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## Structured Characters and Complex Demonstratives

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A structured character is a semantic value of a certain sort. Like the more familiar Kaplanian characters, structured characters determine the contents of expressions in contexts. But unlike Kaplanian characters, structured characters also have constituent structures. The semantic theories with which most of us are acquainted do not mention structured characters. But I argue in this paper that these familiar semantic theories fail to make obvious distinctions in meaning---distinctions that can be made by a theory that uses structured characters. Thus I conclude that we should reject these familiar semantic theories, and accept a semantic theory that includes structured characters among its semantic values.

One of my arguments for this conclusion appeals to examples involving complex demonstratives. These are terms of the form that N, where N is a common noun or noun phrase: for instance, 'that spy', 'that man with the hat', and 'that woman standing in the corner'. I maintain that semantic theories that do not make use of structured characters cannot account for certain differences in meaning between complex demonstratives. In order to show this, I describe the semantics of complex demonstratives at some length.

Thus I have two purposes in this paper. Firstly, I wish to argue in favor of accepting a

semantic theory that includes structured characters among its semantic values. Secondly, I wish to sketch a theory of complex demonstratives that uses structured characters.

## 1. Structured and Unstructured Contents

To set the scene for structured characters, I think it is useful to begin with a comparison of structured and unstructured contents.

Traditional "possible worlds" semantic theories use unstructured contents. In these theories, we begin with a set of possible worlds, and with sets of individuals assigned to those worlds. An expression has an extension at each world. For instance, a singular term has an individual assigned to it at each world, and a formula has a truth value at each world. The intension of an expression is a function from worlds to the expression's extension at each world. So the intension of a singular term is a function from worlds to individuals, and the intension of a formula is a function from worlds to truth values. On this traditional view, an expression's meaning (in the sense of content) is identified with its intension.

Structured contents, on the other hand, are entities that have constituent structures much like those of linguistic expressions. On the theory of structured contents that I will discuss here (which derives from Kaplan, 1989a), the contents of simple expressions are individuals, properties, and relations, while the contents of complex expressions are structured entities that contain those sorts of items as constituents. For example, the content of the proper name 'George Bush' is just George Bush himself; the content of the predicate 'is human' is the property of being-human. The content of the sentence

George Bush is human

is a structure containing Bush and the property of being-human as constituents. This structured proposition can be represented by an ordered pair that has these two entities as members.

<Bush, being-human>.

Structured contents play the same semantic roles within this new theory that intensions do in the more traditional theory. For instance, structured contents determine extensions at worlds.

Structured propositions are the bearers of modal properties (like necessity) and truth-values (at worlds).

The main advantage of a theory of structured contents over the traditional theory of intensions is that structured contents can make certain important semantic distinctions that intensions cannot. For instance, if we identify the content of an expression with its intension, then every sentence that expresses a necessary truth has the same content. Furthermore, any two sentences that are necessarily equivalent, like (1) and (2), have the same content.

- (1) Ronald Reagan is married.
- (2) Ronald Reagan is married, and either Bush likes broccoli or Bush does not like broccoli.

Finally, as Kaplan (1989a, pp. 492-7) emphasizes, intensions obscure the difference between rigid designators that are directly referential, and rigid designators that are not directly referential. For instance, (3) and (4) are rigid designators that have the same intension, though (3) is directly referential while (4) is not.

- (3) 2
- (4) the x such that: if  $7+5=12$ , then  $x+2=4$

But if contents are structured, then the above pairs of expressions differ in content. For instance,

the content of (3) is distinct from the content of (4) because the content of (4) has the number 7 as a constituent, while the content of (3) does not. Similarly for (1) and (2).

## 2. Character

In format, Kaplan's (1989a) theory of character strongly resembles the traditional theory of intensions. We begin with a set of contexts. An expression has a content in, or relative to, a context. For instance, the content of 'I' in a context is the agent of the context; the content of 'I am human' in a context is the proposition that A is human, where A is the agent of the context. The character of an expression is a function from contexts to the content of that expression in each context. So the character of 'I' is a function which, at every context, yields as its value the agent of that context. And the character of 'I am human' is a function from contexts to the appropriate proposition at each context.

Therefore on the familiar Kaplanian theory, the characters of simple and complex expressions are quite similar: all of them are unstructured functions from contexts to contents. Yet the contents of simple and complex expressions are quite different: the contents of simple expressions are individuals or relations, whereas the contents of complex expressions are structured entities. So there is a striking contrast between how the standard Kaplanian theories of character and content treat complex expressions.<sup>1</sup>

This difference in the treatment of complex expressions is not inevitable. We could have a theory of structured character. We could suppose that the characters of complex expressions are structured entities that have simple, functional characters as constituents. Indeed, once we have structured contents, it seems entirely natural to have a theory of structured characters. The

naturalness of including structured characters in our theories is itself a good reason for accepting them, in my opinion.

But more importantly, the standard functional theory of character has failures similar to those of traditional theories of content. The functional theory of character does not allow us to make certain, obvious "fine-grained" distinctions in meaning that a theory of structured character does allow us to make. So a theory of structured character is useful for attaining the basic goals we have for our semantic theories.

I will give examples of this failure of the standard theory to make distinctions in meaning below. But before doing so, it might be helpful to sketch a theory of structured character.<sup>2</sup>

### 3. Structured Character

We can construct much of a theory of structured character by making rather simple modifications in the theory of structured content. The basic idea, to put it very roughly, is to take structured contents and replace their basic constituent contents with characters.

We can suppose that the characters of simple expressions are the same as described above, namely, functions from contexts to contents.<sup>3</sup> For instance, the character of 'I' is a function from contexts to individuals (the agents of those contexts); the character of 'is human' is a function from contexts to the property of being-human. However, the character of a complex expression, like 'I am human', is a structure containing these previous characters as constituents. Let's use '{I}' to stand for the (functional) character of 'I', and '{H}' for the (functional) character of 'is human'. Then the structured character of 'I am human' can be represented by

$\langle \{I\}, \{H\} \rangle$ .

