Olga is a Beautiful Dancer

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I. The Phenomenon

The adjective in (1a) is well-known to be ambiguous between an intersective and a nonintersective reading. These are paraphrased informally in (1b,c), respectively:

(1) a. Olga is a beautiful dancer.
    b. 'Olga is a dancer and Olga is beautiful'
    c. 'Olga is beautiful as a dancer'/'Olga dances beautifully'

On the first reading, *beautiful* applies to Olga; she herself is beautiful, even if her dancing is awkward. On the second reading, *beautiful* applies to Olga qua dancer; Olga's dancing is beautiful even if she herself is unattractive.

The sort of ambiguity found in (1) arises with many other adjectives in English, as shown by 2(a-e):

(2) a. Kathrin is an intelligent student.
    b. George is a skillful manager.
    c. Yo-yo is a good cellist.
    d. Bill is a diligent president.
    e. Peter is an old friend.

Thus, (2a) can mean that Kathrin is a student and an intelligent person - the intersective reading; alternatively it can mean that she is intelligent as a student or that she studies intelligently - the nonintersective reading. Likewise (2e) can mean that Peter is a friend who is aged; or it can mean that Peter is a friend of longstanding. And so on.

II. The Double Category Theory of AP

In her 1976 thesis, *Capturing the Adjective*, Muffy Siegel proposes that the ambiguity in (1) and (2) reflects a fundamental dichotomy holding among adjectives in English. She suggests that there are in fact two syntactically and semantically distinct classes of items conflated by the traditional category AP.

One is the class of **basic attributives** (my terminology). These occur underlyingly as nominal modifiers, although surface syntax may disguise this to some extent. Semantically they express functions from common noun denotations to common noun denotations. They are intensional in the sense that combining with co-extensive common nouns doesn't necessarily yield coextensive modified common nouns.

The second class is that of **basic predicatives**. These occur underlyingly as predicates, although again surface syntax may disguise this. Semantically, they are functions from entities to truth-values and are extensional. These properties are summarized in (3), and some representative examples are given:

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(3) **CLASS I (Basic Attributives)**   **CLASS II (Basic Predicatives)**

Ad-common nouns (CN/CN)   One-place predicates (t/e or t///e)
Nonintersective(⌐∩)   Intersective(∩)
Intensional   Extensional
Reference-modifying   Referent-modifying

<u>Examples</u>   <u>Examples</u>
veteran, former, rightful, chief,   *sick, infinite, portable, nude, tall,*
utter, consummate, initial   *aged, angry, prior, carnivorous,*
bad, beautiful, careful, clever,   *bad, beautiful, careful, clever,*
difficult, diligent, dependable, firm,   *difficult, diligent, dependable, firm,*
good, intelligent, old, true   *good, intelligent, old, true*

To illustrate, consider the Class I adjective *veteran* and the Class II adjective *aged*. *Veteran* can only occur in construction with a noun, whereas *aged* may occur as a simple predicate. Semantically, *veteran* is always understood relative to some noun - one is veteran as a manger, veteran as an actor, etc. By contrast, if someone is aged, then they're simply old - that's it. *Veteran* is also intensional; suppose the set of lutenists and the set of guitarists were identical; then Chris's being a veteran lutenist still wouldn't entail his being a veteran guitarist; Chris might have only recently become a guitarist, even though he is a lutenist of longstanding. This follows under the semantics Siegel provides. The interpretation of *veteran* applies to the intension of its nominal argument. By contrast, *aged lutenist* represents a coordination of two simple predicates of individuals.

(4) *veteran*   *aged*
    ??Marya is veteran.   Marya is aged.
    "veteran as a..."   "aged"

    lutenist(x) ↔ guitarist(x)   lutenist(x) ↔ guitarist(x)

    Marya is a veteran lutenist ←/→   Marya is an aged lutenist ↔
    Marya is a veteran guitarist   Marya is an aged guitarist
    veteran'(^lutenist')(m)   **lutenist(m) & aged(m)**

   As Siegel herself explicitly discusses, this analysis undermines the traditional notion of a single category adjective: for her there simply is no unified class of elements belonging to a category AP. Furthermore, her analysis entails considerable duplication in the lexicon of English. As you can see by the examples in (3), many forms appear in both classes. Indeed we've already encountered this with our examples in (1) and (2). *Beautiful, intelligent, skillful, good, diligent* and *old* show the behavior of both Class I and Class II forms. In Siegel's analysis, we have no choice but to take this as a lexical ambiguity. We must say that there are two syntactically and semantically distinct items that happen to sound the same occurring in the same surface position.

