CHAPTE...
signifies that same orientation of the nectar in its wider environment. Thus, not just the dance itself but its orientation within the wider environment is part of the intentional sign produced. Feral members of Felis Domesticus often do not bury their feces but leave them exposed in conspicuous places as a sign of their dominance within a territory. That their domesticated kin usually bury their feces is a sign of submission, most likely to the humans that feed them (Milius 2001). Where the feces is placed is certainly an integral part of the intentional sign produced, and not merely part of its environment.

Similarly, although we usually think of language signs as composed merely of phonological units, words, syntactic forms and so forth, often the situating in a context is a reproduced element too and is equally an aspect of the conventional sign. Conventional signs can include aspects of the environment as proper parts, just as natural signs and animal signs can. Then the distinction between a sentence and certain parts of the environment in which it is embedded is not semantically significant. When a label is placed on a bottle, it is a matter of convention that the bottle stands for itself, given that there is a label on it. Suppose I wave my arm across the landscape before me and exclaim "Wow! Breathtaking!" I am labeling the landscape, which stands for itself. Thus that the square to which the arrow points represents itself is not peculiar. The fact that the square lies both outside of the sentence proper and outside of the conventional indicator, the arrow, that points to it does not preclude it from being just another aspect of a conventional sign.

What may at first seem peculiar, however, is that the little word "this" in the sentence "This is a closed plane figure" seems also to be standing for the square, so why would the square be needed, redundantly, to stand for itself? The word "this," considered merely as part of the English language, does not, of course, represent either this particular square or squares generally. Compare it with an x on a map that is obviously intended to represent something or other to be found in that location on the mapped terrain. So you consult the map's key to find out what kind of thing it is that is in that location. In the key, next to another x, you find the word "hostel." The x on the map shows the place where the something is, and the key tells what something it is that is in that place, namely, a hostel. Similarly, the word "this" in "This is a closed plane figure" shows by its grammatical place where there is something in semantic space, while the arrow pointing to the square is a key that shows what it is that occupies that semantic place. The word "this" holds a place for the square in the affair represented exactly as the x on the map holds a place for the hostel. Another interesting case for comparison might be the stories that sometimes appear in children's magazines in which pictures of various denoted objects have been substituted for the names of these objects in sentences about them. The pictures appear in certain grammatical places and the pictures show what occupies those places. For amusement, compare also Quine's "Giorgione was so called because of his size" (Quine 1960, p. 153) or, more perspicuously, "Giorgione was called that because of his size."

Where an aspect of context is part of a wide conventional linguistic sign and there is a filler or variable entered into the syntax of the narrow linguistic part of the sign that holds a place open for that aspect of context to fill, we can borrow linguists' terminology and say that the grammatical position has been "lexicalized," and since it has been given a grammatical place, also "grammaticalized." For example, in "Wow! Breathtaking!" the subject has not been
lexicalized and grammaticalized, whereas in "Wow! That is breathtaking!" it has been. In "Careful! Poison ivy!" reference to place has not been lexicalized and grammaticalized, whereas in "Careful! There's poison ivy around here!" reference to place has been lexicalized and grammaticalized.

Phrases and sentences differentiate themselves, standing out from the rest of the natural world as indicating the presence of signs designed to be interpretable. When you recognize what you hear as a sentence, you expect it to be part of an interpretable sign, interpretable, at least, by someone. Whether or not the context in which a narrow linguistic form appears constitutes an aspect of a wide conventional sign having a fully conventional meaning may often be a matter of degree (Chapter Eleven). But where a grammatical place-holder has been inserted, it is clearly a matter of convention that some aspect of context is intended to fill out the sign, either in a completely conventional way, or in a way that the speaker tries to indicate in a nonconventional manner to the hearer, relying on nonconventional methods of tracking. An example of the latter kind might be a token of "Aunt Nellie saved this one" said of a wild flower pressed between the leaves of a book that I hand to you closed, but you understand me because we have just been looking at and talking about various other flowers preserved in this way.