This entity determines the structured content of 'I am human' in a context c. In this case, we can get that structured content by applying each constituent character to the context c.

$$\langle \{I\}(c), \{H\}(c) \rangle.$$

If c is a context in which Fred is the agent, then the result is just the proposition that Fred is human.

$$\langle \{I\}(c), \{H\}(c) \rangle = \langle \text{Fred}, \text{being-hungry} \rangle$$

So this part of the theory of structured character is relatively straightforward. (Other parts are a bit more complex. See sections 10 and 11.) Let's now consider whether it is worthwhile thinking about structured characters in our semantic theories.

#### 4. Dthat-terms and Structured Characters

The first case I will present, in which the standard theory of character fails to make obvious distinctions in meaning, involves a certain extension of English. This extension of English contains terms that ordinary English does not. But these new terms are perfectly coherent and comprehensible. A reasonable semantic theory should be able to cope with this extension of English, and with our semantic judgments concerning it. But the standard theory of character and content is unable to do so.<sup>4</sup>

The new expressions I have in mind are Kaplan's dthat-terms. (See Kaplan 1989a, pp. 521, 524-7.) Syntactically, a dthat-term consists of the expression 'dthat' followed by a singular term S.

$$\text{dthat}[S]$$

S may be a name, indexical, or definite description. Let's stipulate that the content of this term,

in a context, is identical to the referent (if any) of S in that context. An example: the content of

dthat[the person in my office now]

in a context where Mary is the agent and is alone in her office on 5 March 1993, is simply Mary herself. We can say that the entire dthat-term refers in a context to the referent (if any) of S in that context.<sup>5</sup> The functional character of a dthat-term is (as always) a function from contexts to its content in each of those contexts. Since the content of a dthat-term in a context (if it has one) is an individual, its functional character is a function from contexts to individuals.

We can now formulate expressions that have the same functional character, but seem to differ in meaning in some obvious way. Consider

(5)            dthat[the x such that: x = Bill Clinton]

(6)            dthat[the x such that: x = Bill Clinton, and either x is taller than Bush or x  
                  is not taller than Bush.]

The embedded terms in (5) and (6) both refer to Clinton in every context (in which they refer at all). Thus the contents of these two dthat-terms are the same in every context. And so their functional characters are identical. Nevertheless, (5) and (6) seem to differ in meaning in an important way. So a theory of meaning should acknowledge that they differ in meaning in some way.

The theory of structured character can acknowledge that (5) and (6) differ in meaning. Since (6) contains meaningful expressions, such as the name 'Bush', that (5) does not, the structured character of (6) has constituent characters that the structured character of (5) lacks: for instance, the structured character of (6) has the character of 'Bush' as a constituent. Therefore the structured characters of (5) and (6) are different.

Moreover, the theory of structured character distinguishes between the meanings of (5) and (6) in a way that reflects one important reason why we think that they differ in meaning. We judge that (5) and (6) differ in meaning partly because they have different meaningful parts. That is exactly why they have different structured characters.<sup>6</sup>

Therefore, if we are dealing with a language containing dthat-terms (with contents as stipulated above), a theory of structured character allows us to make intuitive distinctions in meaning which we cannot make using structured content and functional character.

### 5. Complex Demonstratives

My second case involves complex demonstratives of (unextended) English. Consider the following two terms.

(7)           that man

(8)           that man who is either talking to Bush or not talking to Bush

These terms are logically guaranteed to have the same referent in every context.<sup>7</sup> Now let's assume that the content of a complex demonstrative in a context is its referent in that context. Then these terms have the same content in every context. So they have the same functional character.

But (7) and (8) obviously differ in meaning in an important respect. Once again, a theory of structured character acknowledges that they differ in meaning, and for reasons that are intuitively appealing. We judge that (7) and (8) differ in meaning at least partly because they have different meaningful parts.<sup>8</sup> But that is also why (7) and (8) have different structured characters. Since (8) contains expressions (for instance, 'Bush') that (7) does not, the structured

character of (8) has characters as constituents (for instance, the character of 'Bush') that (7) does not. Thus (7) and (8) differ in structured character.

But this argument in favor of structured character is not yet complete. I argued above that the functional characters of (7) and (8) are the same, but to derive that conclusion, I asked you to assume that the content of a complex demonstrative term in a context is its referent in that context. This assumption is natural and plausible, but it could be challenged. So this assumption should be defended. Doing so will require a rather lengthy examination into the contents of complex demonstratives. I take up this examination for the next four sections.

## 6. The Referential Content View

Let me be clear about the view that I accept concerning the contents of complex demonstratives. In my view, complex demonstratives are singular terms. A complex demonstrative has a referent in a context. (I ignore reference failure for now.) Its content in a context is simply its referent. For instance, consider the complex demonstrative 'that spy', and consider a context where Fred is the referent of 'that spy'. I claim that the content of 'that spy' in that context is simply Fred himself. So the content of sentence (9) in this context is the same as that of sentence (10).

(9)            That spy is clever

(10)          Fred is clever.

Let's call this the Referential Content View. (If we wished to follow Kaplan's [1989a] terminology, we might equally well call it the 'Direct Reference View' of complex demonstratives.<sup>9</sup>)

This is a reasonably intuitive view. But there is one feature of it that may make one hesitate to accept it. According to it, the content of the predicate 'spy' (that is, the property of being-a-spy) is not part of the propositional content of 'that spy'. So the word 'spy' appears syntactically in 'that spy', but makes no "direct" contribution to its content.

That is a bit odd. But notice that this is not the same as saying that 'spy' has no semantic role in determining the content of 'that spy'. In fact, in section 10, I will argue that the content of 'spy' helps determine the referent and character of 'that spy', and thus the content of 'that spy' in a context. Nevertheless, I maintain that the content of 'spy' is not a constituent of the content of 'that spy'. I will argue for this last claim by arguing against three opposing views, all of which say that the property of being-a-spy is a constituent of the content of 'that spy'.