III. An Adverbial Analogy

Siegel gives a number of arguments in support of the double category theory of AP, but I won't rehearse the analysis further here.[1] Instead, I want to suggest an alternative to it based on the work of Donald Davidson. The analysis explains the relevant facts, preserves AP as a unified syntactic and semantic category, and also captures some interesting not readily available to Siegel.

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[1]Siegel's arguments for partitioning adjectives are discussed more fully in Larson (in prep).

To motivate the proposal, let's begin by looking at a certain adverbial analogy to the issues we encounter with nominal modification. Consider the example in (6a) involving the adjunct AP *late*.

(5) a. Chris arrived [_{AP} late]
     b. 'Chris arrived and Chris was late'
     c. 'Chris's arrival was late in the day'

This sentence is ambiguous between two quite different understandings of the adjective. On one reading, both the adjective *late* and the verb *arrived* apply to the individual Chris. So the sentence is true iff Chris arrived and Chris was late. On this reading Chris's actual arrival time needn't have been late in the day; it could have occurred early on. Roughly speaking, it was Chris that was late, not his arriving (5b). We might call this the **subject-modifying interpretation** of AP.

On the second reading, *late* does not apply to Chris, but rather to Chris's arrival. It is the arrival that is late (e.g., 1:00am in the morning) not Chris himself: Chris may have been on time for an engagement scheduled at a late hour (5c). Let's call this the **VP-modifying interpretation** of AP

Not all APs can occur in this adjoined configuration as shown by (6). Furthermore, not all APs that <u>can</u> occur show the ambiguity of *late*. The adjunct AP in (7a), for example, can only be taken as applying to Chris: (7a) has to mean Chris ran away and Chris was tired; it can't mean that Chris's running away was tired. By contrast, the adjective in (7b) strongly prefers the reading where it's Chris running-away that was fast or rapid, not that Chris himself was:

(6) a. *Chris ran away [_{AP} quick]   (cf. Chris ran away quickly).
     b. *Chris spoke [_{AP} careless]   (cf. Chris spoke carelessly)

(7) a. Chris ran away [_{AP} tired]
     b. Chris ran away [_{AP} fast]

On a Siegel-style analysis we might take these differences to reflect yet another division in the surface category AP. That is, we might propose that there's a class of adjectives that function essentially as adverbs. Reasoning as we did earlier we could show them to be nonintersective and intensional. We might also propose a class of subject modifying APs; these would be intersective and extensional. As before, the analysis would involve duplication in the lexicon. While some forms like *fast* and *tired* would belong exclusively to one class, others like *early* and *late* would have to occur in both classes:

(8) Another Double-Category Theory of AP?

CLASS III	**CLASS IV**
Adverbs (IV/IV)	One-place predicates (t/e or t///e or t////e)
Nonintersective(⌐)	Intersective(∩)
Intensional	Extensional
VP-modifying	Subject-modifying
<u>Examples</u>	<u>Examples</u>
fast, late, early	*tired, late, early*

3

Proposals by the philosopher Donald Davidson on the semantics of adverbs allow an attractive alternative to the Siegel-style analysis.   Two basic elements of the Davidsonian view are given in (9). First, Davidson assumes that verbs relate individuals and events, and that sentences - even quite elementary ones - express quantifications over events. Thus the verb *ran-way* expresses a relation between an individual x and an event e: the relation holds just in case e was a running-away and x was the agent of e. Correlatively, a sentence like *Chris ran away* is true iff there was some event of running-away of which Chris was the agent (9a).

(9b) gives Davidson's specific proposal about adverbs: adverbs are analyzed as simple predicates of events: so, for example, *Chris ran away quickly* is true iff there was an event of running-away by Chris and the event was a quick one.

