Dissertation summary

Demonstratives in Logic and Natural Language

The singular demonstratives ‘this’ and ‘that’ and complex demonstratives like ‘this sleeping dog’ play a distinctive role in our reasoning practices in natural language. One speaker can use the sentences below in a situation and reason well, while another can use the same sentences in a different situation and reason badly (the names in brackets indicate at whom the speaker is pointing):

(a) Everyone is taller than that guy [Tim].  
(a’) Everyone is taller than that guy [Tim]

(b) This guy [Tom] is taller than that guy [Tim].  
(b’) This guy [Tom] is taller than that guy [Ted]

The same sentences can be used to make an intuitively valid argument, or they can be used to make an intuitively invalid one: validity varies with context.

I argue that the classical views of the logic and semantics of demonstratives, developed by David Kaplan, fail to provide an adequate account of this behavior, and I provide an alternative to both. The argument of my dissertation is organized around two central questions: what significance our ability to use demonstratives to refer to objects or individuals has for semantics, and how the meaning of demonstratives in natural language is related to their logical behavior. On the view I develop, this behavior of demonstratives in reasoning is a consequence of the way in which we use demonstratives to refer to objects and individuals in the world. If this is correct, then the relationship between natural language semantics and logic is close – closer than is assumed by current orthodoxy.

The role of speaker intentions in our use of demonstratives to refer bridges the gap between the two central questions of the dissertation. Holding all other parameters of a context of utterance constant, a speaker can use the same demonstrative twice to refer to different objects or individuals. This feature of our use of demonstratives to refer is responsible for the distinctive behavior of demonstratives in reasoning. Because the reference of each use of a demonstrative is fixed anew by the intention with which the speaker performs it, whether two occurrences of a demonstrative in a sentence are coreferential in a particular use of the sentence is to a large extent up to the speaker. Our intuitions about different uses of sentences (a) and (b) above are based on these different patterns of coreference in the different uses.

This observation about the role of speaker intentions gives us a strict condition on the adequacy of any formal semantic theory of demonstratives. I call this condition Referential Promiscuity: for any two occurrences of a demonstrative in a sentence, there is a possible context of utterance relative to which they differ in content. If our semantic theory of demonstratives does not have this consequence, it fails as a theory of natural language demonstratives. Yet this same condition together with David Kaplan’s definition of logical truth and consequence for languages containing indexicals entails that the argument above – sentences (a) and (b) – is never valid. Validity according to his definition requires truth preservation in all possible contexts, but Referential Promiscuity shows that there are intuitively valid arguments that do not preserve truth in all contexts.

Kaplan’s formal treatment of demonstratives, using ‘dthat’, avoids this problem by rejecting Referential Promiscuity. Thus his treatment of the logical properties of demonstratives encourages the view that there is an irreconcilable tension between the goals of logic and those of natural language semantics. In contrast, I develop a definition of validity for indexical languages, according to which validity is relative to a context. The basic idea is that an argument A is valid relative to a context C if
and only if for every model M containing C, if the premises of S are true relative to C and M, then the conclusion of A is true relative to C and M. This yields intuitively correct results for the examples above and others. It also bears an interesting relation to Kaplan’s definition: for a language like his formal language LD containing no expression satisfying Referential Promiscuity (i.e., containing only pure indexicals), his definition and mine are extensionally equivalent. Thus nothing is lost by adopting my alternative definition. Yet Kaplan’s definition is also simply a generalization of mine: an argument is valid in Kaplan’s sense if and only if it is valid in my sense relative to every possible context.

Thus my view of the logical properties of indexicals and demonstratives can apply to a wider range of languages than Kaplan’s, including languages that look much like English. So, I reject orthodoxy the view that there is an irreconcilable tension between what is needed for a logic of demonstratives and what natural language semantics requires. On my view, our intuitions about the logical behavior of demonstratives are an important source of data for our semantic theories.

Central to this view is the distinction between referential and non-referential uses of demonstratives. The distinguishing features of a referential use of a demonstrative are that the speaker intends for his or her audience to identify a particular object in a particular way, and that the audience will not understand what the speaker has said unless they can identify this object. It is not necessary that a speaker asserts a singular proposition about the object of his or her intention.

The principal reason for this liberal view of referential uses is that it affords a unified semantic account of both standard referential uses (in which the speaker asserts a singular proposition about the object of his or her intention) and deferred-reference uses. Deferred reference allows a speaker to point at a dirty car and say truly ‘that person should take care of his or her car’. Like standard referential uses, the speaker intends for her audience to identify a particular object (the dirty car) as the object she is demonstrating, and the audience must identify this object in order to understand what the speaker has said. Thus on my view, this is an example of a referential use of ‘that person’. Yet like non-referential uses, the speaker’s use of ‘that person’ non-rigidly denotes the person who owns the car, since what the speaker has said is that the owner of α should take better care of his or her car (where α is a singular term referring to the car in question). Thus, the proposition that the speaker has asserted is in some way descriptive, contrary to the orthodox understanding of referential uses of demonstratives.

One benefit of this view is that it affords a response to Jeffrey King’s influential argument that a unified semantic account of all uses of complex demonstratives (referential and non-referential) is superior to a semantics that treats non-referential uses as definite descriptions (the view I advocate). King presents a series of examples of apparently non-referential uses of demonstratives that cannot be treated as definite descriptions. In response, I show that King’s examples are actually cases of deferred reference. Together with the view above that cases of deferred reference are referential uses, this undermines King’s argument.