Semantics of Adjectival Modification: Previous Theories

Last time I laid out some problem areas in adjectival modification & their potential significance. I also briefly suggested some analyses based on event semantics. Before developing those ideas further, I will survey two alternative approaches to the domain of attributive modification. It is useful to do so because these proposals represent a fundamentally different view of the problem area, and we can learn something by the contrasts.

The main data I will be interested in today concern the cases in (1), which we observed to have an intersective and a non-intersective reading:

(1) a. Olga is a **beautiful** dancer.
b. Kathrin is an **intelligent** student.
c. George is a **skillful** manager.
d. Teun was a **fierce** arguer.
e. Yo-yo is a **good** cellist.
f. Bill is a **diligent** president.
g. Peter is an **old** friend.

Recall that on the intersective reading of (1a), *beautiful* applies to Olga; she herself is beautiful, even if her dancing is awkward. On the non-intersective reading, *beautiful* applies to Olga qua dancer; Olga's dancing is beautiful even if she herself is unattractive. Etc.

Logically speaking, one might trace the ambiguity in (1a-g) to one of two different sources. On the one hand, one might blame it on the adjective. Perhaps the adjective contains some hidden semantic complexity that reveals itself in combination with a simple noun. Call this an **A-analysis** of the phenomenon. Alternatively, one might ascribe the source of ambiguity to the noun, so that the adjective is simple and it's the noun's properties that ultimately yield the ambiguous result. Call this an **N-analysis**.

All recent analyses of the intersective/non-intersective ambiguity that I am aware of in the literature are A-analyses: they assume nouns to be simple predicates of things, but assign adjectives some hidden semantic and/or grammatical complexity. Let's look at two.

1.0 Relativization to Attributes

Wheeler (1972) and Platts (1979) propose A-analyses of attributive adjective modification that involve ascribing relational structure to them. Instead of analyzing adjectives like *big* or *beautiful* as one-place predicates (2a), they analyze them as

binary, with one argument place reserved for an attribute argument, call it "*C*" (2b):

(2) a. big(x)
b. big(x, *C*)

1.1 Wheeler (1972) and Platts (1979)

To give a concrete idea of how this works, Wheeler (1972) gives (3a) the analysis in (3b):

(3) a. Felix is a big flea
b. big(f, ^x(x is a flea)) & f ∈ ^x(x is a flea)

The way we are to read (3b) is "Felix is big relative to fleas and Felix is a flea". Notice that given this result, it would not be correct to render the first conjunct "Felix is big for a flea" since that gloss already implies that Felix is a flea. Wheeler chooses this analysis because he wants to account for the impact of negation on (3a). Notice that (4a) is true if Felix is not big relative to fleas, is not a flea at all, or both. These truth conditions are accommodated in Wheeler's proposal, since (4b) is equivalent to (4c):

(4) a. Felix isn't a big flea
b. ¬big(f, ^x(x is a flea)) & f ∈ ^x(x is a flea)
c. ¬(big(f, (x is a flea)) v ¬(f ∈ ^x(x is a flea))

This analysis is extended by Wheeler to other cases, such as *Olga is a beautiful dancer*. This would be represented as in (5), where Olga is asserted to be beautiful relative to (x is a dancer), and where Olga is a member of (x is a dancer):

(5) beautiful(o, ^x(x is a dancer)) & f ∈ ^x(x is a dancer)

Platts(1979) finds fault with Wheeler's account on grounds of extensionality. For Wheeler, the second argument of an attributive adjective is a set. But this means that if two nouns happen to coincide in their extensions (the set of individuals they pick out) then they will yield the same comparison class. To be concrete, consider the (somewhat hackneyed) example of renates ('creatures with a kidney') and cordates ('creatures with a heart') (NB: *cordates* not *chordates*). As it turns out, every creature with a heart happens also to have a kidney and vice versa. Platts says: "When applying the positive [form of an adjective], we are often concerned with the sizes of animals under normal conditions, even if these conditions virtually never obtain. But conditions might be abnormal as regards size development of creatures with kidneys, but normal, or abnormal in as it were the opposite direction, as regards size development of creatures with hearts.(p.185)" In other words, it seems, intuitively, that (6a) could be true without (6b) being true as well:

(6) a. Felix is a big renate.
a. Felix is a big cordate.