## 7. The Descriptivist View

The first opposing view that I wish to criticize is familiar. It says that each utterance of a complex demonstrative is synonymous with a definite description that uniquely identifies the demonstrative's referent. For instance, Mary's utterance of (11) might be synonymous with (12), where F is some predicate.

(11) That spy

(12) The thing that is a spy and is F

Thus the content of (11) has the content of 'is a spy' as a constituent. I will call this the Descriptivist View. But, in fact, the Descriptivist View comes in at least two different varieties, depending on what sort of predicate F is allowed to be.

A traditional theory might require that F be "purely qualitative": it must not "mention"

any individual "directly". So F may contain the predicate 'red' or 'hungry', but not the indexicals 'I' and 'now', or the names 'Reagan' and 'Bush', unless these can also be "cashed out" as qualitative descriptions. One serious problem with the traditional Descriptivist View is familiar from the work of Perry (1977). We are often able to use complex demonstratives to refer to objects without grasping any purely qualitative description that picks out the referent uniquely. Suppose that Mary utters (11), while intending to refer to a spy who is lurking in the darkness near her. She may be able to identify him as 'the spy lurking in the darkness near me now'. But she may have no purely qualitative way of describing that spy, nor any purely qualitative way of describing herself and the time at which she utters (11). Or the descriptions she is inclined to use may pick out the wrong person or time. (See Perry, 1977, for further details.)

A less traditional theory allows the description to contain names and indexicals that are not "cashed out" in terms of descriptions. So this view allows Mary's utterance of (11) to have the same content as an utterance of (13) by Mary in that same context.

(13)           The spy that I am watching now

But, as Kaplan (1989a, pp. 512-3) points out, this sort of view seems to get the wrong truth conditions for sentences containing (11). Suppose Fred is a spy, and suppose Mary is watching him (and only him) at 11 p.m. EST, 29 April 1993. Suppose she utters (9) at that time. (I reproduce (9) below.) Then on the Descriptivist View, the proposition she expresses is the same as the proposition expressed by (14).

(9)           That spy is clever.

(14)          The spy that Mary is watching at 11 p.m. EST, 19 April 1993, is clever.

But the propositions expressed by (9) and (14) in the above context have different truth values in

certain counterfactual situations. Consider a world in which Fred is still a spy, and is clever, but the unique spy that Mary is watching at 11 p.m. EST, etc. is not Fred, but Karl, who is not clever. The proposition that Mary expresses by uttering (9) seems to be true in this alternative world. But the proposition expressed by (14) is definitely false. So (9) and (14) express different propositions.

### 8. The Modified Descriptivist View

Let's try again. Mark Richard proposes (in Richard, forthcoming) that the content of (9) in a context is very roughly the same as the content of (15) in that same context.<sup>10</sup>

(9)            That spy is clever.

(15)          That is a spy and is clever.

Richard's basic idea is that the propositional content of 'that spy' consists of the referent of the term in that context together with the property of being-a-spy. In general, the propositional content of that N consists of an individual plus the content of the common noun phrase N in that context. (I will not worry about exactly how these two items are combined into a structured content.) So in a context where Fred is the referent of 'that spy', the content of (9) on Richard's view is roughly the same as that of sentence (16).<sup>11</sup>

(9)            That spy is clever.

(16)          Fred is a spy and is clever.

I will call this the Modified Descriptivist View.

I believe that the Modified Descriptivist View makes incorrect predictions about the truth values of modal sentences containing complex demonstratives. Consider the following sentence.

(17) Necessarily: if that spy exists, then he is a spy.

Let 'he' be anaphoric on 'that spy'.<sup>12</sup> Now imagine a context in which 'that spy' refers to Fred. Most philosophically trained speakers judge that (17) is false in this context, because they judge that Fred is not essentially a spy. But the Modified Descriptivist View entails that (17) is true in this context. For on that view, (17) expresses (roughly) the same proposition as (18) in the context we are imagining.

(18) Necessarily: if Fred is a spy and exists, then Fred is a spy.

But (18) is obviously true.<sup>13</sup>

The Referential Content View, on the other hand, correctly predicts that (17) is false in the context we are imagining. For on this view, (17) expresses the same proposition as

(19) Necessarily: if Fred exists, then Fred is a spy.

This is false, because Fred is not essentially a spy.<sup>14</sup>

Before turning to the next version of descriptivism, let's look again at the embedded sentence of (17).

(20) If that spy exists, then he is a spy.

Although this sentence does not express a necessary truth, it does seem to be a "universal truth" of some type. If I am to defend the Referential Content View, I need some sort of account of the "universality" of (20) that is consistent with this view. I will postpone discussion of this until section 12 of this paper. I will argue there that the "universality" of (20) can be explained without supposing that the property of being-a-spy is part of the content of 'that spy'.

## 9. The Rigidified Descriptivist View

The last view I wish to consider I call the Rigidified Descriptivist View. Like the previous view, this new view says that the propositional content of 'that spy' consists partly of an individual and partly of descriptive material. But on this new view the descriptive material is rigidified. Thus the content of (9) in a context where Fred is the referent of 'that spy' is roughly the same as that of (21).

(9) That spy is clever.

(21) Fred is actually a spy, and is clever.

The earlier modal objection to the Modified Descriptivist View fails against the Rigidified View. For according to the Rigidified Descriptivist View, (17) is not synonymous with (18), but rather with (22).

(22) Necessarily: if Fred is actually a spy, and exists, then Fred is a spy.

But (22), like (17), and unlike (18), is false. Let's suppose that Fred is a spy in the actual world. Now consider a world where Fred exists and is not a spy. Nevertheless, in that world it is still true that he is a spy in the actual world. So the antecedent of the embedded sentence in (22) is true in that world, while its consequent is false. So there is a world in which the embedded sentence of (22) is false.