(9)   SOME DAVIDSONIAN SEMANTICS

      a.   Verbs relate individuals and events; sentences express quantifications over events.[2]

         Val($<x,e>$, *ran-away*) iff   running-away(e) & Agent(x,e)

         Chris ran away $\exists$e[running-away(e) & Agent(chris,e)]

      b.   Adverbs are predicates of events.

         Chris ran away quickly $\exists$e[running-away(e) & Agent(chris, e) & quick(e)]

Suppose we now analyze the adjunct AP construction in the following way; VP like an intransitive V expresses a relation between an individual x and an event e, and the AP is a one-place predicate. When adjoined to VP the AP may be co-predicated of either the individual x, or the event e (10a).   When AP is co-predicated of the individual, this will give us what I called the "subject-modifying reading". When AP is co-predicated of the event, this will give us the "VP-modifying reading".   AP will function like an adverb:

(10)   A DAVIDSONIAN ANALYSIS OF ADJUNCT APs

      Adjunct APs may apply either to the subject of VP or to its event argument:

      Val($<x,e>$, [$_{VP}$ VP AP]) iff Val($<x,e>$, VP) & Val(x, AP)   "Subj-modifying"
      Val($<x,e>$, [$_{VP}$ VP AP]) iff Val($<x,e>$, VP) & Val(e, AP)   "VP-modifying"

This gives us a very simple way to view the situation with APs like *tired, fast* and *late*. Assume that in view of their lexical semantics, some APs like *tired* will apply only to non-event individuals; others like *fast* will apply to events (11). Ambiguity will arise whenever we have an AP that can apply naturally to either kind of object (12):

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   [2]The version of Davidson's event semantics adopted here, in which verbs are semantically factored into a pure event predicate plus a family of associated thematic roles, is developed in Higginbotham (1989) and in Parsons (1980,1985,1990). See also Larson and Segal (forthcoming).

(11)   a.   *Chris ran away tired* $\exists$e[running-away(e) & Agent(chris, e) & tired(chris)]

                              # $\exists$e[running-away(e) & Agent(chris, e) & tired(e)]

    b.   *Chris ran away fast*   #$\exists$e[running-away(e) & Agent(chris, e) & fast(chris)]

                              $\exists$e[running-away(e) & Agent(chris, e) & fast(e)]

(12)   a.   *Chris arrived late* $\exists$e[arriving(e) & Theme(chris,e) & late(chris)]   "Subj-modifying"

    b.   *Chris arrived late* $\exists$e[arriving(e) & Theme(chris,e) & late (e)]   "VP-modifying"

On this Davidsonian account, there is no semantic fragmentation of AP. The relevant adjectives all receive a uniform semantic interpretation as one-place predicates. Furthermore, there is no ambiguity in

forms like *late* or *early* - no multiplication of lexical items. It's simply that the selectional restrictions of these forms allow them to apply naturally to more than one kind of individual - event or non-event. Other APs may apply exclusively to events, or exclusively to non-event individuals, it's just a matter of lexical semantics.

IV. Recapturing the Adjective

Given this background, my proposal for nominal modification is straightforward: I suggest that we extend the Davidsonian analysis sketched above to adjectival modification inside NP.

This extension involves three steps. First we relativize the semantics of common nouns to events.[3] So for example, we understand the noun *dancer* as analogous in semantics to the verb *dance*: *dancer* holds of a pair <x,e> just in case e is a dancing and x is the agent of e (13a). Similarly, for *student, manager* and *cellist* (13b-d). *President* and *friend* requires us to understand our variable e as ranging over something broader than events in the usual sense; that is, we must understand e as also ranging over states. (13f) is to be taken as saying that *friend* holds of a pair <x,e> just in case e is a state of friendship of which x is the theme; and (13e) says that *president* holds of <x,e> just in case e is a presidency-state of which x is the

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[3]The idea that the semantics nouns and noun phrases is relativized to events, and that restrictive modifiers might be sensitive to this feature, is proposed by Larson (1983) within a Situation Semantics framework and by Higginbotham (1985) within a Davidsonian framework more like that adopted here. Larson (1983) and Higginbotham (1985) considered only restrictive modifiers of time and place however.

theme:

