

Like: the Discourse Particle and Semantics

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Abstract

Using data from interviews with high school students, I first adduce evidence that lends support to Schourup's (1991) claim that the U.S. English adolescent hedge *like* is a discourse particle signaling a possible slight mismatch between words and meaning. Such a particle would generally be included in a grammar in a post-compositional pragmatic component, but, surprisingly, *like* also affects basic semantic attributes. These include both truth-conditions and the weak/strong distinction - though only in existential *there* and sluicing sentences. I argue that the differential behavior of *like* in various constructions selecting weak NP's stems from the restricted free variable it introduces, a variable which only *there* and sluicing require. This variable is available for binding, quantifier interpretation and other syntactic-semantic processes, yet is pragmatically conditioned. Indeed, I show that, due to its formal properties, *like* can be interpreted only during the assignment of model-theoretic denotation to expressions, along the lines of Lasnik's (1999) pragmatic haloes. These results support the idea that weak/strong is not a unitary distinction and suggest that the various components of grammars must be organized to allow information from pragmatic/discourse elements to affect basic compositional semantics.

1. INTRODUCTION

Linguists have argued about the components of grammar and their interactions since the beginning of modern linguistics. Current areas of controversy include the question of how to include discourse-related information in a rigorous semantic theory. The major proposed solution is DRT (Discourse Representation Theory), which provides a level of Discourse Representation, either as input to formal semantic interpretation in the style of Kamp and Reyle (1993) or Heim (1982) or operating in tandem with it, as in dynamic semantics (Groendijk and Stokhoff 1991; Chierchia 1992; Muskens 1996). It has been hard to gauge the importance of such a level because a great deal of the original evidence for DR and dynamic semantics comes from extended discourse anaphora, specifically donkey sentences and the like, and E-type pronouns (Evans 1980) often provide an alternate account of these phenomena that doesn't necessarily require DR's or dynamic binding. However, more recently accounts of other phenomena whose analyses require the incorporation into the semantics of discourse-related information, but are not susceptible to an E-type pronoun analysis, have begun to accumulate: focus (Rooth 1992; Romero 1998), pseudoclefts (Heycock and Kroch 1999), connectives and ellipsis (Romero 1999; Hardt 2000), and even "pragmatic haloes" that figure in semantic interpretation (Lasnik 1999). In this article, I present another such phenomenon: A widespread but peculiarly contemporary use of the word *like* in the United States has nothing to do with extended anaphora, is unarguably discourse related, and interacts crucially with semantic interpretation. In particular, it allows NP's with strong determiners to appear in some Definiteness Effect (DE) contexts that require weak ones¹, namely sluicing and existential *there* sentences, by providing a variable

which will be available for binding. Moreover, *like* can actually change the truth conditions of many sentences in which it appears. Yet even DRT and dynamic semantics do not provide an adequate analysis of *like*'s behavior. I will claim, therefore, that *like* adds to the evidence that there is something wrong with how we view the interactions of the components of grammar.

The kind of *like* I will be treating can be described as a sort of a hedge² favored by adolescent girls in the U.S., as in (1), which was produced spontaneously by my daughter at thirteen. (Throughout this paper, examples which I have actually observed in spontaneous speech are marked “observed.” Although I have learned the *like* dialect quite well from my children and students, I have checked the judgements throughout with my young informants listed in the Acknowledgments section.)

- (1) She isn't, like, really crazy or anything, but her and her, like, five buddies did, like, paint their hair a really fake-looking, like, purple color. (observed)

I am not including as part of this construction another contemporary nonstandard use of *like* which can be paraphrased as ‘say,’³ as in (2), or the much older (and perhaps fictional, according to Schourup (1991)) “beatnik” use that would allow (3).

- (2) She was like “Get out of here.”

- (3) Like, wow, man.

Rather, the construction I have in mind is solely the one illustrated in (1). It is sometimes

identified as a feature of “Val-Talk” (Demers and Farmer 1986) and was apparently first noticed by linguists such as Demers and Farmer (1986, p. 183) and Underhill (1988) among certain young female California speakers 15-20 years ago. Schourup (1991, p.183) points out that, while the hedge *like* itself is relatively new in English, there have been similar usages attested for centuries and that other languages also use a word meaning ‘like’ as a similar sort of discourse particle. Nevertheless, this sort of *like* is still considered non-standard. Some scholars who investigated it when it had just appeared in California expected it to disappear again rather quickly. Underhill, for instance, describes it as becoming archaic in California in 1988. Contrary to such predictions, *like* has persisted and spread in California and all over the country, and many columns in the mainstream press regularly decry its use (Lewis and Stanton 1996; Johnson 1998; Mehren 1999; Levey 1999). Yet the “Valley Girl” *like* remains widespread and very robust. During a recent oral survey of honors high school students in a suburban Philadelphia high school, 14 of the 23 respondents (plus the teenaged interviewer) used the hedge *like* at least once, and many a good deal more than once (see Figure 1), even in a tape recorded interview, a format in which it has been found by Broen and Siegel (1972) that speakers use fewer discourse particles than they would ordinarily.

In the following sections, I will show that *like* qualifies as a true discourse particle, yet has serious semantic effects, and evaluate the significance of these facts about *like*’s behavior. In Section 2, I will consider previous treatments of *like* and investigate in more detail *like*’s behavior as a discourse particle. In Section 3, I will explore the significance of *like*’s effects on NP’s with strong determiners and on truth conditions. Section 4 will provide an analysis of the semantics of *like*, and Section 5 will be a summary and a discussion of implications for theories

of grammar.

2. *LIKE* AS A DISCOURSE PARTICLE

Like clearly isn't a member of the discourse-related category most widely treated in formal grammar - the discourse connectives. Discourse connectives belong to recognized parts of speech and express relationships among sentences in a discourse, like conjunctions and adverbials such as *but*, *although*, *before*, *because*, *however*, *moreover*. (See, for instance, Schiffrin (1987), Redeker (1990), Reiber (1997), Grice (1989), Bach (1994)). Rather, *like* falls in with words like *um*, *oh*, and *well*, which started out being called fillers in MacClay and Osgood (1959) and then, as their meaning and role in the sentence was gradually recognized, came to be classified as interjections (James 1972), then as subclass of discourse markers dealing with information from participants (Schiffrin 1987), and more recently as "evincive" discourse particles (Schourup 1991) and "cue words" (Hirschberg and Litman 1993). In the works cited here and in others, two facts about these discourse particles become clear: First, they have no apparent grammatical relation to the sentences in which they appear, and, second, contrary to prescriptivists' accusations, they *do* have a meaning, in that they seem to convey something about the speaker's relation to what is asserted in the sentence. This role of conveying something about the speaker's relation to the content of the sentence is shared not just by interjections such as *oh*, *ah*, *um*, *well*, and *y'know*, but also by some adverbial expressions like *frankly*, *obviously*, *so to speak*, *as it were*, *loosely speaking* (Kay 1979, cited in G. Lakoff 1987) and even, perhaps, some of the discourse connectives. (Grice 1989; Reiber 1997) This semantic/pragmatic role has variously been described as higher order speech acts (Grice 1989), mediators between mentality

and the real world (R. Lakoff 1974), part of a participation framework (Schiffrin 1987), tacit performatives (Reiber 1997) or evincive (Schourup 1991).

Like shares both qualities of discourse particles; it has no defined grammatical role and seems to convey something about the speaker's relation to what is asserted in the sentence. First, as (1) and (4) below indicate (and as Underhill (1988) and Schourup (1991) show more systematically) *like* can, like other discourse particles, appear - surrounded by pauses - pretty much before any constituent and have scope over that constituent, indicating the lack of a fixed grammatical role.

(4) They're, like, representatives of their whole, like, clan, but they don't take it, like, really seriously, especially, like, during planting season.

Second, although speakers may balk at first at defining *like*, my own casual research and Schourup's much more formal study show that speakers of a dialect that uses the *like* in question can define it if they concentrate on the task. The definitions they come up with are consistent with expressing something about the speaker's relation to what is being asserted in the sentence.

(5) – (9) include some examples of students' generalizations about the meaning of *like*:

(5) What I'm about to say is the best way I can come up with to word what I want to say, but I'm not really sure it's exactly right. (my older daughter, then 14)

(6) (Schourup's (111)) Speaker is unsure of how to say what he means.

(7) (Schourup's (112)) hesitant to say what you know

(8) (Schourup's (113)) gives the speaker room for qualification

(9) (Schourup's (114)) expects the listener to fill in

Based on his data, Schourup comes up with a formulation of *like*'s meaning that attempts to subsume all the intuitions in (5) - (9) and account for observed uses of *like*:

(10) Schourup's definition (p. 42):

like is used to express a possible unspecified minor nonequivalence of what is said and what is meant.