Thus I need a new sort of argument to show that the Rigidified Descriptivist View is wrong.<sup>15</sup> The argument I present below appeals to judgments about propositional attitude sentences in certain sorts of contexts. I believe that these judgments tend to show not only that the Rigidified Descriptivist View is wrong, but also that the Referential Content View is right.

Before turning to that argument, however, I want to consider whether the Rigidified Descriptivist View has much initial plausibility. I think it does not. I assume that at least some

readers share this reaction. I believe that this reaction has something to do with the fact that 'that' is grammatically and semantically unlike any other rigidifying device. Consider the most familiar rigidifying devices, 'actual' and 'actually'. 'Actual' is grammatically an adjective, and seems to function semantically as a predicate of individuals. 'Actually' is an adverb of some sort, and seems to function semantically as a predicate modifier, or as a sentential operator. But 'that' seems, grammatically speaking, to be either a determiner (when it appears in complex demonstratives), or a noun phrase (when it appears in simple demonstratives). So, grammatically speaking, 'that' resembles expressions like 'a', 'the', and 'every', or expressions like 'I' and 'you'. Thus we would expect it to function semantically like those other determiners, or like those other referring expressions. But those other expressions are not rigidifying devices; none of them rigidifies accompanying descriptive material. So the proposal that 'that' rigidifies its accompanying descriptive material looks ad hoc. (Of course, I do not claim that this lack of initial plausibility is enough to refute the Rigidified Descriptivist View.)

Let's turn to the argument from propositional attitude sentences against the Rigidified View. To begin, let's consider an example of a belief attribution that involves a simple demonstrative. Suppose that Tom sincerely utters (23) while addressing Fred.

(23)            You are a spy.

Imagine that Mary witnesses Tom's remark to Fred. Then Mary can, at that moment, truthfully utter (24) as she points at Fred.

(24)            Tom believes that he is a spy.

Tom's utterance of (23) expresses the proposition that Fred is a spy. The embedded sentence in Mary's belief report expresses that same proposition, even though it uses a different

demonstrative from the one in Tom's utterance. So it looks as though, in this case at least, the mere match between the content of Tom's utterance, and the content of the embedded sentence in Mary's belief report, is sufficient to make Mary's report true.

This example is evidence that there are contexts with the following feature: a sentence of the form

x believes that d is F,

where d is a simple demonstrative, is true in such a context if (and only if) x stands in the belief relation to the proposition expressed by 'd is F' in that context. There are many other examples that seem to have the same moral. For instance, if Tom sincerely says 'She is a spy' while pointing at Mary, then Mary can truthfully say 'Tom believes that I am a spy'.<sup>16</sup>

It's plausible to think that a similar principle holds of belief attributions that have embedded complex demonstratives. For some contexts, a sentence of the form

x believes that that N is F

is true in that context iff x stands in the belief relation to the proposition expressed by 'that N is F' in that context. Now the Rigidified Descriptivist View and the Referential Content View assign different propositional contents to sentences of the form 'that N is F'. Thus if the preceding principle of belief attributions is true, then there may be cases in which these views make different predictions about the truth values of belief attributions containing embedded complex demonstratives. I believe that the following two examples are cases of this kind.

Suppose that Tom is in a restaurant and that George is his waiter. As Tom is being served by George, Tom comes to believe that George is a good waiter. So Tom utters (25) as he addresses George.

(25)            You are a good waiter.

Tom has not noticed that George is wearing white sneakers. But Mary, another customer, has, and so have her friends. Mary overhears Tom's remark and then utters (26) while pointing at George and addressing her friends.

(26)            Tom believes that that man wearing white sneakers is a good waiter.

It seems to me that Mary's attribution could be perfectly true, in the context we are imagining. But on the Rigidified Descriptivist View, it is difficult to see how it could be true in this context, given the facts about Tom. For according to it, (26) says that Tom believes (roughly) the proposition expressed by (27).

(27)            George is actually a man wearing white sneakers, and is a good waiter.

But in the example we are imagining, Tom is not aware that George is wearing white sneakers. So Tom does not believe the proposition expressed by (27). So on the Rigidified Descriptivist View, (26) must be false.

The Referential Content View, on the other hand, can allow that (26) is true in this context, because on this view (26) can say, in this context, that Tom believes the proposition expressed by (28).

(28)            George is a good waiter.

Tom does believe this proposition.

Let's consider another, more extreme, case. Imagine that John is a man who has dressed himself in women's clothing and otherwise made himself look like a (stereotypical) woman. Suppose Tom is speaking to John, and is unaware of the "deception." So Tom sincerely says to John,

(29) You are a woman.

Imagine that Sue and her friends are observing Tom and John. They are aware of John's true gender. Sue points at John and says to her friends

(30) Tom believes that he is a woman.

Sue's attribution is straightforwardly true (in the context we are imagining). But Sue could just as well have used the complex demonstrative 'that man' instead of 'he' in her belief report.<sup>17</sup> Thus it seems that Sue could have uttered (31) while pointing at John, and still have said something true.

(31) Tom believes that that man is a woman.

Now the truth of (31) in the above context is consistent with the Referential Content view of complex demonstratives. For according to this view, in the above context (31) says that Tom believes the proposition expressed by (32).

(32) John is a woman.

Tom does seem to believe this proposition, given the facts about the case.

But on the Rigidified Descriptivist View, the embedded sentence in (31) expresses, in the above context, the proposition expressed by

(33) John is actually a man and is a woman.

But Tom does not believe the proposition expressed by (33). For suppose that Tom is a leading logician. So if he believes that John is actually a man, then he believes that John is a man (simpliciter). And let's further suppose that Tom, like most people, believes that no man is a woman. So if he believes that John is a man, then he believes that John is not a woman. Thus Tom believes the proposition that John is actually a man and is a woman only if Tom believes

the proposition that John is a man and is not a man. But Tom, being a logician, does not believe this last proposition. Thus the Rigidified Descriptivist View is false.<sup>18</sup>

The three descriptivist views that I have considered are the most plausible alternatives to the Referential Content View that I have found. Since they are inadequate, I conclude that the Referential Content View is correct. So I have completed the argument in favor of structured character that I began in section 5.