In Chapter Four I argued that the time and place of a natural sign such as a quail track could be significant aspects of the sign but were not "indexical" elements. Time and place of the quail track signify time and place of the passing quail in the same way that the size of the track signifies the size of the quail. That was perhaps rather high-handed of me; more of a decision on usage, designed to help underline certain similarities and differences, than a statement of prearranged fact. In the linguistic case, there is a fairly clear distinction between aspects of the sign that are freely created in accordance with general conventions of phonology, morphology, syntax and, perhaps, aspects of prosody --the narrow linguistic sign-- and aspects that can clearly be designated as a "context" in which these free aspects are placed. In the case of purely natural signs, there is no distinction of this sort to be drawn. All parts or aspects of a natural sign are just more parts or aspects of the sign proper. Similarly, however, all parts of a linguistic sign placed in a context that completes it in a conventional way are just more parts of that conventional sign. No radically new principles of signing are introduced when the aspects of the context of a narrow linguistic sign are conventionally incorporated within it. I am suggesting that we reserve the term "indexical," then, for a special kind of sign, namely, for lexicalized and grammaticalized elements of a public language whose job it is to indicate explicitly how elements of context are to be positioned within the mappings of wide conventional signs.

The difference between a demonstrative and an indexical is then that the indexical conventionally indicates not only the semantic place the context is to fill, but also fully indicates in a conventional way what the relation is between the indexical word and its outside filling. No further indicator such as a gesture or additional indicating context is required. I will unpack this.

The time and place of a linguistic sign token can be considered to be an aspect of non-linguistic context, as distinguished from freely created aspects of the sign. This is because every linguistic sign token has to have some time or place, but since this time and place are not always significant aspects of the sign, in the particular cases where the time and/or place does carry part
of the meaning, one might consider this additionally meaningful element to be a wide or contextual addition, rather than a narrow linguistic element. Similarly, every linguistic sign has some producer, and almost all are produced to be interpreted by somebody. But, typically, the identities of speaker and hearer are not relevant to the meanings of linguistic signs. So in the particular case where the identity of the speaker or of the intended hearer carries part of the meaning, one might consider these elements also to be a wide or contextual addition rather than narrow linguistic aspects of the sign. The uptake of context into a wide conventional sign, considered simply as such, is no different in principle from the way the time and the place of the quail track is taken up into the full natural sign concerning the quail. However, when reference to its time or place is lexicalized and given a grammatical place within the narrow linguistic sign, convention leaves no room for question about exactly what contextual aspect completes the conventional sign. Let me supply some contrasting examples.

Suppose that you are a surgeon and I am your assistant and during an operation you direct "Scalpel!" then "Scissor!" then "Suture!" Who is to do what with the scalpel, then the scissor then the suture, when and where is not lexicalized, but it is determined by the context in an entirely conventional way. Similarly, if I say "It's raining," the place at which I say this conventionally determines the place of the intentionally signified rain. For example, the following dialogue is not possible within the conventions of English (which is why it could be a joke).

"It's raining!"
"Where?"
"In Tahiti"

"It's raining," standing alone, simply is not a way you can conventionally say, in English, that it is raining somewhere or other. Taking another example, it seems that the Machiguenga Indians have no proper names for one another but use kinship names instead (Snell 1964). Thus one must know the identity of the speaker in order to know who is being spoken about. In English, "Mama" and "Daddy" work that way. It is fully conventional, a convention that has a very wide domain, that the person referred to by these terms depends on who is related in a certain way to the one speaking. But reference to the person speaking is not lexicalized. Compare with the one word sentence "Scalpel!" the five word sentence "Now hand me the scalpel!" Here positions for time, for the person to whom the scalpel is to be handed, and for being handed rather than, for example, tossed or thrown, are lexicalized and put in their proper places in the grammatical structure. Further the words "me" and "now" leave no room for doubt about exactly what aspect of context is part of the sign. Similarly, if someone says "It is raining here," reference to place is lexicalized, and if the child says "Where's my mommy?" reference to the child is lexicalized. Further, in contrast to cases in which lexicalization involves a demonstrative, there is no freedom concerning exactly what the words "here" and "my" are to stand in for. "Here" has to stand in for the present place and "my" has to stand in for the speaker. Thus words like "I" and "you," "here" and "now" are indexicals. For example, the speaker of "I" represents himself/herself reflexively but as fitted in the semantical place held in the narrow linguistic sign by the word "I."