If so, then reference to sets is not enough because (6a,b) will end up having the same truth conditions.

Platts himself explores a number of variants of the Wheeler idea. One suggestion is that the second argument of the adjective be analyzed as a **property abstract**, and not a set. So (7a) gets the representation in (7b), where "λx[x is a flea]" denotes a property abstract:

(7) a. Felix is a big flea.
b. big(f, λx[x is a flea])

The crucial difference from Wheeler is that properties are "richer" objects than sets. Two predicates can denote the same individuals but have different property abstracts (pa's are intensional). This means that (5a,b) get the representation in (8a,b) (resp.), and since the abstracts are different, so are the truth conditions (as required):

(8) a. big(f, λx[x is a renate])
b. big(f, λx[x is a cordate])

1.2 Higginbotham (1985), DeGraff and Mandelbaum (1993)

In a brief section of his 1985 paper "On Semantics", Higginbotham, divides the class of adjectives into two. Intersective adjectives are analyzed as one-place predicates that associate with their noun via "theta-identification". The remainder of the adjectives combine with their N through what H calls "autonymous theta-marking".

As far as I can tell, H's "theta-identification" proposal is just a version of the standard idea that intersective adjectives combine via conjunction. Higginbotham gives color adjectives (like *white*) as representative of intersective adjectives, so (9a) is analyzed as in (9b):

(9) a. $[_N\ [_A$ white] $[_N$ house]]
<1> <1>
|_____|
b. λx[white (x) & house (x)]

The remaining adjectives are analyzed by Higginbotham via a proposal that simply combines Wheeler's and Platts's ideas. H says that when A combines with N (by "autonymous theta-marking") two things happen:

- the adjective and noun become co-predicates (predicated of the same object),
- the noun furnishes an attribute value for the adjective.

Thus our familiar example (10a) is notated as in (10b) by H, and analyzed semantically as in (10c). In effect, "Felix is big relative to the property of being a flea and Felix is a flea":

(10) a. Felix is a big flea.
b. $[_N\ [_A$ big] $[_N$ flea]]
<1,2> <1>
|_____|
c. big(f, ^x[x is a flea]) & (f is a flea)

This is essentially identical to Wheeler's proposal, but relativized to attributes instead of sets.

Higginbotham's discussion is properly tentative, and makes no claim to providing a fully general treatment of adjectival modifiers. Nonetheless, DeGraff and Mandelbaum (1993) attempt to extend the account in greater generality, suggesting a further addition. In her 1993 thesis on nominal structure in Romance, Judy Bernstein argues that certain adjectives combine with their nominal as phrase to phrase (11a), whereas others combine with their nominal as head to phrase (11b). This difference has an interesting syntactic consequence for Bernstein: according to her analysis, only adjectives with the syntax in (11a) should allow their N to prepose around them so that the adjective can appear postnominally. Adjectives with the syntax in (11b) block this movement, and so are exclusively prenominal.

(11) a. $[_{NP}$ AP NP]
b. $[_{A'}$ A NP]

DG&M propose that Bernstein's (11a) maps semantically to Higginbotham's "theta-identification" whereas Bernstein's (11b) maps semantically to "autonymous theta-marking". That is, they propose that Higginbotham's semantic distinction tracks the difference in structure that Bernstein suggests. Thus:

(12) a. $[_{NP}\ [_{AP}$ white] $[_{NP}$ house]] "Theta-identification"
b. $[_{A'}\ [_A$ big] $[_{NP}$ flea]] "Autonymous theta-marking"

The idea may look attractive at first blush. On reflection, however, it's very unclear that DG&M's assimilation of Higginbotham's and Bernstein's proposals is tenable. For Higginbotham, size adjectives like *big* are autonymous theta-markers. For DG&M, this means that they should be analyzed syntactically along the lines of (11b)/(12b). In

Italian, size adjectives appear both pre- and postnominally and actually prefer the latter position (13). Hence according to Bernstein's analysis, they should have the structure in (11a), contra Higginbotham's analysis. Consider also the fact that while the French equivalent of *alleged criminal* shows a prenominal position for the adjective, the equivalent of *known criminal* prefers a postnominal position (14). Similarly in French, while the equivalent of *old friend*, with a postnominal AP, has only the intersective reading, *old friend*, with a prenominal AP, has both the intersective and the non-intersective readings (i.e., it is ambiguous) (15):

(13) a. una gran montagna (Italian)
b. una montagna grande
' a big mountain'

(14) a. présumé criminel/??criminel présumé (French)
alleged criminal
b. ??connu criminel/ criminel connu
known criminal

(15) a. ami vieux (French)
'aged friend'
b. vieil ami
'long-standing friend' or 'aged friend'

What this shows is that the correlation between prenominal versus postnominal position on the one hand, and intersective versus non-intersective semantics on the other is not clear-cut. The one distinction does not map directly onto the other.