(13)   a. Val(<x,e>, *dancer*) iff dancing(e) & Agent(x,e)
        b. Val(<x,e>, *student*) iff studying(e) & Agent(x,e)
        c. Val(<x,e>, *manager*) iff managing(e) & Agent(x,e)
        d. Val(<x,e>, *cellist*)   iff for cello-violin(e) & Agent(x,e)
        e. Val(<x,e>, *president*) iff presidency(e) & Theme(x,e)
        f. Val(<x,e>, *friend*)   iff friendship(e) & Theme(x,e)

Second, we analyze adjectives as one-place predicates; so *aged* is true of a thing x, just is case it's aged (14a), and so on:

(14)   a. Val(x, *aged*)   iff aged(x)
        b. Val(x, *former*) iff former(e)
        c. Val(x, *beautiful*) iff beautiful(x)
        d. Val(x, *old*)   iff old(x)

Finally, we specify the semantics of adjoined APs so that they can predicate either of the non-event individual (x) or of the event/state (e), exactly as we did with our VP-adjoined adjectives:

(15)   <u>A DAVIDSONIAN ANALYSIS OF</u> [$_{N'}$ AP N']

      Val(<x,e>, [$_{N'}$ AP N']) iff Val(<x,e>, N') & Val(x, AP)   "Intersective"
      Val(<x,e>, [$_{N'}$ AP N']) iff Val(<x,e>, N') & Val(e, AP)   "Nonintersective"

These simple moves yield a correspondingly simple analysis of the modification ambiguities that we began with.

N' modification structures will be non-ambiguous when the lexical semantics of AP prevents it from applying indiscriminately to both kinds of entities. For example, assume (plausibly) that although people can be aged (in view of the fact that they age) events and states cannot. It follows that *Jerry is an aged president* will be unambiguous: we can have "aged(jerry)" but not "aged(e)" (16a). Similarly, assume that *former* can apply to events but not to people. It follows that *Jerry is a former president* will be unambiguous: we can have "former(e)" but we can't have "former(jerry)" (16b):[4]

(16)   a. *Jerry is an aged president*   ∃e[presidency(e) & Theme(jerry,e) & aged(jerry)]
                                     #∃e[presidency(e) & Theme(jerry,e) & **aged(e)**]
        b. *Jerry is a former president* #∃e[presidency(e) & Theme(jerry,e) & **former(jerry)**
                                      ∃e[presidency(e) & Theme(jerry,e) & former(e)]

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    [4]The existential quantifier in (16) and (18) below evidently represents a simplification; one is not a dancer in virtue of there being merely some occasion in which one is the agent of dancing. A more careful consideration of the quantificational force in nominals would probably identify the quantifier as some form of generic operator; I put aside these and many other significant details here.

N' modification structures will be ambiguous whenever the lexical semantics of AP permits it to apply to either kind of entity: non-event individual or event/state. *Beautiful* is evidently such a predicate, as we can see from the acceptability of (17a) and (17b); the same is true of *old*:

(17)   a.   Olga is beautiful.   b.   The dancing is beautiful.
           c.   Peter is old.   d.   Their friendship is old and established.

The intersective reading of *Olga is a beautiful dancer* will correspond to the case where *beautiful* applies to the person Olga; the nonintersective reading will correspond to the case where *beautiful* applies to the event of dancing (18a); similarly for *Peter is an old friend* in (18b):

(18)   a.   *Olga is a beautiful dancer* $\exists e[$ dancing(e) & Agent(olga,e) & beautiful(olga) $]$

                                            $\exists e[$ dancing(e) & Agent(olga,e) & beautiful(e) $]$

    b.   *Peter is an old friend* $\exists e[$ friendship(e) & Theme(peter,e) & old(peter) $]$

                                         $\exists e[$ friendship(e) & Theme(peter,e) & old(e) $]$

IV. Consequences

This analysis has a variety of consequences of which I will mention four here.

I.   We restore semantic unity to a large class of elements traditionally ascribed to AP.

Unlike Siegel (1976), we assume no fundamental semantic division in adjectival forms. The relevant adjectives are all uniformly one-place predicates. Some apply exclusively to events, some apply exclusively to non-events, and some apply to both. But this is a matter of selectional restrictions, of the kind that we find routinely with verbs.