I will be adopting this definition and attempting to formalize it in Section 3. We will see then that although *like* is certainly a discourse particle and its definition allows it to convey the speaker's non-committal attitude toward what she is saying, in fact this definition just as certainly confers upon *like* the ability to alter important semantic aspects of sentences in which it appears.

2.1. Previous Analyses of Like

Aside from Schourup (1985), the only previous detailed published treatment of *like* that I

know of is Underhill (1988). Underhill analyzes *like*, not as a discourse particle like *oh*, *ah*, *um*, and *well*, but as “a marker of new information and focus” (p.234). There are, however, several problems with this analysis. First, since Underhill himself recognizes that numerical expressions with *like* are not always focused, he analyzes the use of *like* with numbers as an entirely separate use from the hedge *like*. His claim is that with numbers *like* is not a focus marker because it merely means ‘approximately’ or ‘about’; it’s not discourse-related at all. However, *like* is not exactly a synonym for *approximately* or *about* even with numbers (Schourup 1991, p. 39 ff.); it clearly has different discourse properties, since utterances with *about* and with *like* have different permissible responses, as in (11) and (12):

(11) He has about six sisters.

- a. ?Yes, he has exactly six.
- b. Yes, he has about six.
- c. No, he has exactly six.
- d. #No, he has about six.

(12) He has, like, six sisters.

- a. Yes, he has exactly six.
- b. Yes, he has about six.
- c. ?#No, he has exactly six. (Good only as a sort of prescriptive correction; speaker shouldn’t have used the word *like*.)
- d. #No, he has about six.

The facts in (11) and (12) are exactly as predicted, though, by Schourup's definition in (10), which has the further virtue of accounting at once for both what I've have been calling the hedge *like*⁴ and the so-called approximation *like*. In (11) the speaker asserts that he has *about* (approximately) six sisters, so it is odd for the listener to try to agree in (11a) that 'Yes, he has *exactly* six' since she is actually disagreeing with the approximate (11). On the other hand, in (12), if *like* is a discourse particle as described by Schourup, the speaker asserts merely that he has six sisters, adding only a sort of warning to the listener of some *possible* minor non-equivalence between six and the correct number. Consequently, (12a) is a reasonable way to agree with (12), but (12c) sounds odd as a denial since the speaker in (c) is actually agreeing with the speaker of (12).

Even when *like* isn't used with numbers, though, it seems to operate more as the pragmatic discourse-processing particle Schourup describes, not as a focus marker. Some speakers use *like* so many times in fairly short sentences such as (1) and (4), that it is hard (though perhaps not impossible) to imagine that all those items could be focused. More definitively, there are plenty of sentences in which *like* appears with a constituent that clearly does not bear the main focus. In (13) for example, HOT PINK MINI-SKIRT is the head of the focused NP (It is new and attracts the scope of *even*), while *little buttons* (not new and not attracting the scope of *even*) is marked with *like*, apparently because of the speaker's difficulty in describing the "little buttons" to her satisfaction. Similarly, in (14) FREE TRIPS TO NEW YORK is focused and attracts the scope of *even*, but *favorite students* is appropriately marked with *like*:

(13) Nate has terrible taste. He likes ugly clothes with small round objects sewn on them. Yesterday, he even said I should wear a HOT PINK MINI-SKIRT with, like, little buttons on it.

(14) That teacher is so unfair. She plays favorites in a big way. She even gives her, like, favorite students FREE TRIPS TO NEW YORK. (observed)

One has to conclude that if *like* seems to mark new or focused material, it is because that is the material that speakers are most likely to be insecure about describing accurately and therefore will be most likely to evoke Schourup's discourse particle. Certainly *like*'s being a focus marker cannot explain its ability to interfere with the Definiteness Effect only in sluicing and existential *there* constructions or to change truth conditions (see Section 3 below), while an analysis based on Schourup's translation in (10), I shall argue (in Section 4), can.

2.2. *Parallels with oh, um*

Like, then, does not mark focus. Instead, Schourup demonstrates, *like* tends to appear at points of lexical indecision like other discourse particles. Maclay and Osgood (1959) showed that fillers like *um*, *oh*, and *well* occur with greater frequency at junctures where possible lexical variation is the greatest, before *like* was even commonly used as a filler. Schourup demonstrates that *like* similarly occurs with the greatest frequency in positions of great lexical indecision such as "a) preclausally but after prefatory material; b) before filled and unfilled pauses; and c) before restarts" (p. 54) but that *like* "is odd in positions in which a pause to consider how to continue

would be unmotivated.” These positions include within idioms, negative polarity items, or multi-word expressions and before lexically empty or easily formulatable material :

(15) *They were always keeping, like, tabs on me.

(16) *I can't, like, stand him. (Compare: I can't, like, appreciate him.)

(17) *Tony looked the number, like, up.

(18) *She, like, is a dentist. (Compare: She, like, practices dentistry.)

(19) * I wouldn't want, like, one. (Compare: I wouldn't want, like, a tattoo.)

(20) *A woman, like, who was wearing a fur coat came in. (Compare: A woman, like, wearing a fur coat came in.)

(21) (Schourup's (103)) Q: Were you born in Austria?

A: *Like, no.

Similarly, since the subject of a sentence is frequently an established topic in the discourse and therefore relatively easy to come up with a description for, *like* is unusual, but not impossible, as an introduction to the subject. Sentence-initial *like* is most often taken to have scope over the

entire sentence, but may be taken as applying to the subject if the speaker can reasonably be having difficulty introducing it. (22) below, for instance, seems to be ambiguous. *Like* can have either subject scope, in an answer to A., or sentential scope, in an answer to B.:

(22) Like, a sort of mini-tornado knocked the tent over.

A. What knocked the tent over?

B. What else went wrong on your camping trip?

Consistently, though, *like*, like other discourse particles (as well as modifiers like *almost*, *nearly*, *virtually* (Morzycki, 2001)), scopes directly to the right. It cannot, for instance, be attracted to focus like *even*. In (23) the *like* clearly applies to ‘a teacher who’ as well as to ‘really listens,’ while *even* in (24) applies only to the focused ‘(really) LISTENS.’

(23) She’s, like, a teacher who really LISTENS. (observed)

(24) She’s even a teacher who really LISTENS.

Also like other discourse particles, *like* is transparent to belief contexts and quantifier scope. In (25a) below, the *like* expresses that there may be a minor nonequivalence between what is said and the *speaker’s* meaning, not Lexi’s or Miriam’s. In (25b), though, the implicatures associated with *even* will most likely be attributed Miriam. This follows the pattern of *um*, which also has to be the speaker’s hesitation. Similarly, (26) has all the same readings (with either subjects or objects taking wide scope) with or without the *like’s* or *um’s*, while in (27), *even* seems to block

the object NP from having wide scope :

(25)a. Lexi thought that Miriam said that Xuan, $\left\{ \begin{array}{l} \text{um} \\ \text{like} \end{array} \right\}$, plays the violin.

b. Lexi thought that Miriam said that Xuan even plays the violin,

(26) Every doctor was working on, $\left\{ \begin{array}{l} \text{um} \\ \text{like} \end{array} \right\}$, some patient. (AMBIGUOUS)

(27) Every doctor was even working on some patient. (WIDE SCOPE SUBJECT ONLY)

2.3. *Who Uses Like and why?*

All this suggests strongly that *like* is a true discourse particle, pragmatically conditioned and interpreted. In most contexts it doesn't seem to interact with the syntax or semantics of the sentence, and its occurrence is best predicted, not by structural or even lexical factors, but by processing factors like lexical indecision, and perhaps, many teachers and journalists (Mehren 1999) - as well as many of my students - seem to believe, social and psychological factors. Indeed, Schourup's translation of *like* in (10), that it expresses "a possible unspecified minor nonequivalence of what is said and what is meant," might be expected to predict that speakers who are insecure about the accuracy of their assertions would be most likely to use the expression, by way of apologizing in advance for any errors. It is hard to test this prediction, as the only large scale evidence about who is likely to use *like* is merely anecdotal: U.S. English speakers I've asked and newspaper columnists (Johnson 1998; Lewis and Stanton 1996) certainly seem to believe that *like* use is most prevalent among very young women, and very young

women often seem not to be confident about their assertions. It's well documented that in general women make much greater use than men of devices that soften assertions or requests (R. Lakoff 1975; Tannen 1991), and programs aimed at eradicating the *like* treated here from female students' speech take for granted that the use of *like* makes the students sound unconfident and unintelligent (Mehren 1999). My own small collection of data confirms that females use *like* much more than males, but suggests a slightly different interpretation of this fact: My data show that the use of *like* to mark lexical indecision correlates with taking little time to plan an utterance. While there's no way to know why some speakers may choose to speak before they have their utterances completely planned, it's certainly possible that speakers do this when they feel comfortable and informal, rather than just insecure. Redeker (1990), for instance, found that all speakers use more such discourse particles when they are speaking informally with friends than when speaking more formally with strangers.