1.3 Problems With the Attribute-based Accounts

The analyses that relativize to attributes, such as those we've briefly reviewed by Wheeler, Platts, Higginbotham and DeGraff and Mandelbaum, seem to me to share some common flaws that I would like to discuss now.

Non-intersectivity ≠ Comparison Class Relativity !!

To bring out the first problem, recall how examples like (16a) and (17a) would be analyzed semantically in the attribute accounts:

(16) a. Gwen is a beautiful dancer
b. beautiful(g, ^x(x is a dancer)) & g ∈ ^x(x is a dancer)

(17) a. Gwen is tall for a four-year old
b. tall(g, ^x(x is a four-year old)) & g ∈ ^x(x is a four-year old)

In the first case *dancer* supplies the relevant attribute, in the second case *four-year old*

does.

Now my daughter Gwendolyn is a six -year old. When she was four, as with many young girls, she developed an interest in ballet lessons. Gwendolyn was a physically capable young girl, and learned her dance positions. In the opinion of her (completely unbiased) father, she was a beautiful dancer in the non-intersective sense. On the other hand, although I thought Gwen a beautiful dancer, even *I* did not consider her to be quite ready, at four years of age, for American Ballet Theatre and Lincoln Center. In other words, what I believed was something like (18a) or (18b):

(18) a. Gwendolyn is a beautiful dancer [for a four-year old].
b. Gwendolyn is a beautiful [as a dancer] [for a four-year old].

What should the analysis of (18a,b) be under the attribute theories? The problem should be clear: the adjective is a binary relation. In order to get the non-intersective reading on these analyses, *dancer* must supply the attribute. But, at the same time, in order to be faithful to the analysis of *big for a flea*, the PP *for a dancer* must supply the attribute. The two seem to be competing for the same semantic spot.

What this shows, I think, is a fundamental conflation in all these theories of two quite different things: non-intersectivity and comparison class relativity. Wheeler's, Platts', and Higginbotham's theories use the same mechanism of attribute arguments to analyze both phenomena. In effect they treat these phenomena as instances of the same thing. But they are not the same thing. This is clear from the fact we can get both phenomena in one and the same example. In my view, appeal to attributes seems correct for the context in which Wheeler (1972) first introduced them: comparison class determination. What this suggests, then, is that some other, different account of non-intersectivity is called for.

No Relation Between "Beautiful Dancer" and "Dance Beautifully"

A second flaw, I believe, can be seen by inspecting the semantic analyses of *Gwendolyn is a beautiful dancer* and *Gwendolyn dances beautifully* on the attribute based accounts, assuming the Davidsonian analysis of adverbs as predicates of events (and where the beauty of the dancing events is relativized to some attribute *C*):

(19) a. beautiful(g, ^x(x is a dancer)) & g $\in$ ^x(x is a dancer)
b. Γe[dancing(e,g) $\rightarrow$ beautiful(e, *C*)]

These logical representations couldn't be more different. The first involves simple conjunction and no events or quantification over events. Beauty is attributed to Gwen. The second involves generic quantification over events. Beauty is attributed to Gwen's dancing.

In view of these differences, there are no entailments between the two sentences. If

Gwendolyn is a beautiful dancer is true (on the non intersective reading), then it certainly doesn't follow logically from (19a,b) that *Gwendolyn dances beautifully* is true. And vice versa. Notice that it won't do to simply advert to a different theory of adverbs in this case, since at least Platts and Higginbotham explicitly endorse Davidson's event theory. Thus the analyses fail to capture clear entailments between the nominal and adverbial case, even appealing only to machinery that the authors themselves would endorse.