There are three more topics concerning complex demonstratives that I wish to discuss before concluding this paper. First of all, I would like to describe a (simplified) reference rule for complex demonstratives. Secondly, I want to discuss the structured characters of complex demonstratives in more detail. Finally, I want to return to sentences like (20) and attempt to account for their apparent "universality" in a way that is consistent with the Referential Content View.

#### 10. A Reference Rule for Complex Demonstratives

I assumed above that a complex demonstrative has a referent in a context. How is that referent determined?

There's an obvious necessary condition for a complex demonstrative's referring in a context. It is this: in every context *c*, that N refers in *c* to *x* only if *x* satisfies *N* in *c*. So, for instance, 'that spy' refers in a context to Fred only if Fred is a spy in (the world of) that context. So an utterance of 'that spy' refers to Fred only if he is a spy. (This necessary condition on reference for complex demonstratives will play an important role in my account of the

"universality" of sentences like (20).)

But a reference rule needs both a necessary and a sufficient condition for reference in a context. To obtain a sufficient condition, I need a further assumption. Let's assume that contexts (sometimes) contain a demonstrated object, a demonstratum. The demonstratum in a context is (roughly speaking) the object to which a speaker tries to refer when she uses a complex demonstrative. I am imagining that in the formal semantics, the demonstratum of a context is simply given. But informally we can think of the demonstratum of a context as being determined, in some way that I won't go into here, by one or more factors of the following kind: the speaker's intentions, her overt and covert demonstrations, and the contextual cues that allow listeners to determine the referent.<sup>19</sup> Given all of this, (34) states a plausible reference rule for that N.

- (34) In every context *c*, that N refers in *c* to *x* iff: *x* is the demonstratum of *c* and *x* satisfies the content of *N* in *c*.

If this reference rule is correct, then the referent of that N in a context is determined in part by the content of *N* in that context.<sup>20</sup> But the content of *N* in a context is determined by its character. So the character of *N* partly determines the character of that N.

Therefore the material in the common noun phrase *N* is not just a pragmatically important guide to finding the referent of that N. The common noun phrase *N* has a real semantic function. It helps determine whether that N has a referent in a context. Therefore it helps determine the character of that N, and also its content in a context. Nevertheless, the content of *N* does not appear in the proposition expressed by a sentence containing that N.

There is one objection to this account that I want to consider, at least briefly. There seem

to be cases in which a speaker refers to a person by uttering 'that spy', even though that person is not a spy. For instance, suppose George falsely believes that Barney is a spy, and suppose George utters 'that spy is clever' while pointing at Barney. We might be inclined to say that George refers to Barney, and that he says that Barney is a spy. And so we might be inclined to say that the term 'that spy' refers to Barney in this context, even though he is not a spy. So we might conclude that the above reference rule is wrong.

This objection raises issues that I cannot fully discuss here. But in a nutshell, I think it confuses speaker reference with semantic reference.<sup>21</sup> I am inclined to agree that George (the speaker) refers to Barney when he points at Barney and says 'that spy'. I agree that he intends to assert a proposition about Barney, and I believe he may even succeed in doing so. But the above reference rule is concerned with the semantic referent of 'that spy', that is, with what the term 'that spy' refers to in that context according to the semantic rules of the language. It entails that 'that spy' fails to semantically refer to Barney in the above context. But this is consistent with saying that George (the speaker) refers to Barney, and with saying that George (the speaker) asserts a proposition about Barney.

## 11. Structured Characters for Complex Demonstratives

To assign a structured character to a complex demonstrative, we need to assign a character to 'that' and a structured character to its accompanying common noun phrase. I will not go into the details of assigning structured characters to common noun phrases. The details would have to be rather elaborate, in view of complex phrases like 'man who loves the woman who loves him'.<sup>22</sup> I will instead concentrate on the simple example that I've been using thus far, 'that

spy'.

According to one simple and plausible analysis, the character of 'that' is a function from contexts to the demonstrata of those contexts (if any). The character of 'spy' is just a constant function from contexts to the property of being-a-spy. Let's use '{that}' and '{spy}' to stand for the characters of 'that' and 'spy', respectively. Then the structured character of 'that spy' can be represented by

$$(35) \quad \langle \{that\}, \langle \{spy\} \rangle \rangle$$

The content of 'that spy' in a context is determined by its structured character, but not in the simple way that I indicated in section 3. The following content rule for the structured characters of complex demonstratives illustrates how the constituents of the structured character in (35) determine the content of that N in a context.

$$(36) \quad \text{Let } \{N\} \text{ be the character of the common noun phrase } N. \text{ Then the content of } \langle \{that\}, \langle \{N\} \rangle \rangle \text{ in context } c \text{ is the individual } x \text{ iff: } x = \{that\}(c), \text{ and } x \text{ has the property } \{N\}(c) \text{ (i.e., } x \text{ has the property expressed by } N \text{ in context } c).$$

Notice that the content determined by the structured character of that N, given a context, is simply the referent of that N in that context.<sup>23,24</sup>

If we let '{clever}' stand for the character of 'is clever', then the structured character of 'that spy is clever' could be represented by

$$\langle \langle \{that\}, \langle \{spy\} \rangle \rangle, \{clever\} \rangle.$$

Given a context in which Fred is the demonstratum and is a spy, this structured character determines the proposition  $\langle \text{Fred}, \text{being-clever} \rangle$ , which is true iff Fred is clever.

## 12. Universal Truth

Consider (37).

(37) That spy is a spy.

(37) is almost trivially true. Almost because 'that spy' could fail to refer, in which case (37) would be false or truth-valueless. But this problem with reference failure is avoided by (38).