I studied tape-recorded interviews of 23 suburban Philadelphia honors high school students. Each subject was asked "What is an individual?", a question that doesn't lend itself to easy answers. In order to maximize the chances of the students' using *like*, the interviews were conducted in natural high school settings - hallways, classrooms, even the girls' locker room - by my 15-year-old daughter, with students that she knew. Although this introduced some undesirable variables into the study - some students who were in groups heard the question minutes before they got to answer it - it turned out to be the best way to ensure that students would use *like* as freely as possible. As Broen and Siegel (1972), Shiffrin (1987) and Redeker (1990) found, people use far fewer discourse particles in unfamiliar, formal, or uncomfortable situations, including taped interviews, and Schifffrin (1987, p. 42) discusses the advantages of

holding interviews in groups. I conducted a few pilot one-on-one interviews in a controlled setting but abandoned this methodology when it yielded very little use of *like*. Figure 1. below shows the use of *like* in complete responses to the question “What is an individual?” by gender in the high school survey, and it confirms the observation that use of *like* is much more prevalent among the girls than among the boys.

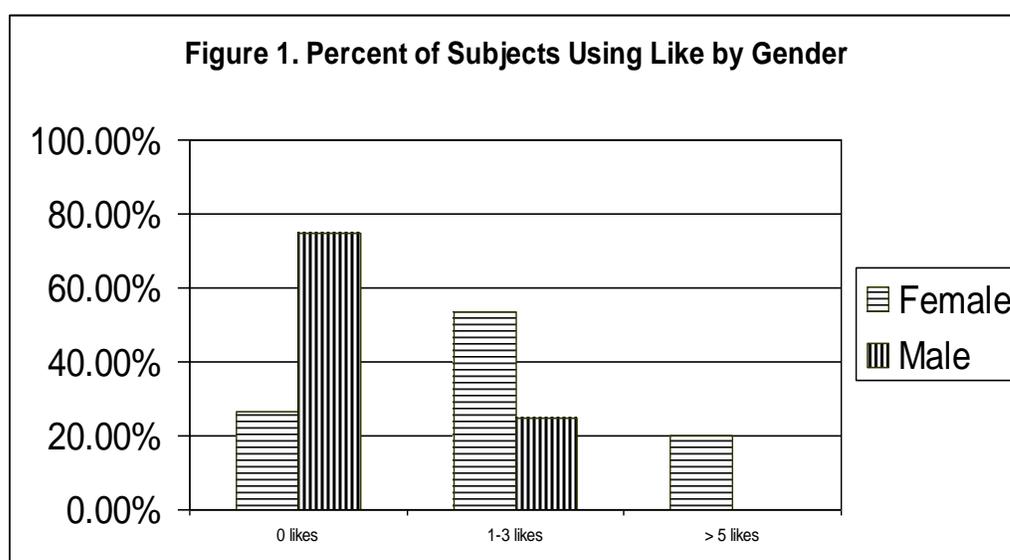


Figure 1. Percent of Subjects Using Like by Gender

Although the young men may not use *like* as much as the young women, they do know the construction; two of them used it, and their judgments about sentences with *like* match those of their female classmates. We can learn more about who uses *like* and why by looking at individual cases. Let’s begin with the two out of eight boys who did use *like*, Male 2 and Male 4:

(28) **Male 2:** There's, like, a lot of little groups that follow each other around.

(29) **Male 4:** What is this [the interview] for?

Female interviewer: Mastriano (name of teacher)

Male 4: Oh, like, the midterm thing? Like, repeat the question?

Female interviewer: What is an individual?

Male 4: Oh, wait, I got it.. I'm thinking....All right, I got it! ...Um, I think that an individual is someone that's completely – Byrne's got to shut up – I think that an individual is someone that's completely autonomous in themselves and has no relations to anyone else. I'd say that we're all slaves to conformity within LM and even myself. It's sad, no one is an individual, the fact that we are all influenced by everyone else.

(30) **Male 7:** Individualism is a lie. Everyone's basically the same. The belief that people are individuals, people just make up so they feel special about themselves...Thank you.

Male 2's use of *like* (his only one, coming at the start of a fairly long response) seems pretty typical of any *like*-user, male or female. He is just starting a response that probably isn't fully planned yet and may not be sure that he is succeeding in saying exactly what he means. Similarly, Male 4, the only male to use *like* more than once, used it only in initial questions and requests aimed toward clarifying the (female) interviewer's position. Once Male 4 understood the

circumstances of the interview, he explicitly demanded time to think and finally gave a confident and *like*-less answer, which is fluent except when he has to demand silence for his performance from his friend Byrne. His ultimate answer is much like those of the other male respondents, represented by Male 7, who seemed to delay replying until they had an answer fully formed as almost a set piece; Male 7's final "thank you," for instance, was typical and would seem to indicate the end of some kind of performance.

The young women patterned similarly, in that the greatest concentration of *like*'s appeared toward the beginnings of answers when the girls couldn't have been sure yet what they were going to say. Some girls came close to explicitly glossing their *like*'s with all the definitions offered in (5) - (9) as they planned aloud, as in Female 1's response below to the question "What is an individual?":

- (31) **Female 1:** someone that doesn't...I don't know. It's, like... I get it, um, that, like...an individual dresses in their own style. They don't care...I'm trying to think aloud...An individual is one who'll do... [Others encourage her to complete her answer] I can't, I'm thinking.... An individual...I'm trying to think of the words. I know what I'm trying to say...who does what they want, who doesn't let other people influence them.

Many of the *like*-users appeared more fluent, though. Female 14, for instance, who had by far the largest number of *like*'s, is not a high school student now at all, but a recent graduate of the high school where the survey was conducted. During her response to the survey, partially reproduced

below, she was surrounded by younger girls on a sports team of which she is the beloved former captain and seemed to feel quite comfortable, that is, comfortable enough to start speaking without advance planning and to search openly for words during her response. She holds forth for her admiring audience for a good deal longer than I have transcribed here and with a great many more *like*'s:

- (32) **Female Interviewer:** Do you think that, um, people who do hang with one little clique become less individual?
- (33) **Female 14:** Um, I think that in some cliques they do, where it's, like, you have to act in a certain way to hang with them, but I think in, like, sports it's different because it's just people who, like, all came together because of one common interest, but they're different in, like, all other ways, so, like, become in different ways. But people who became friends because, like, they all had the same clothes or something, like, they're not very individual.

The girls who didn't use *like* as much gave signs, like the boys, of taking time to gather their thoughts, like Female 10 below, or seemed to be delivering a pre-composed response, like Female 12, who spoke after listening to two of her friends answer.

- (34) **Female 10:** Miriam, I have to gather my thoughts on this, and I wanna hear what other people said...An example of not being an individual was on Hallowe'en

when all those girls dressed up as Hooters waitresses...

- (35) **Female 12:** I think that everyone is an individual because everyone is different, and you can be an individual as part of a group as long as being part of that group doesn't cause you to lose sight of your own personality and your own preferences and your own expression of yourself. There! That's pretty good.

Indeed, if we plot the time the students took to start their responses after hearing the question against the number of *like*'s in their response, we find that more planning time results in a reduction of *like*'s in the high school students' speech, as shown in Figure 2 below.

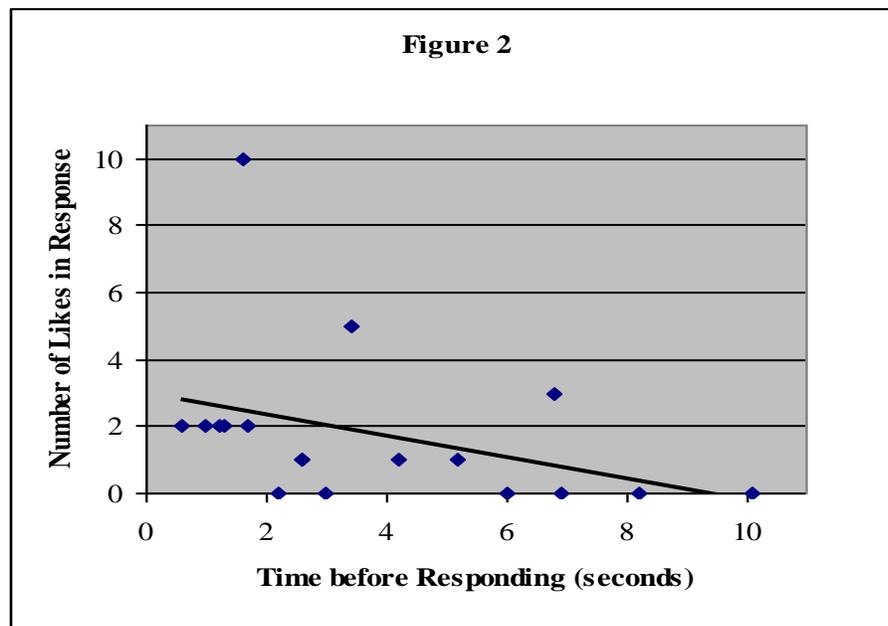


Figure 2.