2.0 The Double Category Theory (Siegel 1976a,b)

The best known of the A-theories of attributive modification is the "Double-Category" theory articulated by Muffy Siegel in her 1976 thesis *Capturing the Adjective.* Siegel proposes, in essence, that the ambiguity in (20a,b) reflects a fundamental dichotomy holding among adjectives in English. She suggests that there are actually two syntactically and semantically distinct classes of items conflated by the traditional category AP.

(20) a. Olga is a beautiful dancer.
b. Kathrin is an intelligent student.

2.1 Attributives versus Predicatives

Siegel's basic proposal is to split the category of adjective into two distinct classes, with very distinct semantic properties.

The first class is that of **predicatives** (my terminology). These occur underlyingly as predicates, although surface syntax may disguise this. Semantically, they are functions from entities to truth-values and are extensional. When they combine with a noun, the semantic result is predicate conjunction, expressed through λ-abstraction. This is the source of the intersective reading.

CLASS I **Predicative Adjectives** (t/// e) (*sick, infinite, portable, nude, tall, aged,...)*

Example: *aged* ⇒ λx[**aged**'(x)]
aged friend ⇒ λx[**aged**'(x) & **friend**'(x)] "Intersective Modification"

The second class is that of **attributives**. These occur underlyingly as nominal modifiers, although again surface syntax may disguise this to some extent. Semantically they express functions from common noun denotations to common noun denotations ("CN to CN"). They combine with their nominal as function to argument and so, in the usual Montagovian way, they invoke intensions. This is the source of the non-intersective reading.

CLASS II Attributive Adjectives (CN/CN) (*veteran, former, rightful, chief, utter,...)*

Example: *former* ⇒ **former**'
former friend ⇒ **former**(^**friend**') "Non-intersective Modification"

Although some adjectives are assigned exclusively to the predicative category (*aged*) and others exclusively to the attributive category (*former*), a large number of forms are assumed to belong to both. This for Siegel is the source of the intersective/non-intersective ambiguity:

"DOUBLETS" (*beautiful, old, good, intelligent, difficult, diligent, dependable, firm, true)*
Example: *old$_1$ friend* ⇒ λx[**old$_1$**'(x) & **friend**'(x)]

old$_2$ friend ⇒ **old$_2$**' (**^friend**')

Doublets create the ambiguity in (20a,b). It's simply a matter of homophonous forms.

A Potential Weakness: The class of doublets is quite large (consider *bad, beautiful, careful, clever, difficult, diligent, dependable, firm, good, intelligent, old, true*). The existence of so many homophonous pairs seems to be a lexical accident.

Three Apparent Strengths: First, it captures the potential non-intersectivity of adjectives like *beautiful* - the fact that a beautiful dancer need not be beautiful and a dancer. This follows directly from the logical representation in which *beautiful* is not predicated of the subject. Second, it accounts for substitution failure with nonintersective, as illustrated in the familiar pattern in (21). Failure of substitutivity results from the intensional operator "^", which is introduced when adjective combines with noun as function to argument:

(21) Suppose: {x: x is a dancer} = {x: x is a singer}
Then: *Olga is a dancer.* ≡ *Olga is a singer.*
But: *Olga is a beautiful dancer.* ≢ *Olga is a beautiful singer.*
Analysis: **beautiful**'(^**dancer**')(o) ≢ **beautiful**'(^**singer**')(o)

Finally, the analysis captures the fact that nonintersectivity and substitution failure are correlated phenomena with adjectives. For it's exactly when [N A N] is read nonintersectively (i.e., as meaning "dances beautifully") that substitution of equivalents fails.

2.2 Whence Substitution Failures? (McConnell-Ginet (1982))

Siegel's account of substitution failure with nonintersective adjective modification parallels that usually given for substitution failure with adverbial modification:

(22) Suppose: {x: x dances} = {x: x sings}
Then: *Olga dances.* ≡ *Olga sings.*
But: *Olga dances beautifully.* ≢ *Olga sings beautifully.*
Analysis: **beautifully**'(^**dance**')(o) ≢ **beautifully**'(^**sing**')(o)

Interestingly, McConnell-Ginet (1982) provides two simple, but compelling reasons for thinking that the analysis given in (22) is NOT the right account of substitution failure with adverbs.