(38) If that spy exists, then he (or: 'that spy') is a spy.

This is just (20) again. Now I have already pointed out that there are contexts in which (38) does not express a necessary truth. That is, there are contexts in which (39) is false.

(39) Necessarily: if that spy exists, then he is a spy.

But (38) still seems to be some sort of "universal" truth. It seems that it could not fail to be true, in some sense. Is it possible to explain this feature of (38) without supposing that the property of being-a-spy is part of the content of 'that spy'? In other words, can it be explained in a way consistent with the Referential Content View?

The answer is, 'yes'. First, notice that (38) is true in every context. For if 'that spy' refers to x in a context, then x is a spy in (the world of) that context. So if the antecedent of (38) is true in a context, then 'that spy' refers in that context to an existing spy. Therefore the consequent is also true in that context.

So (38) is a sort of "universal truth"---it is a truth-in-every-context. That seems to be enough to account for the feeling of "universality" that we get from it. Moreover, the fact that (38) is true in every context is consistent with the Referential Content View, and with the fact that (38) does not express a necessary proposition (in every context).

It might help to compare (38) with an analogous sentence containing indexicals.

Consider

(40) I exist.

In most contexts, this sentence does not express a proposition that is necessarily true. For instance, if Mary utters it, the proposition that she expresses is the same as the proposition expressed by 'Mary exists'. This last proposition is certainly not necessary. But (40) is still a sort of universal truth: it is true in every context. In fact, it is true in every context of every structure that assigns the right character to 'I'. Thus it's plausible to say, as Kaplan (1989a) does, that (40) is a logical truth. So (40) is a logical truth even though in most contexts it does not express a necessary truth.

We could, on similar grounds, say that (38) is a logical truth. (38) is true in every context of every structure that assigns the right sort of character to terms of the form that N. So if we accept something like Kaplan's notion of logical truth, we can say that (38) is a logical truth that (usually) does not express a necessary truth.

We can now explain why some people have a tendency to judge that (39) is true, and to judge that (38) is a necessary truth. People can easily fail to distinguish between necessity and truth-in-every-context (or logical truth). Those who judge that (38) is necessary may be doing just that.

### 13. Conclusion

I have been dwelling at length on the semantics of complex demonstratives. But as I said at the beginning of this paper, this is just one step in my overall argument in favor of structured character. I will end by summarizing that argument, and drawing a further conclusion.

I have argued that the content of a complex demonstrative term, in a context, is its referent in that context. Now the following two complex demonstratives are logically guaranteed to have the same referent in every context.

(41) That spy

(42) That spy who is either watching Clinton or not watching Clinton

Thus these terms have the same content in every context. So they also have the same functional character. But on the standard (Kaplanian) theory, the only semantic values that an expression has (in a context) are its functional character and its content. Thus the standard theory says that (41) and (42) are strictly synonymous in every respect. But clearly they are not. How should we account for their non-synonymy?

I have suggested that we should do at the level of character what was done long ago at the level of content. We should add structure to character. (41) and (42) have different structured characters. So if we introduce structured characters into our semantic theory, then we can solve the above problem. Moreover, introducing structured characters makes for an appealing kind of symmetry between character and content.

A stronger conclusion is justified, I think. Structured character makes distinctions in meaning that functional character cannot make. In fact, only structured character makes all the distinctions in meaning that (we feel) should be made at the "level of character." Structured character is also, in a certain sense, a more basic semantic value than functional character. For the structured character of an expression determines its functional character, but not vice versa. Perhaps, then, structured character is the sort of meaning we all along wanted to "capture" with the notion of character, even when our theory of character was functional. If so, then we should

say that character simply is structured character.<sup>25</sup>

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## Notes

1. Some important qualifications. Firstly, Kaplan (1989a) sometimes uses intensions to represent contents, especially in the more formal parts of his work. But it's clear that he prefers to think of contents as structured. The theory that I call 'the standard theory' or 'the Kaplanian theory' uses structured contents. Secondly, on the view that I call 'the Kaplanian theory of character', characters are identical with certain functions on contexts. But Kaplan (1989a, pp. 505-6) says that he uses functions on contexts to represent characters. In fact, he says that his functional representations may identify equivalent characters. (See Kaplan, pp. 505-6 and note 31. Kaplan seems to be worried about distinct co-referring names having the same functional character.) So strictly speaking, it is consistent with Kaplan's theory to hold that characters have constituent structure. But Kaplan himself never presents a theory according to which characters are something other than functions on contexts. This is why I use the term 'the Kaplanian theory of character' for the theory that identifies characters with those functions.

2. I am not the first to present a theory of structured character. Mark Richard did so in Richard (1983). (He calls them 'meanings'.) Richard presents his theory as a first step towards analyzing so-called de se belief reports, as well as certain de re belief reports. Those who accept Richard's (1983) theory of belief reports can view this paper as presenting additional reasons for accepting structured character. (I do not accept Richard's 1983 theory of de se and de re belief reports. Richard himself apparently thinks that this theory needs at least some modifications. See Richard, 1990, p. 122, n. 8 and p. 209, n. 5. It's unclear whether Richard continues to think that a theory of structured character is useful for semantic purposes.)

3. I believe that the characters of simple expressions are actually primitive relations, or functions-in-intension, rather than mere functions-in-extension. But I ignore this part of my view in this paper. See my (forthcoming).

4. A briefer version of the argument in this section appears in my (forthcoming).

5. If S fails to refer in a context, then so does 'dthat[S]', and the term fails to have any content in that context.

Kaplan points out in his "Afterthoughts" (1989b, pp. 579-82) that there are two interpretations of dthat-terms running through his paper "Demonstratives" (1989a). On one interpretation, 'dthat' is a rigidifying operator; on another, 'dthat' is a demonstrative surrogate. The semantics I am stipulating for dthat-terms makes them much closer to what Kaplan calls "demonstrative surrogates" than to rigidifying operators. But there is one small difference. On the "demonstrative surrogate" interpretation, the expression 'dthat' alone refers to an individual, whereas on the semantics I am presenting, the entire term 'dthat[S]' refers to an individual. Although my semantics does not match either of Kaplan's semantics, I believe that mine closely matches how dthat-terms have been commonly understood. See Soames (1989) and Richard (forthcoming).