The negative relationship between *like*'s and the time before responding shown Figure 2

is statistically significant at the 10% level. Figure 2 includes data only from current high school students who were allowed to choose when they would respond. It does not include the college freshman who used more than three times as many *like*'s as any of the high school students, although she displayed the expected very short time before responding (1.9 seconds). It also does not include the four students (two female and two male) who were forced to wait more than a minute while they listened to others' responses, although their responses were, as predicted, *like*-less. These findings that high school students of both genders tend to use *like* more when they haven't taken enough time to plan their utterances carefully (either because of unavoidable difficulties in wording or just a feeling that it's OK to wing it among friends) are consistent with much larger and more rigorous studies of discourse particles in general, which show that discourse particles occur more frequently in informal speech. The girls in my study may have foregone the extra planning time that the boys took because they viewed the survey situation with a female interviewer as comfortable and informal. Happily, if girls use *like* more than boys, it may indicate as much a gift for intimacy and spontaneity as insecurity.

3. *LIKE* AND SEMANTICS

Whatever social or psychological circumstances prompt the use of *like*, it is quite clear that those circumstances have to do with the real-time situation of producing and processing the utterances. The ability of *like* to appear in just about any position in the sentence that is characterized by some degree of lexical indecision, its failure to change the main assertion of a sentence ((11) - (12)), its transparency to belief contexts and scope ((25)-(27)), as well as its wide variation in frequency with gender and social situation all suggest strongly that *like* is

merely a discourse particle, to be dealt with quite separately from the core semantics of the sentence in which it occurs. Elements that affect only discourse issues like information packaging are typically assumed to be treated as merely superficial, even phonological, post-interpretation effects to be dealt with in a post-composition pragmatic component, or even on the PF branch of standard grammars. But *like* does interact crucially with the core semantics in two ways: Its effects will have somehow to be available to the mechanisms that supply interpretations for quantifiers and assign truth conditions.

Like's first semantic effect is that it seems to have the ability to weaken strong determiners. That is, in sluicing and in existential *there* sentences, two constructions that, it has been claimed, require weak determiners or indefinite NP's (Chung et al 1995; Milsark 1974), *like* makes strong determiners acceptable for speakers who use the hedge *like*.

Sluicing

- (36)a. *They spoke to every student, but we're still wondering (exactly) who.
 b. They spoke to, like, every student, but we're still wondering (exactly) who.

- (37)a. *The principal suspended the school bully; we'll have to wait to find out (exactly) who.
 b. The principal suspended, like, the school bully; we'll have to wait to find out (exactly) who.

Existential *There*

(38)a. *There's every book under the bed.

b. There's, like, every book under the bed. (observed: Speaker paraphrased this as "There are a great many books under the bed, or the ratio of books under the bed to books in the rest of the house is relatively high.")

(39)a. *There's the school bully on the bus.

b. There's, like, the school bully on the bus. (observed: Speaker paraphrased this as "There is someone so rough and domineering that she very likely could, with some accuracy, be called the school bully; that person is on the bus.")

Even more interesting, this weakening is not merely a surface string phenomenon; affixing *like* before a strong determiner in other constructions said to require weak ones or indefinite NP's does not weaken the strong determiner.⁵

Predicate Nominative

(40)a. * Sharla is every doctor.

b. *Sharla is, like, every doctor.

Inalienable *Have*

(41)a. * Gemma has $\left\{ \begin{array}{l} \text{the} \\ \text{every} \end{array} \right\}$ brother.

b. * Gemma has, like, $\left\{ \begin{array}{l} \text{the} \\ \text{every} \end{array} \right\}$ brother.

Floated Each

- (42)a. *The girls petted $\left\{ \begin{array}{l} \text{the} \\ \text{every} \end{array} \right\}$ dog each.
- b. *The girls petted, like, $\left\{ \begin{array}{l} \text{the} \\ \text{every} \end{array} \right\}$ dog each.

If we consider what might distinguish the constructions in which *like* has its weakening effect (sluicing and existential *there*) from those in which it doesn't (predicate nominatives, inalienable *have*, and floated *each*) it becomes clear that sluicing and existential *there* share one important semantic trait that the others lack: Many, if not most, proposals for their semantic analysis require that the translation of the NP which is subject to the Definiteness Effect be a restricted free variable.

3.1. Like and Sluicing

In the case of sluicing, Chung, Ladusaw, and McCloskey (1995) (CLM) argue that in a sentence like (43) below the sluicing succeeds because the process which recycles material from the antecedent in the first clause for an interpretation of the second can successfully “merge” the interpretation of *who* and *someone* because they are both interpreted as restricted free variables (Chung et al, p. 251):

- (43) (CLM's (26)) Joan ate dinner with someone, but I don't know WHO (with).

[Stress indications mine]

(44) (CLM's (30a)) *She said she had spoken to everybody, but he wasn't sure
WHO.

(45) (CLM's (28a)) ?*I know that Meg's attracted to Harry, but they don't know
WHO.

That is, (43) can be interpreted as 'Joan ate dinner with someone, but I don't know who she ate dinner with' because *someone* introduces a free variable around which the property of being an x such that Joan ate dinner with x can be constructed (CLM, p. 252). On the other hand, sluicing in (44) fails because

such expressions [NP's with strong quantifiers] denote generalized quantifiers.

Consequently, the IP's containing them are quantificationally closed (in the absence of any other expression which might provide an unbound variable), and, when recycled, cannot function as the nuclear scope of the interrogative operator. (CLM, p. 253)

Similarly, sluicing is predicted to fail with a definite NP in the antecedent slot as in (45), since definites introduce no free variable around which a property could be built.

Romero (1998) disagrees with this analysis, arguing that focus in the second clause, rather than the characteristics of the antecedent phrase, determines the grammaticality of sluiced sentences. She seems to be correct that focus can affect grammaticality in sluicing: (46) and (47)

do become much better than (44) and (45) with the focus moved away from the *wh*-phrase, where CLM's data consistently has it:

(46) ?She said she had spoken with everybody, but HE wasn't sure who.

(47) ? I know that Meg's attracted to Harry, but THEY don't know who.

However, it is not entirely true, as Romero claims, that "When the sluiced *wh*-word bears **focus** stress, any kind of DP will be an acceptable ANT-phrase if and only if it **contrasts** with the information asked by the *wh*-phrase." (Romero 1998, p. 28) It's hard to see how the degree of contrast in the information in (48), (49) and (50) predict the variation in the acceptability of the antecedent DP's, since there seems to be the same amount of contrast in each. All that varies is the weak/strong classification of the determiner of the antecedent:

(48) They invited somebody, so we'll have to find out WHO. (WEAK)

(49) *They invited everybody, so we'll have to find out WHO. (STRONG)

(50) They invited, like, everybody, so we'll have to find out WHO. (observed)

(STRONG+LIKE=WEAK)

I'll be assuming, then, that, at least for typical sluices with focus stress on non-contrasting *wh*-

words, CLM are correct that the antecedent phrase must be translatable as a free variable.

3.2. Like *and* There

As with sluicing, many analyses of existential *there* also require that the NP after *there be* introduce a free variable suitable for a property abstraction. First, any analyses that treat *there* sentences as involving an actual existential quantificational operator in the tradition of Milsark (1974) (such as Zucchi (1995) or Grosu and Landman (1998), for instance) would require that the NP introduce a variable that could be bound by the quantifier and allow the NP to be “interpreted as a set expression restricting the quantificational operator in the *there*-insertion context” (Grosu and Landman 1998, p. 153) Such analyses generally use the absence of such a variable in the translations of strong DP=s to explain the DE. In addition, many writers have adapted Milsark’s (1974) tradition and translated *there be* as a predicate like **be-instantiated**, which would felicitously apply only to property-like (or non-particular) expressions, for which a restricted free variable, representing a set that satisfies the restriction, would qualify. (See, for instance Kamp and Reyle 1993, chap. 4; Ladusaw 1994; McNally 1998). Of course, many analyses of *there* sentences exist which do not make the claim that the NP after existential *there* must involve anything like a free variable (Barwise and Cooper 1981; Williams 1984; Higginbotham 1987; Safir 1987; Diesing 1992;) Safir (1987), for instance, claims that it is the *there* that is the variable, and that it is bound by the NP, rather than vice versa . If I argue successfully that the analyses of *there* that do require an NP with a free variable can help explain the behavior of *like* economically, I shall also have given indirect evidence against analyses of *there* sentences that are inconsistent with the NP following *there*’s being interpreted as a restricted free variable.