REASON 1: Consider the "argument" in (23) for intensionality in the complement of verbs like *eat* and *cook*. Substitution failure seems to occur, so we analyze it by letting the denotation of *fish* apply to V, introducing the intensional operator "^" just as before:

(23) Suppose: {x: x eats} = {x: x cooks}
Then: *Olga eats.* ≡ *Olga cooks.*
But: *Olga eats fish.* ≢ *Olga cooks fish.*
Analysis: **fish**'(^**eat**')(m) ≢ **fish**'(^**cook**')(m)

In fact we don't give this analysis. Instead, substitution failure is ascribed to the relationality of *eat* and *cook* (24a,b). The inference pattern in (23) is predicted on simple 1st-order grounds, since (25a) doesn't entail (25b):

(24) a. eat(x,y)
b. cook(x,y)

(25) a. ∀x [∃y[eat(x,y)] & ∃y[cook(x,y)]]
b. ∀x [eat(x,fish) & cook(x,fish)]

Conclusion: Substitution failure is not a straightforward diagnostic for intensionality. Logic allows for other sources of entailment failure, including "hidden" relationality.

REASON 2: Compare the two cases of substitution failure in (26) and (27), the analyses suggested for them, and the intuitive correctness of these analyses given how we actually reason with the cases.

(26) Suppose: {x: x dances} = {x: x sings}
Then: *Olga dances.* ≡ *Olga sings.*
But: *Max thinks Olga dances.* ≢ *Max thinks Olga sings.*
Analysis: **think**'(m, ^**dance**')(o) ≢ **think**'(m, ^**sing**')(o)

(27) Suppose: {x: x eats} = {x: x cooks}
Then: *Olga eats.* ≡ *Olga cooks.*
But: *Olga eats fish.* ≢ *Olga cooks fish.*
Analysis: **eat**'(o,f) ≢ **cook**'(o,f)

Accounting for the lack of entailment in (26) informally, we might explain things this way: "Well, even if the dancers and singers happen to coincide in this world, in the world of Max's thoughts the two sets might well diverge. So, thinking that the one predicate is true of Olga might very well be different than thinking that the other is true of her." Here we are using the idea of worlds compatible with the beliefs of the subject (Max). The appeal to alternative worlds offers a plausible model of why speakers judge the inference to fail.

By contrast, substitution failure in (27) arises from an intuitively different source. The issue is not a matter of what *eats* and *cooks* might have meant in alternative circumstances. Rather it's a matter of pointing to a hidden dimension in the predicates. "Look," we might say, "whenever there is eating, there is eating of something. Likewise whenever there is cooking, there is cooking of something. But even if all the same people eat and cook, it still needn't be true that any of them eats and cooks the same thing. Hence the conclusion doesn't follow." Here our explanation doesn't proceed by appealing to potential extensions in alternative worlds; rather it analyzes the predicate more finely in this world.

How do we reason in this case? "Look," we might say, "whenever there is dancing and singing there is a performance. And even if the same people dance and sing, the performances are still different. And one might be beautiful, and the other not. Hence the conclusion doesn't follow." Reasoning this way, we are following the model of (26), and not the model of (25).

Consider again the adverbial entailment paradigm in (22). What is our intuition of why substitution fails? Interestingly, as McConnell-Ginet observes, it does not seem to involve thinking about who *dance* and *sing* might have applied to in alternative circumstances. It's not a matter of what might have held in other worlds. How do we reason in this case? "Look," we might say, "whenever there is dancing and singing there is a performance. And even if the same people dance and sing, the performances are still different. And one might be beautiful, and the other not. Hence the conclusion doesn't follow." Reasoning this way, we are following the model of (27), and not the model of (26).

Conclusion: The intensional analysis does not track our intuition for why inference fails with adverbs. According to (22) failure of substitution results from consideration of the extensions of *dance* and *sing* in other possible worlds: who might have danced and who might have sung, etc. But, as McConnell-Ginet observes, this isn't how speakers reason about the actual case.

