(s_1) \wedge Q(x)(s_1)](\llbracket raw \rrbracket)$
   b. $\lambda P_{<e,<l,t>>}.\ \lambda x.\ \lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]].$
      $.[P(x)(s_1) \wedge Q(x)(s_1)](\lambda x.\lambda s.\ x\ is\ raw\ in\ s)$
   c. $\lambda x.\ \lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]].$
      $.[[\lambda x.\lambda s.\ x\ is\ raw\ in\ s](x)(s_1) \wedge Q(x)(s_1)](\llbracket the\ fish \rrbracket)$
   d. $\lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq \textbf{the fish}\ \wedge\ Q(x\prime)(s\prime)]]$
      $.[[\lambda s.\ \textbf{the fish}\ is\ raw\ in\ s](s_1) \wedge\ [Q(\textbf{the fish})(s_1)]](\llbracket eat \rrbracket)$
   e. $[\textbf{the fish}\ is\ raw\ in\ s_1] \wedge\ [[\lambda x.\lambda s.eating(s) \wedge theme(x,s)](\textbf{the fish})(s_1)]$
      $defined\ if\ \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq \textbf{the fish}\ \wedge\ [\lambda x.\lambda s.eating(s) \wedge theme(x,s)](x\prime)(s\prime)]]$
   f. $[\textbf{the fish}\ is\ raw\ in\ s_1] \wedge\ [eating(s_1) \wedge theme(\textbf{the fish},s_1)]$
      $defined\ if\ \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq \textbf{the fish}\ \wedge\ [eating(s\prime) \wedge theme(x\prime,s\prime)]]]$

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[7]Making the verb a semantic argument of another functional head is not as unorthodox as it may at first glance seem. Pylkkänen (2002, 2008) employs a similar kind of semantics for applicatives, where APPLP takes the verb as an argument, and she notes that Barwise and Cooper (1981) employ a similar mechanism such that quantifier phrases take the verb as an argument (Pylkkänen 2002:22). The structure in (19) indicates the hierarchical structure onto which the semantics is mapped, and thus represents the combinatorial relations between nodes in the semantics, but the compositional semantics does not mean that the constituent in (19) is a DepP in the syntax rather than a VP. That is, issues of syntactic projection, and any potential mismatches between the syntax and semantics, are not addressed in this paper.

[8]In (22), P.A. = Predicate Abstraction, F.A. = Functional Application, E.I. = Event Identification.

[9]Rothstein (2000) also presents an analysis of depictives employing the part-of relation, where part-of is interpreted to include the run-time of one event in the run-time of another. This is a different approach, building temporal overlap into the part-of relation, and I will not present a full comparison here.

(22)

$\exists$ $< l,t >$ *via P.A.*

λs_1 $< l,t >$ *via F.A.*

⟦Mary⟧ $< e,< l,t >>$ *via E.I.*

Voice: $\lambda x.\lambda s.[agent(x,s)]$ **VP** : [**the fish** *is raw in* s_1]$\wedge$
[$eating(s_1) \wedge theme($**the fish**$,s_1)]$
defined if $\forall s\prime [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq$ **the fish** $\wedge$
[$eating(s\prime) \wedge theme(x\prime,s\prime)]]]$

⟦eat⟧

⟦the fish⟧

DEP   ⟦raw⟧

Note that the assertion that *P* must hold of *x* and the situation and *Q* must hold of *x* and the situation derives the temporal overlap of the secondary predicate (*P*) and the primary predicate. Temporal overlap is a byproduct of this semantics rather than a direct requirement of it.

3.3 DSP Compatibility with the Primary Predicate

Consider again the examples in (17). (17-a) does not satisfy the presupposition of *Q* that a subpart of the bear stands in the relation, *Q*, (i.e., the shooting relation) with respect to every subsituation (subevent) of the shooting. In other words, in (17-a), *the bear* is not *being shot* in every (sub)event of shooting, particularly those subevents of the shooting that precede the bear's actually being hit by the bullet (cf. Kratzer 2004 for discussion of measuring out shooting events along the path of the bullet). In (17-b), on the other hand, the presupposition of *Q* is met: a (sub)part of the bear (or the representation of the bear) is *being shot* in each subevent/subsituation of the shooting of (the photograph of) the bear. Note that this requires us to think of shooting a photo as a kind of construction of a representation (see Dowty 1991, in which he argues such representational-themes are a subtype of incremental themes). Captured by the analysis is the more intuitive idea that the bear is more intrinsic to the event/situation of shooting a picture of it, than it is to the event/situation of shooting it with a gun. Incremental themes will, therefore, satisfy the presupposition of *Q*, but compatible DOs are not limited to incremental themes.

The semantics given here rules out OOD goals (more on this shortly), and also (some) things that are not incremental themes, while still encompassing predicates like push (i.e., the cart) (in (23)) that take objects travelling along a trajectory, which are not traditional incremental themes, but still satisfy the requirement of Dep, since the entire cart is being pushed in every subsituation of s_1 (in (23-c)).