3.3. Like and Truth Conditions

In addition to doing the apparently semantic job of weakening determiners only in certain, semantically defined, constructions, *like* also has the property, unusual - if not unheard of - in a discourse particle, of affecting truth conditions. Under the condition that Henry actually has five brothers, (51a) below is false, but (51b), with the sole addition of *like*, is true:

(51)a. He has six brothers.

b. He has, like, six brothers. (observed)

Indeed, if a non-*like* speaker responds to (51b) with, “No, he has only five,” a *like* speaker may answer, “Well, I *said* ‘like’” (observed). We can observe the same change in truth conditions without involving numerical values. Under the condition that the couch in question is a dull brownish mauve, (52a) is false, while (52b) is true.

(52)a. The couch is purple.

b. The couch is, like, purple.

Clearly, *like*, although it is a discourse particle, has significant semantic effects on the interpretation of determiners and quantifiers and even on truth conditions. It will have to have a formal semantic interpretation computed in tandem with the rest of the sentence’s semantics, although its occurrence and its interpretations are pragmatically determined.

4. AN ANALYSIS OF *LIKE*

For now, let us assume that both sluicing and *there* sentences require restricted free variables and that *like* introduces such a variable into translations of NP's, even with strong determiners or definite articles. This is intuitively plausible; very informally, *like*'s introduction of a possible minor non-equivalence between what is the case and what is said seems, indeed, to introduce a variable in meaning. The truth may be exactly what the speaker has said or something only very like what she has said. The meaning of expressions with *like* is, then, both disjunctive and variable. As an informal first pass at incorporating Schourup's meaning for *like* (10) into a representation that introduces a restricted free variable, we could consider something like (53) as a representation of the meaning of *like* α :

(53)($z: z = \alpha' \ \omega \ z = \text{something like } \alpha'$) where z is a variable of the same logical type as α' .

(54a), then, could be informally represented as in (54b).

(54)a. Lana hates, like, every coach.

b. **hate (Lana, ($z: z = \text{every coach} \ \omega \ z = \text{something like every coach}$))**

Since *like* can apply to constituents other than NP's (See (1) and (4), or (52) for example), α' and the variable z in (53) will have to be able to range over types other than those that have individuals, kinds, sets of individuals, or sets of sets as their denotations. This is not a serious

problem since such a range of variables is necessary, anyway, to account for anaphora involving pro-forms other than pronouns, such as *such*, *so*, and *do so*. (Carlson 1980; Siegel 1995).

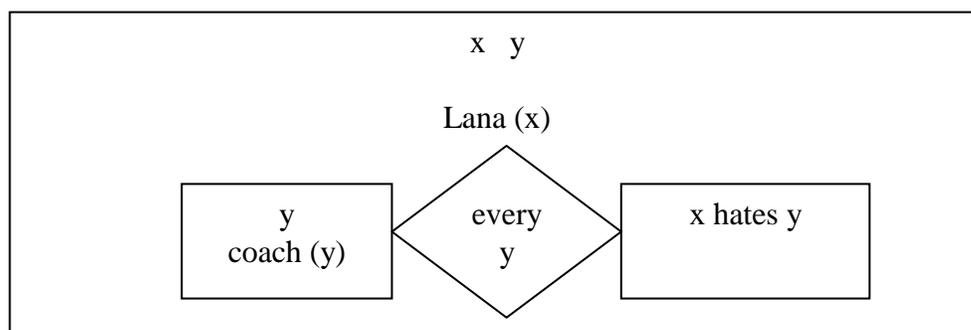
Much more serious is the question of where in the grammar such a representation as (53) could fit. Since it introduces a variable that needs to be available for merging and binding in sluicing and existential *there* sentences and helps determine the interpretation of quantifiers and truth conditions, it will have to provide input to semantics proper. But there is also very strong evidence that *like* is not to be interpreted as part of semantics proper. We saw in Section 2 that *like* is a discourse particle; its very occurrence, as well as the interpretation of what might count as ‘something like α ’ in (53), is conditioned by discourse and pragmatic factors which are not normally a part of compositional semantics. Moreover, any variable introduced by *like* is completely invisible to quantifier scope and belief contexts (See (25 –(27))). So the variable introduced by *like* would have to be both present and not present in the semantics within the usual current organization of grammar. Moreover, we must concern ourselves with how we are to represent the “something like α ” in (53) within ordinary formal model theoretical semantics. Especially if α is a quantified NP like *every coach*, as in (54), we can’t expect to build into our logic what other expressions the speaker may take to be sufficiently similar to a given generalized quantifier in a particular context. As Seuren et al (2001) write, “keying [to context] and reference fixation are cognitive processes in a game of hypothesis and approximation and cannot be part of logical model theory.”(p. 549).

Since *like* is a discourse particle, one might expect that DRT would help in this situation, but it provides no advantage over traditional compositional semantics. In DRT, an NP like *every*

coach in (54) would not even form a semantic unit that could have alternative representations.

Rather, *every* would be represented as a relation between open propositions, as in (55).

(55)



We shall return to these important problems with the interaction of the components of grammar in Section 4.2 after we have explored some of what is to be gained from an account of *like* along the lines of (53).

4.1. Implications of the Informal Account

First and most obviously, (53) captures the generalization about *like*'s meaning that Schourup drew from speakers' descriptions as in (5) - (9): *Like* introduces the possibility of a minor non-equivalence between what is said and what might have been meant as accurate. However, (53) does not explicitly include the various *particular* meanings of *like* that the young speakers identified in (5) - (9), the ones that seemed to report on the speaker's relation to her assertion, as discourse particles typically do: not being sure about one's wording, or hoping the listener will help supply more precise information. But we can now see that these apparent higher

level speech acts about the speaker's relation to her assertion can be characterized as *reasons* that a speaker might decide to use a *like* to warn of a possible mismatch between her words and what she actually meant to say. Of course, the contextually given reasons for choosing a particular expression are not generally part of the grammar; only its common semantic effects are. Further research will have to show whether discourse particles other than *like* with the apparent specialized function of merely commenting on the content of the sentence also have a semantic core like the one for *like* suggested in (53). For now, though, we can assume that the informal representation of *like* in (53) is much as it should be.

Although the account of *like* outlined in (53) is still very rough and raises serious problems about its place in the grammar, it's important to note that even the rough account of *like* in (53) will gain quite a bit for us aside from explaining how *like* improves sluicing and *there* sentences with strong determiners by introducing a restricted free variable. First of all, note that the disjunction incorporated in (53) predicts a paraphrase for *like* which actually behaves as *like* does in discourse. Compare (11) - (12), repeated below, with (56). Recall that *about* in (11), (like *approximately, loosely speaking, or roughly*), does not behave like *like* in (12) because it asserts that the expression it applies to must be approximate. On the other hand, the disjunctive paraphrase for *like* in (56) correctly allows speakers to assert the proposition expressed by the unmodified sentence, while introducing an alternative of approximation, so its discourse behavior correctly mirrors that of the *like* sentence (12).

(11) He has about six sisters.

a. ?Yes, he has exactly six.

- b. Yes, he has about six.
- c. No, he has exactly six.
- d. #No, he has about six.

(12) He has, like, six sisters.

- a. Yes, he has exactly six.
- b. Yes, he has about six.
- c. ?#No, he has exactly six. (Good only as a sort of prescriptive correction; speaker shouldn't have used the word *like*.)
- d. #No, he has about six.

(56) He has six sisters, or something like six sisters.

- a. Yes, he has exactly six.
- b. Yes, he has about six.
- c. ?#No, he has exactly six. (Good only as a sort of prescriptive correction; speaker shouldn't have introduced the disjunction.)
- d. #No, he has about six.

The disjunctive translation similarly explains the change in truth conditions between the (a) and (b) sentences in (51) and (52), repeated below.

(51)a. He has six brothers.

b. He has, like, six brothers. (observed)

(52)a. The couch is purple.

b. The couch is, like, purple.

Naturally, the (b) sentences are true when there are only five brothers or the couch is brownish mauve, since they mean ‘he has six brothers or something like six brothers’ and ‘the couch is purple or something like purple.’

(53), then, correctly predicts the truth-conditional behavior of *like* sentences, as well as explaining why *like* can help definite NP’s or those with strong determiners occur in sluicing and *there* sentences: the *like* introduces a necessary restricted free variable. (53) can also help explain why *like* doesn’t help strong determiner or definite NP’s sound any better in predicate nominatives, inalienable *have*, or floated *each* (See (40) - (42)). The explanation is simply this: As many writers have been arguing from many different points of view (See, for instance, de Jong (1987), Abbott (1997), McNally (1998), Partee (1999), and Musan (1999)), the overlapping weak/strong and definite/indefinite distinctions are not based on one simple distinction or even two, as was first thought, but have several different ingredients. These may include, but aren’t limited to, the presence or absence of a restricted free variable (Heim’s (1982) definition of indefiniteness), formal lexical properties of determiners (Barwise and Cooper 1981; Keenan 1987), syntactic differences (Reuland 1985; Safir 1987; Diesing 1992), differences in information status such as existential presuppositions and hearer-novelty/familiarity, (Rando and Napoli 1978; Woisetschlaeger 1983; Holmback 84; Ward and Birner 1995 ; Zucchi 1995), and differences in time (in)dependence (Ladusaw 94; Musan 1999). Different constructions may

select for different ingredients, producing the well-known variations among what DE constructions actually allow. So, while *like* helps definite NP's and those with strong determiners fit into sluicing and *there* contexts, it can do nothing for definite/strong NP's in contexts that select for an ingredient of indefiniteness/weakness other than a restricted free variable. Predicate nominatives, for instance, clearly do NOT require or even allow the introduction of a variable, although they may have the *form* of an indefinite NP:

(57) Sharla is a doctor.