Past tense and future tense are both grammaticalized hence indexical. If there were no past tense or future tense forms with which to contrast present tense forms, present tense would
not be grammaticalized. The bee dance, for example, tells when there is nectar—namely now or today—as well as where there is nectar, but because beemese has no contrasting forms indicating past or future affairs, its tense is not grammaticalized. Similarly, it is not lexicalized that it talks about nectar not peanut butter. The bee dance does not contain indexical elements. Animal’s signals to their conspecifics invariably concern the present, but this is not grammaticalized. Very likely there was a time in the ancient history of human languages when the present tense was not grammaticalized. Now, however, it is.

Levinson remarks in his classic text *Pragmatics* (1983) that the "coordinate switching" of indexicals, say, from denoting the speaker to denoting the hearer to denoting some third person and so forth, "makes the acquisition of deictic terms seem a miracle" (p. 64). I have tried to show that the immediate precursors of indexical forms are among the most primitive of signs, and that we never depart very far from these primitives. A conventional language sign is merely a piece of the world, just as a natural sign is. It is different only in that it juts out from the rest of the world as designed to be a sign or part of a sign, hence as requiring attention and interpretation. Adding lexical items that hold places showing where extra-linguistic context is part of a sign surely simplifies matters for the interpreter rather than complicating matters.

I have argued that, when indicated by conventional forms of demonstration, the referents of demonstratives are reflexive signs that stand for themselves conventionally. Now the little word "the", with which definite descriptions are paradigmatically prefaced is etymologically derived from a demonstrative, the Old English masculine singular form "se." Suppose we inquire then into the relation between a demonstrative form and a definite description. Demonstratives often are accompanied by descriptions ("...that book over there with the blue cover"), of course, as well as accompanied by indicating gestures. The role of the description in these forms is fairly obvious. In grammatically modifying the demonstrative, it functions as conventional means helping to direct the hearer's attention to the individual item described which, once found by the hearer, stands for itself. Now compare "...that book over there with the blue cover" with "...the book over there with the blue cover," placed in the same context. These two do not seem to differ in meaning or way of functioning. At most, the use of the demonstrative rather than the definite article may hint that the hearer should look for a somewhat obvious form of conventional or intentional demonstration, a pointed look or a waved hand or some such. But there are many contexts in which demonstratives and the definite article are entirely interchangeable.

In other contexts, however, it may seem obvious that the referent of a definite description does not help to stand for itself. In "The first man on the moon," for example, the referent is not around to be examined by the hearer, indeed, it is unlikely the speaker was ever acquainted with him. So the idea that "the" grew out of a demonstrative, conjoined with the idea that demonstratives require a referent that helps to stand for itself, seems puzzling.

Notice, however, that there are contexts in which demonstratives, like definite descriptions, refer to things that are not in the currently perceived context. Suppose I have just picked up a book and taken it in the next room to look at. I may call out "Have you ever met the author of this book?" expecting, of course, that you will know which book I am demonstrating—looking at, holding in my hand. You cannot see my conventional or intentional demonstration but you know what it is demonstrating. You do not see the book as I call, but you know which
book I am looking at and that is enough. The book does not have to be currently observed by you in order to help stand for itself any more than I have to be currently looking at the map key in order for the word "hostel" to help determine the meaning of the x on the map.

But if something not currently observed but merely known about can stand for itself, then the puzzle about definite descriptions is easily resolved. Consider a fairly simple transformation of Russell's claim that definite descriptions claim uniqueness for what they describe. Definite descriptions are used when speakers take their descriptions to describe one and only one in the domain on which they are focusing, and either expect the hearer already to know this about the description or at least not to be surprised by it. That one thing is to stand for itself. The domains speakers are focusing on are tracked by hearers in the ways described in chapter Ten. Hearers may or may not be concerned that their hearers know what this one thing is independently of the description, that is, their usage may be either referential or attributive in Donellan's sense (Chapter Four).

Notice, for comparison, that demonstratives also are sometimes used attributively. Suppose, for example, that I am looking through a pile of old photographs in the next room taken by your grandfather and I call out "This must have been taken in Denmark." You reply "Very likely. Grandad spent most of 1945 in Denmark." Here I may have no expectation or concern that you will know just which photograph I am talking about. It is enough for my purposes that you know it is in the pile I am looking at.