II.   We capture the intuitive relation that holds between many adjectival sentences and sentences involving adverbials.

Very typically, non-intersective readings can be paraphrased with an adverbial construction, and there are often clear entailments between the two:

(19) a. *Olga is a beautiful dancer* (on ⌐-reading) ⇔ *Olga dances beautifully*
      b. *Yo-yo is a good cellist* (on ⌐-reading) ⇔ *Yo-yo plays cello well*

On the ⌐-readings we've been looking at, the adjective is analyzed as behaving fundamentally like an adverb, and the truth-conditions of the sentence are very close to those of the S containing an adverb.

III. We capture the "opacity" of attributive AP readings in a more plausible way than under the Siegel 1976 analysis.

In the analysis I've proposed here, co-extensivity of lute-players and guitar-players does not license the inference from Marya *is a good lutenist* to *Marya is a good guitarist* (or vice versa) on the nonintersective reading of *good*. The reason is that even if the agents of lute-playing and the agents of guitar-playing are the same, it still doesn't follow that the events of lute-playing and the events of guitar-playing are the same:

lute-playing(e*) & Agent(m,e*) ⇔ guitar-playing(e*) & Agent(m,e*)

Since *good* predicates of the event on its nonintersective reading, it predicates of different things in the two cases.

For Siegel (1976) failures of substitutivity result from <u>intensionality</u>: from the fact that a CN/CN combines with the <u>intension</u> of its common noun argument, which is a function from possible worlds to sets. The key assumption underlying this proposal is thus that the failure of inference has to do with what *lutenist* and *guitarist* would denote in other possible worlds. Drawing on a point made by McConnell-Ginet in connection with the analysis of adverbs, this simply seems to be the wrong diagnosis of why substitutivity fails here. To paraphrase McConnell-Ginet:

"...the intensional machinery does not provide a good model of how we think about WHY those [who are good lutenists] might be different from those [who are good guitarists], even though [lutenists] and [guitarists] happen to be the same. The explanation lies not in the existence of an alternative situation (where individuals have different properties), but simply in assessing an added dimension in the given situation."

On this analysis, the added dimension is events.

IV. We transfer the source of the ambiguity from AP to N: the fact that N's are semantically more complex than simple predicates of individuals.

If the proposal made here is correct, then a proper understanding of adjectival modification will require us to look inside the semantics of common nouns, and take account "hidden" parameters such as events. And, indeed, there is a wide variety of cases that promise to take us still further in this direction. For example, the ambiguity in (21a) appears to turn on whether it's the house itself that is new (recently built), or whether it's the state of John possessing the house that is new (in which case the house itself my be old). To capture the latter it seems we must appeal to representations in which the possession-state parameter is explicitly spelled

out and where *new* predicates of it:[5]

(21) That is John's new house.

If this view is correct, there is clearly much more work to do in this line.

References

Higginbotham, J. (1989) "Elucidations of Meaning," *Linguistics and Philosophy 12*: 465-517.

Larson, R. (1983) *Restrictive Modification: Relative Clauses and Adverbs*. Ph.D. Thesis, University of Wisconsin - Madison.

Larson, R. (in preparation) "Restrictive Adjectival Modification".

Larson, R. and G. Segal (forthcoming) *Knowledge of Meaning*. Cambridge, MA: Bradford Books/MIT Press.

McConnell-Ginet, S. (1982) "Adverbs and Logical Form," *Language 58*: 144-184.

Parsons, T. (1980) "Modifiers and Quantifiers in Natural Language," *Canadian Journal of Philosophy Supp. Vol. 6*, 29-60.

Parsons, T. (1985) "Underlying Events in the Logical Analysis of English," In E. Lepore & B. McLaughlin (Eds.), *Actions and Events: Perspectives on the Philosophy of Donald Davidson* (pp.235-267). Oxford: Basil Blackwell.

Parsons, T. (1990) *Events in the Semantics of English: A Study of Subatomic Semantics*. Cambridge, MA: MIT Press.

Siegel, M. (1976) *Capturing the Adjective*. Ph.D. Thesis. University of Massachusetts - Amherst.

Siegel, M. (1976) "Capturing the Russian Adjective", in B. Partee (ed.) *Montague Grammar*. Academic Press, New York.

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[5] For an explicit proposal, see Larson (in prep).