(23) a. I threw the ball wet.
    b. I juggled the torches lit.
    c. I pushed the cart loaded.
(24) [**the cart** *is loaded in* s_1] $\wedge$ [$pushing(s_1) \wedge theme($**the cart**$,s_1)]$
    defined if $\forall s\prime [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq$ **the cart** $\wedge$ [$pushing(s\prime) \wedge theme(x\prime,s\prime)]]]$

Recall McNulty's generalization in (16). This generalization seems neither explanatory nor correct, for the reasons already described above, but a potentially useful revised generalization might

be that in (25).

(25) *Revision of McNulty's Generalization*: Goals are prohibited from forming OODs.

Many of the ungrammatical OODs with predicates like *reach* (26)-(27), *enter, hit, water, shoot (i.e., with a gun)*, etc. could be said to share the property that their DOs could be conceived of as targets, or as being 'goal-like.' If this generalization is accurate, it not only supports the semantics proposed here, but is actually explained by it. DSPs with goal DOs are essentially ruled out by the presupposition of Q, that Q must hold between every subsituation and a subpart of the object.

(26) a. (After running down the sidewalk), John reached Jane drunk. (*Where John is drunk.*)
   b. #(After running down the sidewalk), John reached Jane drunk. (*Where Jane is drunk.*)

(27) $[\mathbf{Jane} \textit{ is drunk in } s_1] \wedge [\textit{reaching}(s_1) \wedge \textit{theme}(\mathbf{Jane}, s_1)]$
   $\textit{defined if } \forall s\prime \, [s\prime \leq s_1 \rightarrow \exists x\prime [x\prime \leq \mathbf{Jane} \wedge [\textit{reaching}(s\prime) \wedge \textit{theme}(x\prime, s\prime)]]]$

For DOs which are goals, this will clearly not hold, since goals essentially define the endpoint of an event (of motion) and are, almost by definition, not present in the early subevents/subsituations (Jackendoff 1987:378: Goal = 'object to which motion proceeds.') For example, in (28) below, (like Rapoport's examples in (8)), *Smith* can be understood not to be a part of the initial subsituations of the situation by virtue of being target- or goal-like.

(28) Jones$_i$ hit Smith$_j$ drunk$_{i/*j}$.

But rather than explain examples like (17) (our *bear* examples) by stating that 'the bear' is a goal in (17-a) but not in (17-b), the contrast is explained by reference to the relation of subparts of the object to subparts of the event/situation. The use of the part-of relation in defining this semantics is supported by the restrictions we see on objects, to which we turn shortly.

3.4 Accounting for the DO, *IO Distribution

Note that we have not lost the generalization that Pylkkänen (2002, 2008) captured: that DOs and subjects, but not dative objects or IOs (for Pylkkänen, 'low applied arguments') can have depictive SPs predicated of them. While, for Pylkkänen, this was derived via a type mismatch, in the analysis developed here, it is part of Dep's requirement that it needs a theme onto which the event is 'measured out'. That is, it needs an argument a part of which is present in each subevent of the event (denoted by the primary predicate). As suggested by Tenny (1987, 1994), only direct objects and not dative objects typically have this kind of close relationship with the verb.

While some languages (e.g., Japanese) follow the English-type pattern of not allowing IO depictives,[10] other languages—like Romanian and Slovenian—do allow IOs to have depictives predicated of them (Irimia 2012). Although I will not explore these cross-linguistic patterns in detail, here, two approaches seem possible. It might be that, in languages which allow IO-oriented depictives, IOs can have a relation to the event, a kind of 'measuring out' or 'affectedness', that is unlike the relation between the IO and the event in English. Alternatively, perhaps these IO 'depictives' are in fact instances of another construction (like an appositive), that is more loosely connected to the event structure of the primary predicate.

4 Partitives and Depictives

Recall Dep's semantics (in (29) below). The use of the part-of relation in its semantics makes a prediction: restrictions on objects of depictives will parallel restrictions on partitive complements.

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[10]Koizumi (1994) explains the *IO depictive restriction for Japanese based on IOs' structural position in the syntax, but notes that they might also be semantically incompatible with depictives. This is a possibility that Koizumi argues *against*; nevertheless, I will not address his arguments here in detail.

(29) **Dep**: $\lambda P_{<e,<l,t>>}.\, \lambda x.\, \lambda Q_{<e,<l,t>>} : \forall s\prime\, [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]]$
      $.[P(x)(s_1) \wedge Q(x)(s_1)]$

Note the following restrictions on the object in OODs. Definite descriptions (singular or plural), pronouns, and proper names all easily host DSPs (30), but mass and bare plural objects cannot (31).

(30) a. John drank **the beer** warm.
      b. John drank **the beers** warm.
      c. John drank **it** warm.
      d. Flip is the name of John's goldfish. John ate **Flip** raw. (Poor Flip.)
(31) a. $^{?/\#}$John drank beer warm. (Compare with (30-a).)
      b. $^\#$John drank beers warm. (Compare with (30-b).)[11]

Consider, now, the partitive construction, as in (32):

(32) a. One of the men.
      b. One of the two men.
      c. Several of the women.
      d. *One of both men.