2.3 Davidsonian Events (Davidson (1967), Davies (1991))

For Davidson, verbs (of action) have hidden relationality: an event parameter e (28a,b). Adverbs are predicated of this parameter (29a,b). This interaction blocks substitution of Vs on 1st -order grounds, without recourse to intensions; (30a) doesn't entail (30b):

(28) a. dancing(e, x)
b. singing(e, x)

(29) a. ∃e[dancing(olga,e) & beautiful(e)]]
b. ∃e[singing(olga,e) & beautiful(e)]]

(30) a. ∀x [∃e[dancing(e,x)] × ∃e[singing(e, x)]]
b. ∀x [∃e[dancing(e,x) & beautiful(e)] × ∃e[singing(e, x) & beautiful(e)}]

Davidson's proposal explains failures of inference in just the way that McConnell-Ginet (1982) suggests: by detecting an additional dimension in the semantic structure of the predicate. Furthermore, this dimension seems to be just the one we intuitively appeal to in explaining substitution failures like those in (22): the performance.

The implications of these points for adjectival modification appear straightforward. We said that substitution surely fails between *beautiful dancer* and *beautiful singer*, on the non-intersective reading, for the same reason that it fails between *dance beautifully* and *sing beautifully*. Since the intensional analysis does not look right for the latter, we conclude that it is not right for the former either. A Davidsonian event analysis seems to deliver the right entailment results for the right reasons in the case of adverbs. This suggests that a parallel account should be given for adjectives. That is, we should import Davidson's analysis of adverbial modification to adjectival modification, reproducing the basic technical moves.

3.0 Some Grammatical Points About Siegel's Theory

Siegel argues that Russian provides evidence for the fundamental syntactic/semantic distinction posited in her analysis between adjective types.

3.1 Long Form versus Short-form: Morphology & Distribution

Russian adjectives come into two morphological forms: short-form (SF) and long-form (LF). The difference is in the adjectival endings.

	Masculine	**Femine**	**Neuter**	**Plural**
Long Form	yj	aja	oe	ye
Short Form	ù	a	o	y

Examples:

	Masc	**Fem**	**Gloss**
Long Form	novyj		'new'
Short Form	nov	nova	
Long Form	umnyi		'intelligent'
Short Form	umen	umna	
Long Form	trudoljubivyj		'industrious'
Short Form	trudoljubiv	trudoljubiva	

Both the short-form and long-form may be used in predicate position. According to Siegel (1976a, p.16): "long forms, like nouns, fully inflect for case and can appear after many different verbs":

(31) a. Ulicy kazalis' ej ochen' shirokimi (LF).
b. *Ulicy kazalis' ej ochen' shiroki (SF).
'The streets seemed to her very wide'

(32) a. Almazov vernulsja domoj radostnyj (LF).
b. *Almazov vernulsja domoj rad (SF).
'Almazov returned home joyfully'

By contrast, short forms do not inflect for case (although the short-form is historically a reduced form of the nominative). SFs "may occur only in the predicates of superficially verbless sentences [(33)], or after the verb *byt'* 'to be' in the past, future or imperative forms, as in [34]" Siegel (1976a, p.17):

(33) a. Nasha molodezh' talantlivaja (LF) i trudoljubivaja (LF).
b. Nasha molodezh' talantliva (SF) i trudoljubiva (SF).
'Our youth is talented and industrious'

(34) a. Zimnie nochi budut dolgimi (LF).
b. Zimnie nochi budut dolgi (SF).
'The winter nights will be long.'

3.2 Long Form versus Short Form: Semantics

Siegel notes that although short and long forms usually alternate in predicate position, their semantics is different.

(35) a. Studentka umna (SF)
b. Studentka umnaja (LF)
'(The) student (is) intelligent'
(36) a. Oleg umen (SF)

b. Oleg umnyj (LF)
'Oleg (is) intelligent'

In (35a), the student is understood as just plain intelligent, whereas in (35b), the student is understood as intelligent for a student. Similarly, (36a) asserts that Oleg is just plain smart, whereas (36b) is understood as saying that Oleg is a smart something (smart painter, smart student, etc.). Siegel understands this in terms of the absolute-relative distinction embedded in the t///e versus CN/CN classification. The former attribute absolutely. The latter attribute relative to the noun.