In (57) one cannot even use “a doctor” as a basis for property abstraction. It makes no sense to talk about the x's such that Sharla is them. Rather, the predicate nominative is, itself, a predicate.

Similarly, sentences with inalienable *have*, while they can correctly be said to require weak or indefinite NP's, do not require merely a restricted free variable, but one that is free of existential presuppositions about the reference set (Partee 1999):

(58) Gemma has a brother.

(59) *Gemma has every brother.

(60) *Gemma has, like, every brother.

Once again in (58), property abstraction on the direct object produces a strange result. (58) does not mean that a brother is among the x's such that Gemma has them, (although it might if *brother* were replaced by *book* so the *have* lost its inalienable quality). This is because the lexical

meaning of inalienable *have* dictates that there is no set of pre-existing brothers of which someone can “have” some proportion of them. Having a brother is entirely relational; Gemma’s brother isn’t a brother without her (or another sibling). Hence, the oddity of (59) is due, not to the absence of a free variable, but to the presuppositional or proportional nature of *every* (Milsark 1974, 1977; Keenan 1987; McNally 1998). Like definite NP’s, phrases with *every* presuppose an already familiar, non-empty set, and this is inconsistent with the presentational semantics of inalienable *have*, as described in detail in Partee (1999). The sentence is no better with *like* in (60) because *like* has no effect on this ingredient of strong expressions; it merely introduces a restricted free variable. Indeed, sentences with *like*, such as (38b), repeated below, still keep the presupposition that there is some non-empty, presupposed set of books that the *every* quantifies over.

(38)b. There’s, like, every book under the bed. (observed: Speaker paraphrased this as “There are a great many books under the bed, or the ratio of books under the bed to books in the rest of the house is relatively high.”)

The floated *each* examples work a little differently, but to the same effect. In sentences like (61) - (63), there is no *semantic* reason that the NP in the DE position could not be represented as a restricted free variable.

(61) The girls petted a dog each.

(62) *The girls petted every dog each.

(63) *The girls petted, like, every dog each.

(61) can actually mean that a dog was among the x's that the girls each petted, and there are syntactic variations of the sentences, even versions with *every*, that sound just fine:

(64) The girls each petted every dog.

This can be explained if we adopt Kamp and Reyle's (1993, p. 449) analysis of floated *each*: that the *each* floated at the ends of the sentences in (61) - (63) is actually a constituent of the object NP and must be licensed by the determiner of that NP. Classically weak determiners such as *a* and *some* have the lexical property of licensing the *each*; traditionally strong determiners like *every* and the definite *the* don't. This would predict that floated *each* sentences, unlike existential *there*, sluicing, predicate nominatives, and inalienable *have*, would show no flexibility whatever about allowing NP's with the "wrong" determiners, and this is borne out. While it's well known that other DE constructions can occasionally be forced to permit so-called strong determiners just as long as they are in special lexical contexts that satisfy their semantic requirements (Woisetschlaeger 1983; Abbott 1997; McNally 1998), I haven't been able to find any way of forcing floated *each* to accept *every*:

(65) There's every kind of cheese on the table. (OK because quantification over kinds makes NP non-particular enough for a context that wants a variable (McNally 1998))

(66) Sharla is everything I ever wanted in a doctor. (Quantified NP is still somehow predicational enough for the predicate nominative construction)

(67) Gemma has the brother I always wanted. (Context builds up the presupposed

non-empty set of brothers that would make the use of *the* felicitous.)

(68) *The girls petted every kind of dog I ever wanted each.

4.2 A More Formal Account of Like

We've now established that *like* allows NP's with strong determiners to occur only in those constructions that select for the non-particular, free variable aspect of indefiniteness/weakness, because it introduces a restricted free variable into the translations of otherwise strong expressions. It has no effect in constructions that require indefinite/weak phrases for reasons other than the variable they introduce. We now need to get more rigorous about how the account suggested in (53) will actually fit in the grammar. As noted in Section 4, even though the variable introduced in (53) participates in binding and affects quantifier interpretation and even truth conditions, it cannot be properly introduced in either traditional compositional semantics or DRT, as *like*'s occurrence and its interpretation are dictated by discourse-processing events. Happily, when we say that the meaning of *like* α can be either α' or something like α' , we don't actually seem to mean that *like* is translated this way in a model theoretic representation, as the speaker's attitude and the context figure so prominently in what will count as 'like α .' What we really seem to mean - and this is entirely consistent with the definitions of *like* in (5) - (10), is that *like* affects not semantic translations, but the fixing of reference relative to a model and context. That is, α denotes either the denotation of α or something like the denotation of α . Indeed, there has been some previous work on meanings involving "something like" the actual denotation of the expression being translated. Sperber and Wilson (1986) claim that even without expressions like

like, we normally engage in “loose talk,” wherein there is only a general expectation of “an interpretive resemblance between the proposition expressed by the utterance and the thought that the speaker intends to convey.” (p. 170) Similarly, Hart (2000) shows that speakers routinely use a heuristic of “rounding.” From this point of view it seems that *like*, which also signals “a possible minor nonequivalence of what is said and what is meant” could be merely a marking for this more general process in the assignment of denotations within a model. Of course, since sentences with *like* are marked, we would expect the probability of a minor non-equivalence to be greater in them than in *like*-less sentences. Grice’s maxim of quantity would predict that speakers would not use the expression *like* unnecessarily, so the part of the assignment of denotations that differs from that of *like*-less sentences is the one most likely to be intended.

To formalize the general phenomenon of loose talk, Lasersohn (1999) develops a theory of “pragmatic slack” somewhat similar to Sperber and Wilson’s (1986), but within a compositional, model theoretic semantics. He points out that (69) and (70) would ordinarily be accepted as “‘close enough’ to the truth for practical purposes”(p. 522) if Mary arrived at 15 seconds after three or if a few night owls remained awake in the town:

(69)(Lasersohn’s (1)) Mary arrived at three o’clock.

(70)(Lasersohn’s (3)) The townspeople are asleep.

This leads to the suggestion that (69) and (70) actually mean something like (71) and (72), respectively.

(71) Mary arrived at about three o’clock.

(72) (Lasersohn's (5)) More-or-less all of the townspeople are asleep.

However, (69) and (70) actually behave differently from these proposed paraphrases in (71) and (72), just as sentences with *like* behave differently from their proposed paraphrases with *about* in (11) and (12). In particular, Lasersohn points out that whatever mechanism supplies the “slack” allowed in (69) and (70) doesn't actually change the basic truth conditions of the sentences the way the expressions used in the paraphrases do. (73) and (74) are contradictory, while (75) and (76) are not.⁶

(73) Mary arrived at three o'clock; she actually arrived at 3:01.

CONTRADICTIONARY

(74) (Lasersohn's (6)) Although the townspeople are asleep, some of them are awake. CONTRADICTIONARY

(75) Mary arrived at about three o'clock; she actually arrived at 3:01.

NOT CONTRADICTIONARY

(76) (Lasersohn's (7)) Although more or less all the townspeople are asleep, some of them are awake. NOT CONTRADICTIONARY

(69) and (70) are *more* exact than (71) and (72), but they are not completely exact either.

Lasersohn observes that, while (69) and (70) do not share the meanings of (71) and (72), they also do not mean the same as (77) and (78), which allow even less leeway than (69) and (70). (77) isn't true if Mary arrives at 3:01, and (78) isn't true if a few townspeople are still awake.

(77) (Lasersohn's (2)) Mary arrived at exactly three o'clock.

(78) (Lasersohn's (8)) All the townspeople are asleep.