6. The difference in meaningful parts between (5) and (6) has implications for how we go about understanding them. To understand (6), we must grasp certain characters that we do not have to grasp in order to understand (5). Perhaps this difference in the ways in which (5) and (6) are understood also helps account for our judgment that they differ in meaning.

I will not give a detailed description of the structured characters of dthat-terms in this paper. But the structured characters of dthat-terms resemble those of complex demonstratives in ordinary English. I describe the structured characters of complex demonstratives, and how they determine contents, in sections 10 and 11. This account can be modified in straightforward ways to obtain an account of dthat-terms.

7. The relative clause 'who is either talking to Bush or not talking to Bush' is intended to be a restrictive relative clause. I am assuming that the relevant contextual "factors" are held fixed when these expressions are evaluated in a single context. For example: I am assuming that both demonstratives are "associated" with the same demonstration in the context. Another example: I am assuming that if we need to subscript occurrences of 'that' in a formal representation (so that certain demonstratives can be "correlated" with certain demonstrata), then the occurrences of 'that' in these two terms receive the same subscript. (For more about these matters, see section 10.) Given these assumptions, we can see that the two terms refer to the same object in each context because the common noun phrases 'man' and 'man who is either talking to Bush or not talking to Bush' have the same extension in (the world of) each context.

8. There are two other reasons for thinking that (7) and (8) differ in (some sort of) meaning. First, they are understood in different ways. To understand (8) one must grasp certain characters which one need not grasp to understand (7). (This is a consequence of the difference in meaningful parts between (7) and (8).) Second, if these terms were translated into another language (for instance, German), they would receive different translations. Notice that if translations preserved only functional character, then (7) and (8) might well receive the same translation.

9. The semantics of complex demonstratives that I favor is obviously similar to Kaplan's semantics for dthat-terms, and to his semantics for simple demonstratives in English (like 'that'). So it's natural to ask whether my views on complex demonstratives resemble Kaplan's views. The answer is complicated, because Kaplan says very little about complex demonstratives. Moreover, it's important to distinguish between the views that Kaplan expresses in "Demonstratives" and in "Afterthoughts".

In "Demonstratives" (1989a), Kaplan holds that every demonstrative must be accompanied by a demonstration. The demonstration determines the character of the demonstrative. In the formal system, the demonstrative is represented by an occurrence of 'dthat', while the demonstration is represented by a description. An occurrence of a simple English demonstrative has a kind of standard formal representation: 'dthat[the thing that has appearance A from here now]'. (See 1989a, p. 526.) But Kaplan says (1989a, p. 527), "Obvious adjustments are to be made to take into account any common noun phrase which accompanies or is built-in to the demonstrative." So it seems that on Kaplan's earlier view, an English term like 'that spy' should be represented in the formal system by an expression like 'dthat[the spy that has appearance A



he-is-a-spy.

Now a defender of the Modified Descriptivist View might exploit the difference in truth value between (17) and (a) in an effort to defend his view. He might claim that I am confusing (17) with (a). Alternatively, he might claim that (17) itself is ambiguous, with respect to the scope of 'that spy', and that my judgments fail to take this into account. (Notice that on the Referential Content View, the propositions expressed by (17) and (a) are necessarily equivalent.)

I believe that I am not confusing (17) with (a), especially not after the precautions I have taken. Furthermore, I think that (17) is not ambiguous. But even if (17) is ambiguous, I think that my judgments in the text concern a "reading" in which 'that spy' takes narrow scope. I believe that (17) is false even on this "reading".

These issues about scope might be avoided if we ascend to the formal mode. Here's one way we might do it. First consider sentence (c).

(c) If that spy exists, then he is a spy.

Notice that (c) has no modal (or other) operators, so no issues of scope should arise. Now consider the proposition expressed by (c) in a context where Fred is the referent of 'that spy'. Got it? Consider whether that proposition is true in every world. It seems to me that that proposition is false in worlds in which Fred exists but is not a spy.

15. There is another view that makes use of rigidification that I have not yet mentioned. It is a "rigidified version" of the original Descriptivist View. On this view, the referent is not a part of the content of a complex demonstrative. The content is purely descriptive, but rigidified. So the content of 'that spy' is (very roughly) the same as that of 'the x such that x is actually a spy and actually F'. This view, however, is refuted by the considerations mentioned in the second paragraph of section 7 and by considerations similar to those that I present below against the Rigidified Descriptivist View.

16. I am not saying that for every context c, 'x believes that d is F' is true in c iff x believes the proposition expressed by 'd is F' in c. I am unsure whether this more general principle is correct. According to Salmon (1986) and Soames (1987), it is correct. But if Crimmins (1992), Crimmins and Perry (1989), and Richard (1990) are right, then in some contexts there may be more required for such an attribution to be true. According to them, a person believes a proposition "in a certain way" or "via a certain mode of presentation". A belief sentence, in some contexts, expresses a proposition that carries information about this mode of presentation. So the belief sentence is true in such a context only if the believer believes the proposition via the mode of presentation that is (covertly) expressed by the belief sentence in that context. I do not intend to take a position on whether Crimmins, Perry, and Richard are correct. But even on their views, there are at least some contexts in which all that's required for the attribution to be true is that x stand in the belief relation, "in any old way", to the proposition expressed by 'd is F' in that context. I will similarly maintain below that there are contexts in which an attribution of the form 'x believes that that N is F' is true iff x believes, via any mode of presentation, the proposition expressed by 'that N is F' in that context.