Siegel notes that the behavior of predicative adjectives in scientific statements seems to support the idea that absolute vs. relative predication is what's crucial here. "Scientific laws and similar statements invariably contain short-form adjectives or verbs, and not long-form adjectives in predicate position. Sentences with infinitives or certain quantifier phrases as subjects also disallow long forms in the predicate." (Siegel (1976b, p.297)[1]

(37) a. Prostrantsvo beskonechno (SF)
b. *Prostrantsvo beskonechno (LF)
'Space is infinite'

(38) a Prixodit' domoj ochen' prijatno (SF)
b. *Prixodit' domoj ochen' prijatnoe (LF)
'To come home is very pleasant'

(39) a. Vse jasno (SF)
b. *Vse jasnoe (LF)
'Everything is clear'

This is explained if LF adjectives require a relative reading. As a scientific generalization, space is infinite cannot be understood as saying that space is infinite as space. The predication of infiniteness is meant to be absolute. Similarly, in a universal quantification like (10), we understand the predication as absolute, not relative, hence the short-form not the long form.

3.2 Russian and Siegel's Theory

Siegel's proposals for Russian are similar to her proposals for English. The idea is that Russian SF adjectives are uniformly predicative, and Russian LF adjectives are uniformly attributive (CN/CN). So short-form adjectives are always understood absolutely, whereas long-form adjectives are always understood relatively.
Without further additions, S.'s theory predicts that SF adjectives should only occur predicatively, whereas LF adjectives should only occur attributively. This is not quite

[1] Although Siegel provides no citation, the examples in (37)-(39) appear to drawn from Babby (1973), who provides citations from Russian sources and who also notes their significance for the point at hand.

right since, as we have seen, LF adjectives occur predicatively. To handle this possibility, S. simply allows for a category-changing rule that converts a CN/CN into a predicate nominal, by (in essence) combing it with a null noun.

The fact that LF adjectives in predicate position are understood relatively and not absolutely is now directly explained; these are derived by combination with an empty noun. So they are always understood: "is a ADJ one", where the content of 'one' is presumably reconstructed from context. The proposal that Russian long-form adjectives in predicate position combine with a null noun is due to Babby (1973,75).

3.3 Predictions of Siegel's Theory for Prenominal Adjectives

One very noticeable feature of Siegel's thesis and 1976 article is the complete lack of discussion of prenominal adjectives in Russian, and the absence of any examples of the construction. We are told that prenominal position permits only long-form adjectives. We are told that long-form adjectives are interpreted uniformly as relative/reference-modifying. But no data is given supporting these claims with prenominals. This absence is puzzling since, on reflection, Siegel's theory appears to make two rather remarkable predictions, which, if confirmed, would lend dramatic support to her theory.

First, Siegel's theory seems to predict that Russian equivalents of *red, sick, infinite, portable, nude, tall, aged, angry, carnivorous* - adjectives that are unambiguously intersective in English - should simply be banned from prenominal position. Thus it should be impossible in Russian to express (40a-i) using attributive constructions, and mean what one means in English:

(40) a. red fruit (similarly *white house*, *blue liquid*, etc.)
b. sick child
c. aged/old man
d. infinite area
e. portable toilet
f. nude woman
g. tall soldier
h. angry postal worker

The source of this prediction is straightforward. If prenominal position requires long-form adjectives, and if long-form adjectives must be understood relatively/non-intersectively, then (40a-i) should be excluded, or at any rate should be excluded with the meanings they have in English.

Second, Siegel's theory predicts that, quite unlike English, prenominal adjectives in Russian should never be ambiguous between intersective and non-intersective readings. Thus the Russian equivalents of (41a-e) below show not allow the readings marked with a '#' . The examples should not be ambiguous like their English counterparts.

(41) a. an old friend
#'an aged friend'
'a long-time friend'
b. a beautiful dancer
#'a dancer who is beautiful'
'a dancer who dances beautifully'
c. a good king
#'a king who is good' (as in, Good King Wencelas)
'a king who rules well'
d. a clever applicant
#'an applicant who is clever'
'an applicant whose application was clever'
e. a true explanation
#' an explanation that was true (i.e., correct)'
'a genuine explanation'

Again, since prenominal position requires long-form adjectives, and LF adjectives must be understood relatively/nonintersectively, then only the nonintersective reading of (41a-e) should survive.