Lasersohn's explanation of this puzzling behavior is that a sentence like (70) "allows exceptions not because its truth conditions explicitly allow for exceptions - the contradictoriness of (6) [my (74)] shows that they don't - but because in most situations, one may speak a little bit loosely." (p. 523) Lasersohn proposes that, in addition to the denotation relative to a model which is normally assigned to each expression in the language, there is also assigned to each expression a "pragmatic halo." This is a set of objects made up of the denotation itself and other objects of the same logical type as the denotation, assigned by the context. Each of the other objects in the halo differs from the actual denotation in some minimal way which is ignorable for practical purposes in the given context. The objects in the halo may be totally or partially ordered according to their closeness to the denotation, thus avoiding a need to employ fuzzy logic, which Lasersohn explicitly rejects (pp. 545-6). In an appendix, Lasersohn formalizes halo assignment like this:

Relative to a given context C , each basic expression α is assigned a partially ordered set $\langle H_C(\alpha), \#_{\alpha,C} \rangle$, the halo of α . $H_C(\alpha)$ is understood to be the set of objects which differ from $\nu\alpha^{MC}$ only in ways which are pragmatically ignorable in C ; $\#_{\alpha,C}$ is an ordering of

$H_C(\alpha)$ according to similarity to $\vee\alpha^{\text{MC}}$. We require that $\vee\alpha^{\text{MC}} \in H_C(\alpha)$. (That is, the denotation of an expression is always included in its halo.) In addition, all elements of $H_C(\alpha)$ must be of the same logical type as $\vee\alpha^{\text{MC}}$. Furthermore, we require that $\vee\alpha^{\text{MC}}$ be the unique element y such that for all $x \in H_C(\alpha)$, $y \#_{\alpha, C} x$. (The denotation of an expression is the centerpoint of the halo.)(p. 548)

Lasersohn suggests that the Gricean maxim of quantity might explain the existence of these haloes; they allow us to avoid making the information we give unnecessarily precise. We don't have to give times to the minute, for instance, when it doesn't matter whether Mary arrived at precisely 3:00 or at 3:02. (73) and (74) sound contradictory, then, because any slack ordinarily allowed in the first clauses must be ignorable in context. However, the second clauses suggest that these particular contexts require more precision than would be required by the first clauses alone. Perhaps in (73) Mary had to catch a 3:01 train, or the speaker in (74) was preparing to attack the town and wanted no witnesses. Such considerations will force us to interpret the first clause in (73), for instance, more like 'Mary arrived at exactly three o'clock,' thus making the second clause sound contradictory.

Lasersohn goes on to point out that certain expressions like *very*, *exactly* and *perfectly* (SLACK REGULATORS) serve the purpose of narrowing the pragmatic haloes, while HEDGES like *roughly* or *loosely speaking* serve to *replace* the ordinary denotation of an expression with its halo, from which the ordinary denotation has been excluded. So *loosely speaking* β means something slightly different from β , but different in a way that is ignorable for practical purposes in the immediate context. Hedges, then, are predicted to have an effect on a truth-conditions, and

they do. As Lasersohn points out, (79) isn't true if John actually *is* king.

(79) (Lasersohn's (57)) Loosely speaking, John is king.

We saw in Section 3.3 that *like* also affects truth values, though it doesn't pattern exactly with the hedges. I'm proposing that *like* performs yet another operation on an expression's denotation and its halo, different from those proposed for slack regulators or hedges⁷: (53) suggests that *like* has the effect of replacing the denotation of an expression with the disjunction of its denotation and each element of its halo. That is, the condition from (53) that *like* α can be represented as a free variable z which is restricted to range over α' or something like α' might be put into effect as in (80).

(80) If $\llbracket \alpha \rrbracket^{MC}$ represents the denotation of α relative to model M and context C , and v_i is a variable over denotations of the same logical type as $\llbracket \alpha \rrbracket^{MC}$, then $\llbracket \textit{like} \alpha \rrbracket^{MC}$ is

$$(v_i : v_i = \llbracket \alpha \rrbracket^{MC} \ \& \ v_i \in \perp H_C(\alpha)).$$

This assignment correctly predicts the sort of discourse behavior on the part of *like* illustrated in (12) in Section 2., above. There, responding speakers could agree with the *like* sentences with exact versions of the sentence without *like* (12a) OR with sentences containing *about* (12b), but neither form of the sentences made a felicitous denial (12c and d), just as would be predicted by the disjunctive translation in (80). Similarly, (80) predicts that *like* will behave uniquely - neither

like the *like*-less sentences nor like the sentences with hedges like *about* - when placed in sentences like those in (73) - (76), Lasersohn's data on contradictions. It does. If we conjoin our sentences containing *like* with sentences that would contradict the assertion of the sentence without *like*, the *like* sentences do not produce contradictions where their *likeless* counterparts do (see (73) and (75)) because their representations include a disjunction of the denotation of the expression to which *like* applies and the elements in that expression's halo.

(81) Mary arrived at three o'clock; she actually arrived at 3:01.

CONTRADICTIONARY

(82) Mary arrived at, like, 3:00; she actually arrived at 3:01.

NOT CONTRADICTIONARY

(83) All the townspeople are asleep, but a few are awake.

CONTRADICTIONARY

(84) Like, all the townspeople are asleep, but a few are awake.

NOT CONTRADICTIONARY

(85) $\left. \begin{array}{l} \text{About} \\ \text{Loosely speaking} \\ \text{Roughly} \end{array} \right\}$, all the townspeople are asleep, but a few are awake.

NOT CONTRADICTIONARY

(85) shows that Lasersohn's hedges resemble *like* in that they don't produce contradictions in such contexts, either. But *like* doesn't generally pattern exactly with Lasersohn's hedges; the hedges all act like *about* in (11), since they assert that there is *definitely* a minor non-equivalence between the expression and the actual denotation as in (86), with no disjunctive possibility of accuracy, as with *like* (87):

(86) Mary arrived at roughly 3:00.

- a. #Yes, she arrived at exactly 3:00.
- b. No, she arrived at exactly 3:00.
- c. Yes, she arrived a few minutes later.

(87) Mary arrived at, like, 3:00.

- a. Yes, she arrived at exactly 3:00.
- b. #No, she arrived at exactly 3:00.
- c. Yes, she arrived a few minutes later.

5. SUMMARY AND CONCLUSIONS.

We have seen, then, that *like* shows a somewhat surprising combination of characteristics. It is, first of all, indisputably a discourse particle. It can occur grammatically anywhere in a

sentence; the felicity of its placement is predicted only by the location of relatively high degrees of lexical indecision on the part of the speaker, whether it be due to unavoidable difficulty finding precise wording or the lack of complete planning before beginning a sentence. In this it fully parallels other discourse particles and might be expected to be accounted for, if at all, in a post-compositional pragmatic component. Most such particles need be given no compositional, truth-functional account, as they do not affect truth conditions or other basic semantic values. However, *like* differs from most other discourse particles in that it seems to interact crucially with the compositional semantics of the sentences in which it occurs. In particular, it renders NP's with strong determiners grammatical in sluicing and existential *there* constructions, and loosens truth conditions in the direction of a hedge like *about* ((81)-(85)), while nevertheless - unlike the true hedges - allowing the sentence to continue to be taken as asserting the proposition associated with it without the *like* (87). These behaviors indicate that *like* does require a semantic account. Since Schourup's informal description of the meaning of *like* (that it introduces a possible minor non-equivalence between what is said and what is meant) would seem intuitively to introduce a variable over possible similar denotations, and since both sluicing and existential *there* constructions have both often been analyzed as requiring a restricted free variable in the DE positions, I have suggested that one semantic effect of the use of *like* is to introduce a restricted free variable. If this is the correct explanation for why *like* causes definite NP's and those with strong determiners to become acceptable in sluicing and *there*, but not in other DE contexts, it has several implications.

First, it lends support to analyses of sluicing and *there* that involve requirements for a free variable. (Of course, there could be two different explanations for *like*'s effect on these two

constructions, but in the absence of strong evidence in that direction, it seems more sensible to assume the mechanism is the same for both constructions.) Second, it confirms the findings of other studies that the weak/strong distinction (or even the indefinite/definite distinction) is not a single distinction, but a group of related properties (de Jong 1987; Higginbotham 1987; Abbott 1997; McNally 1998; Musan 1999). We've seen in the present study that the weak/strong distinction is not entirely due to the distinction between quantificationally closed or proportional phrases versus ones with cardinal or free variable readings (Milsark 1974, 1977), since *like* seems to modify that characteristic, yet has an effect in only two constructions. Similarly, though, the weak/strong distinction cannot be entirely due to any other single factor that has been proposed: It isn't produced only by the inherent properties of the individual determiners as in Barwise and Cooper (1981) or Keenan (1987), since *like*, a non-determiner, can "weaken" strong determiners, but only in certain constructions. In fact, It is not even possible to use the test for strong/weak determiners proposed in Barwise and Cooper (1981) to ascertain whether or not *like* operates on determiners to weaken them. That test requires that you take a sentence of the form D N is a N/are Ns. If it is judged automatically valid, the determiner is positive strong; if contradictory, the determiner is negative strong; and if the truth of the sentence is judged to be contingent on the particular interpretation, the determiner is weak. But for reasons discussed in Section 2.2 in relation to example (22), it is difficult to get *like* to apply to a determiner or DP in subject position at all. In (88), a version of the test sentence for *like every*, *like* will be interpreted as having sentence scope, not scope over *every* or even *every gnu*.

(88) Like, every gnu is a gnu.