Any semantics for the partitive *of* necessarily makes use of the part-of relation. Barker (1998:698) gives the following semantics for partitive *of*:

(33) $[\![\text{of}_{part}]\!] : \lambda x \lambda P \lambda y[P(y) \wedge y < x]$

There is a constraint on NP complements of partitive *of* which has been noted in the literature, which can be stated as follows:

(34) "The Partitive Constraint can be stated ... by requiring that the NP in a partitive phrase always denotes an individual" (Ladusaw 1982:238, as cited in Barker 1998:691).

Note that Ladusaw's use of the term, 'individual', does not mean the partitive NP cannot denote plural entities. A group of two (e.g., in (32-b)) can constitute a 'group individual.' Barker (1998:692-3) argues that examples of indefinite partitives can be accounted for if we interpret the constraint in (34) as saying that the NP must denote an individual '*in the context in which that partitive is used*'. The semantics for partitive *of* given in (33) captures the constraint as stated in (34) by requiring that the first argument that $[\![\text{of}_{part}]\!]$ takes be an entity of type *e* (allowing a 'group individual' to be of this type). We thus observe the following restriction ((35)) in the partitive construction, which exactly parallels the restriction on the objects in OODs (in (30) - (31)).

(35) a. Two of the men.
      b. *Two of men.
      c. Two of the beers.
      d. *Two of beer.
      e. *Two of beers.
      f. Some of the beer.

Consider, now, a potential counterexample. When we look at the patterning of quantifiers in both depictive and partitive constructions, we notice that they seem at first not to pattern alike, as we would predict: the examples in (36) are grammatical but those in (37) are not.

(36) a. John drank every beer warm.
      b. John drank both beers warm.
(37) a. *One of every beer [...]
      b. *One of both beers [...]

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[11]These improve in the habitual reading with present tense, but I do not discuss this effect in this paper.

However, the disparate behaviour of quantified NPs in (36) and (37) is not a counter-example to the analysis proposed above. Consider the following facts. [Every beer] in (36-a) is an object, and type mismatch will therefore force it to undergo quantifier raising, leaving behind an *e*-type trace/variable (38). Therefore, at the point of composition of the object with the Dep head, it is an individual-level entity that fulfills the requirement of the part-of construction (39).

(38) Quantifier-raising of *[every beer]*:

(39) **VP**: $\lambda x.\ \lambda Q_{<e,<l,t>>} : \forall s\prime\ [s\prime \leq s_1 \rightarrow \exists x\prime[x\prime \leq x \wedge Q(x\prime)(s\prime)]].$
$[[\lambda x.\lambda s.\ x\ is\ warm\ in\ s_1](x)(s_1) \wedge Q(x)(s_1)]([\mathbf{t_1}])([\text{drink}])$

On the other hand, in the partitive construction in (37-a), regardless of where this NP is placed in a clause, the quantified NP will not raise out of the NP/DP, since this constituent is an island for movement, as in (40).

(40) DP-island constraint:

    a. Phaedo was interested in [$_{DP}$ Plato's description [$_{PP}$ of geometry]].
    b. *What$_i$ was Phaedo interested in [$_{DP}$ Plato's description [$_{PP}$ of t_i]]?   (Adger 2003:325)

[Every beer] within a DP-island will not be able to raise in a partitive construction like that in (41), leaving behind an *e*-type variable, and the derivation will not be able to satisfy $[\![of_{part}]\!]$'s requirement that the first argument it takes be an entity which can denote an individual.[12]

(41) *John drank [$_{DP}$ one of [$_{DP}$ every beer]].

In sum, the object restrictions of English depictives are explained, and the parallel restriction on DOs of OODs and NP complements of partitive *of* is further evidence for the restriction the part-of relation places on Q in the semantics of Dep.

5 Future Directions & Implications

While one of the main goals of Rapoport's (1999) and McNulty's (1988) papers is to present a unified analysis of SODs and OODs, I do not mention SODs in this paper at all. Previous accounts (including ones using the overlap function) may, in fact, be adequate for subject-oriented depictives. The data I have presented here indicates their distribution is less restricted, and therefore should have a different analysis, but in fact the data is not conclusive and further investigation is necessary.

Second, independent tests are needed to confirm for various predicates, or predicate-object combinations, what the object's relation to each subsituation is, and whether it is in the primary predicate relation for every subsituation or not. Further investigation should also be made into the predictions for indirect-object-oriented depictives, to the extent that they exist (i.e., in other languages). If the proposal put forward here is correct, we might expect IO depictives to be allowed in special cases of predicates whose indirect objects are somehow included in each sub-situation of the situation denoted by the primary predicate, if such cases exist.

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[12]Note that a grammatical reading for (41) is available under the interpretation that what John drank is one of every *kind* of beer. The interpretation that we are interested in testing here is that he drank one of every (single) beer.

Lastly, the connection between the 'part-of' relation in Dep's semantics, and the 'part-of' relation in the partitive construction naturally leads to the interesting question, do all linguistic phenomena employing the part-of relation in their semantics exhibit the same kind of restrictions? Can this generalization be expanded further to other kinds of constructions? I leave the answers to these questions to future research.

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