I have gathered preliminary data from one Russian speaker, Yelena Dzhulay, an undergraduate student working in USB Linguistics Dept. I asked Ms. Dzhulay for Russian forms in the context of a sentence of the form "He/she/that/there is a(n) ADJ N" ("That is a red fruit", "He is a happy worker", etc.) Ms. Dzhulay was able to provide Russian equivalents for all of the examples in (40) except (40e); she simply wasn't able to think of the Russian equivalent of *portable*. Here are the counterparts:

(40') a. krasnyi (LF) frukt (SF: *krasen*)
red fruit
b. bol'noj (LF) reb'onok (SF: *bolen*)
sick child
c. stanyj (LF) mujchina (SF: *stan*)
aged/old man
d. beskonechnaja (LF) ?? (SF: *beskonechno*)
boundless area
f. golaja (LF) jenshchina (SF: *gol*)
nude woman
g. vysokij (LF) soldat (SF: *vysok*)
tall soldier
h. zloj (LF) rabochij (SF: ??*zloj*)
angry worker

i. vas'ol (LF) rabochij (SF: *vesel*)

happy worker

According to Dzhulay, the Russian forms are fully grammatical and mean the same thing as the corresponding English forms. Thus *krasnyi frukt* means 'red fruit', etc.

I also gathered data from Ms. Dzhulay regarding potentially ambiguous nonintersective/ intersective forms. Again the facts seem to show that the Russian prenominal forms show the same ambiguities as their English counterparts. Ms. Dzhulay judged all of the following ambiguous in the way indicated:

(41') a. stanyj (LF) drug
old friend
'a long-time friend' or 'an aged friend'
b. krasivyj (LF) mal'chik
beautiful dancer
'a dancer who dances beautifully' or 'a dancer who is beautiful'
c. xoroshij (LF) korol'
good king
'a king who rules well' or 'a king who is good'
d. umnyj (LF) student
smart student
'a student who is smart as a student' or
'a student who is smart(at life)'

Ms. Dzhulay remarked that the nonintersective reading was generally preferred and constituted the first one that came to mind in each case. (This is also true for English BTW). But she said that the intersective readings were also possible.

These data are to be understood as preliminary, of course, but if they are borne out, they indicate that long-form status does not correlate with nonintersectivity. Let's suppose that these data are corroborated, and the predictions of Siegel's theory are not fulfilled for the attributive constructions. Then a number of interesting consequences follow.

3.4 What Long-form Morphology Shows and Doesn't Show

If Russian prenominal adjectives can have intersective interpretation, then we must conclude at least the following:

- Long-form marking of Russian adjectives does not correlate with nonintersective semantics.

What this means, then, is that the range of interpretations found with prenominal adjectives in Russian is basically identical to what is found in English. We get intersective and nonintersective readings with prenominal adjectives in English. The

same is apparently true in Russian.

These facts can, of course, be accommodated within Siegel's general approach. She can simply deploy the same kind of category-changing apparatus for Russian that she uses for English prenominal adjectives. This apparatus allows a predicative/intersective adjective to appear in prenominal position. But note that such a move will undermine the central point that Siegel is trying to make with the Russian data, viz.: that it provides direct grammatical evidence for her dismemberment of the category A. In fact, Russian ultimately appears to offer no more support for the division of A than English does.

3.5 Long-form Predicate Adjectives Should Allow Intersective Readings

Our results with Russian prenominal adjectives entail that *ceteris paribus* long-form adjectives should show intersective readings even when in predicate position. Thus consider Studentka umnaja (LF) 'the student is intelligent'. We can understand *umnaja* as 'intelligent as a student' . This follows for Siegel because *umnaja*, as a CN/CN modifier, needs a zero CN to combine with in order to yield a CN predicate. Combining with that null CN yields a nonintersective result:

But if an intersective reading is possible with prenominal long-form adjectives in cases like *umnyj student*, 'intelligent student,' then there is no reason why that long-form adjective shouldn't be able to combine with null CN and take an intersective reading.

Thus if the facts with prenominal As are as they seem to be, and if the absolute reading is equated with the intersective reading, then Siegel's theory has lost its hold on the facts in (42) and (43) discussed earlier (and repeated below). The claim was that the SFs are read absolutely/intersectively, and the LFs are understood relatively/nonintersectively:

(42) a. Studentka umna (SF)
b. Studentka umnaja (LF)
'(The) student (is) intelligent'

(43) a. Oleg umen (SF)
b. Oleg umnyj (LF)
'Oleg (is) intelligent'

But if LFs can be understood intersectively, the central prediction is no longer made.