To the extent that people can make judgements about (88), most think that it still expresses an automatically valid proposition, like *Every gnu is a gnu*, but with the added possibility that this isn't the proposition that accords perfectly with the speaker's meaning. We cannot tell what effect *like* may be having on *every* here.

However, if the strong/weak distinction does not reside in the properties of the determiners themselves, it also cannot reside entirely in the syntactic (LF) properties of the sentence as Reuland (1985), Safir(1987), and Diesing (1992), for instance, suggest. Syntactic mechanisms for accounting for the weak/strong distinction involve differences in level of adjunction, just as accounts of quantifier scope do. Yet, we saw in (26) and (27) that *like* doesn't affect quantifier scope; therefore it can't be expected to require NP lowering in subjects, for instance, or block Quantifier Raising in objects to render them weak, as would be expected in Diesing's theory. But the weak/strong distinction also can't be entirely tied to informational status of the discourse objects introduced. Rando and Napoli (1978), Woisetschlager (1983), Holmback (1984), Ward and Birner (1995), and Zucchi (1995) suggest that the ability to appear in DE slots has to do with being introduced as relatively new to the hearer, that is, without existential presuppositions. But we can see that *like* doesn't make older discourse referents seem newer; it cannot, for instance, improve bad DE sentences where the crucial requirement is newness, like inalienable *have* sentences (see (41)). Yet it weakens definite NP's or those with strong determiners in other constructions, like the central existential *there* and sluicing. Finally, weakness of quantified phrases can't always rest on the time dependence triggered by quantification over stages, nor strength rest on the time independence triggered by quantification over individuals, as the analyses

in Ladusaw (1994) and Musan (1999) suggest. *Like* improves sluicing examples with “strong” quantifiers whether their accompanying predicates are individual level (‘knows French’) or stage level (‘was ill’):

(89) * In my school, every teacher $\left\{ \begin{array}{l} \text{knows French} \\ \text{was ill} \end{array} \right\}$; we just have to find out exactly which ones.

(90) In my school, like, every teacher $\left\{ \begin{array}{l} \text{knows French} \\ \text{was ill} \end{array} \right\}$; we just have to find out exactly which ones.

As we consider each of these factors as sole explanations for the weak/strong distinction, we see that the behavior of *like* confounds them all in one way or another. For each factor, either *like* has no effect on it, failing to explain the improvement in *there* and sluicing, or *like* does have an effect on that factor, but that it has that effect in all DE contexts and thus should make strong phrases fit anywhere if that factor were definitive.

However, the most direct implication of this study of *like* is that it is possible for a mere discourse particle whose effect can be accounted for only in the assignment of denotations to expressions in a model to affect the core semantics of a sentence, including quantifier interpretation, binding of variables, and truth conditions. Thus, *like* adds to the mounting evidence that information usually associated with discourse must be incorporated as part of semantics. It can't be left to a separate, post-composition pragmatic component or, in standard syntactic theories, a PF branch separate from LF. Furthermore, since its association with ongoing discourse is due to its function as a real-time marker of lexical indecision, not, for instance, extra-sentential

anaphoric binding, it cannot be given the kind of E-type pronoun analysis that has been offered for instances of discourse anaphora like donkey sentences (Evans, 1980).

The mechanism of the account I have suggested for *like* making use of Lasersohn's (1999) pragmatic haloes could be added to any compositional semantics. Syntactically, *like* could be introduced syncategorematically or given a variable category, say γ/γ , that will always map an expression of a given category into another of the same category. However, our interpretation of *like* does involve pragmatic haloes, and Lasersohn observes (p. 547) that the interpretation of pragmatic haloes in general requires a move to a dynamic semantics. He includes in this category any model that allows the context to be recalculated as each new expression is added, either on the model of standard DRT (Heim 1982; Kamp and Reyle 1993) or dynamic Montague Grammar (Groenendijk and Stokhof 1991; Chierchia 1992; Muskens 1996). Certainly *like* requires this kind of accruing context for a complete and correct interpretation. Out of context, the halo of ordered, minor variations we'd supply for "health" in (91) below would probably include things like 'well-being, energy, vigor,' or possibly, given that the sentence was uttered by a high school student, courses similar to a *course* in health: 'biology, gym, nutrition.'

(91) I don't have, like, health today. (observed)

In fact, though, (91) was uttered as part of the discourse in (92).

(92) I didn't get to do any homework in school. I don't have, like, health today.

(observed)

According to the speaker, the intended halo to be evoked by *like* in (91) included exclusively courses in which she has a chance to do other homework, such as “math (because it’s so easy), orchestra when we have substitutes (because they don’t do anything), chemistry lab (because we always finish early).” But the listener learns this only from the preceding discourse in (92).

Similarly, in an example such as (33) from the high school interviews, repeated in part in (93) below, few listeners would immediately guess the intended halo of ‘sports’ in “like sports.”

(93) ...I think in, like, sports, it’s different because it’s just people who, like, all came together because of one common interest.

Consequently, the speaker almost immediately mentions explicitly that she intends the halo of ‘sports’ to consist of school activities in which students come together because of “one common interest,” including perhaps the school theater group, the chess team or cheerleading, along with, or even instead of, some regular sports. That is, *like sports* still means, as predicted by (80), the kind of activity known as sports or the kinds of activities like sports, but for pragmatically ignorable differences⁸. Only a dynamic semantics in which each new expression serves to update the discourse representation of the next could account for this. Of course, as noted in Lasersohn, (footnote, p. 547) the problems of formalizing this kind of passing along of contextual information are difficult and have hardly been tackled even in dynamic semantic theories that incorporate context change.

Even more dauntingly, neither dynamic semantics nor traditional DRT solves the problem of how variables introduced by *like* in the assignments of denotations to expressions within a

model could possibly interact with core semantic processes such as variable binding and quantifier interpretation. And yet they do. The existence of an expression like *like*, a discourse particle which interacts with basic semantic interpretation, suggests strongly the need for a reexamination of the interactions of the components of grammar in linguistic theory.

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NOTES

¹ The weak/strong distinction was first drawn in Milsark (1974) to distinguish NP's which could appear in existential *there* sentences (weak, largely indefinites) from those which could not (strong, including definites).

² I do not mean to suggest here that *like* behaves precisely like the hedges described in G. Lakoff (1973) or Prince, Frader and Bosk (1982). See Section 4 for important differences.

³ See Schourup (1991) for arguments that the *like* that means 'say' actually shares a core meaning with the hedge *like*.

⁴ Underhill divides the hedge *like* into several functions, too: hedge, unusual notions, questions and answers.

⁵ The Definiteness Effect in predicate nominatives and with inalienable have is described in Higginbotham (1987); the DE in floated *each* is from Kamp and Reyle (1993). There are other constructions listed in Higginbotham as requiring indefinites: support of donkey anaphora, scopal independence, accessibility to cleft and pseudocleft. I wasn't able to test the effects of *like* on these constructions because my informants and I didn't agree with Higginbotham's original DE judgements, even without *like*.

⁶ Lasersohn attributes this point to Kroch (1974).

⁷ An anonymous reviewer notes that, to the degree that they are acceptable, some hedges seem, like *like*, to improve sluicing examples with universal quantifiers:

(i.) ?They spoke to roughly/loosely speaking every student, but we're still wondering exactly who.

However, many speakers, especially young *like* users, are uncomfortable with such sentences, seeing this kind of hedging of a universal quantifier as contradictory, and most people reject examples in which *every* is hedged in *there* sentences:

(ii.) #There's roughly/loosely speaking every book under the bed.

These hedges also cannot occur with definite descriptions, as *like* does in examples such as (37) and (39):

(iii.) *They suspended roughly/loosely speaking the school bully.

The hedges even exhibit different truth conditions from *like* (See (86) and (87)). I won't provide an explanation of the behavior of the hedges here, but it seems clear that, whatever the explanation, it is not the same as that for the behavior of *like*, which occurs so easily almost anywhere and consistently improves both sluicing and *there* sentences with strong NP's.

⁸ An anonymous reviewer has pointed out that the “like, sports” expression in (93)/(33) conveys an impression of universal quantification. That is, “in, like, sports” could mean ‘in sports

or in any x similar to sports', where the variable x is not free, as (80) would predict, but bound by a universal quantifier. I believe, however, that the feeling of universal quantification here comes from the generic use of the bare plural *sports*, not from the use of *like*. It's been convincingly argued by Carlson (1980) and others that generic plurals don't actually contain a universal quantifier, but are the names of kinds of things. That alone would account for the fact that the speaker seems to be claiming that anything that's a sport or like a sport will be different; that is just what the kind-name *sports* means by itself. *Like* can still be seen to improve sluicing examples with such bare plural generics:

(i.) *We know that in sports it's different, so we have to find out in (exactly) which kind of activity it's different.

(ii.) We know that in, like, sports it's different, so we have to find out in (exactly) which kind of activity it's different.