17. Sue could also just as well have used 'that male' instead of 'he' in her report, since 'he' and 'that male' seem to be nearly synonymous. (These terms probably have the same functional

character, though they probably do not have the same structured character.) The argument below will go through if 'male' is substituted for 'man' throughout. But 'that male' is slightly less natural in this example than 'that man'.

18. I want to be clear about my conclusion here. I say that it is possible for Mary and Sue to use (26) and (31) to express true propositions, given the facts about Tom, as long as they use 'that man with the white sneakers' to refer to George, and 'that man' refer to John. However, I wish to leave open the possibility that the views of Crimmins, Perry and Richard on belief reports are correct (see note 16). So I want to leave open the possibility that Mary and Sue may also be able to use (26) and (31) to express false propositions if, in addition to specifying the proposition that Tom believes, they intend to use the embedded sentences to "characterize" the "modes of presentation" of the referents to Tom. But the Rigidified Descriptivist View entails that Sue and Mary simply cannot use (26) and (31) to express true propositions, no matter what their intentions, given the facts about Tom and the facts about what the complex demonstratives refer to. It's this last consequence of the Rigidified Descriptivist View that I claim is false.

The advocate of the Rigidified Descriptivist View could defend her view by claiming that I am ignoring problems about scope. She might, for instance, claim that those who judge that Sue's attribution in (31) is true are confusing (31) with (a) or (b) below.

(a) That man is believed by Tom to be a woman.

(b) That man is such that Tom believes that he (?) is a woman.

In (a) and (b), 'that man' takes wide scope. (a) and (b) are true, because they attribute a belief by Tom in the proposition that John is a woman. The truth of (a) and (b) is perfectly consistent with the Rigidified Descriptivist View. But in (31) 'that man' takes narrow scope. The descriptivist might maintain that (31) really is false, just as the Rigidified Descriptivist View says, but people who judge (31) to be true are confusing it with (a) or (b). Alternatively, the descriptivist might claim that (31) is ambiguous between "readings" in which 'that woman' takes narrow scope and wide scope. People who judge (31) to be true are taking 'that man' to have wide scope.

As far as I can tell, this descriptivist reply is not effective. Speaking for myself, I believe that I have not been confusing (31) with (a) or (b). Furthermore, I do not see why we should think that (31) itself is ambiguous in the way described above. In any case, when I make a concerted attempt to judge the truth value of (31) on a "reading" of it in which 'that spy' takes narrow scope (the only "reading" of it in my opinion), it still seems to me to be true. Notice that on the Referential Content View, (31) and (a) and (b) are all logically equivalent. I think that this result accords better with my understanding of those sentences than does the result of the Rigidified Descriptivist View.

In correspondence, Mark Richard has made me aware of another view that ascribes a sort of ambiguity to sentences containing complex demonstratives. (Richard does not endorse this view.) According to it, complex demonstratives display a sort of referential/attributional ambiguity, much like that which is commonly ascribed to definite descriptions. On this view, the content of a referential use of 'that spy' is simply its referent; but an attributive use of 'that spy' has the content ascribed to it by the Modified or Rigidified Descriptivist Views. I cannot discuss this view at length here. But it seems to me that this view is inconsistent with our judgments about (26) and (31). Furthermore, I believe that we should avoid such "ambiguity theories" whenever possible.

19. The reference rule in (34) is consistent with a wide variety of views about how the demonstratum in a context is (pre-formally) determined. See Kaplan (1989a and 1989b), Wettstein (1984), and Reimer (1991) for different views about this matter.

For the sake of simplicity, I am allowing only one demonstratum per context. So I am ignoring the fact that a speaker may refer, in a single context, to more than one object with a term of the form that N. Hence I am ignoring utterances of sentences like 'That spy is not identical with that spy', in which the speaker succeeds in using 'that spy' to refer to two different people. A more nearly adequate theory might use a sequence of "subscripted" demonstratives (e.g., 'that<sub>1</sub>', 'that<sub>2</sub>',..., 'that<sub>n</sub>'), and assign a sequence of demonstrata to each context. See Kaplan (1989b, p. 587).

20. According to (34), that N fails to refer in a context if there is no demonstratum in the context, or if the demonstratum fails to satisfy the content of N in that context. See note 23 for the implications of this for the content of that N in such contexts.

21. See Kripke (1977) for further discussion of this distinction, and its application to definite descriptions and proper names.

22. We could develop a theory of structured character for such phrases by making appropriate modifications in a theory of structured content for these same phrases. Crimmins's theory of complex relations (Crimmins 1992, pp. 108-111) might serve as a useful starting point.

23. According to the Referential Content View, the content of that N in a context is its referent, if it has one. So for completeness, I should specify what the content of that N is in a context in which that N fails to refer. That is, I should also specify the content determined by  $\langle \{that\}, \langle \{N\} \rangle \rangle$  in contexts in which there is no demonstratum, and in contexts in which there is a demonstratum that fails to satisfy the content of N in that context. I am inclined to think that that N has no content in such contexts, and that sentences containing it express structured propositions with unfilled positions. I won't go into this further here, but see my (1993) for a view like this about non-referring proper names.

24. There is an alternative way to treat the structured characters of complex demonstratives, and particularly the character of 'that', so that 'that' operates more like an ordinary determiner than a referential expression. On this alternative theory, the character of 'that' is a kind of second-level character, one which takes (first-level) characters and contexts as its arguments. On this view, the character of 'that' works in three steps (so to speak): (1) it takes a context, plus the character of its accompanying noun phrase, and "finds" the content of that noun phrase in that context. (2) It then "finds" the demonstratum of the context, and determines whether it satisfies the content of the noun phrase. (3) It then yields the demonstratum if the demonstratum satisfies the content of the noun phrase. Collapsing these "steps" together, we can think of the character of 'that' as a (partial) function from pairs consisting of contexts and characters (of common noun phrases), to individuals (contents). On this view, the content rule for complex demonstratives must allow the character of 'that' to apply to both of its arguments in order to get the content of the entire phrase.

Either treatment of complex demonstratives could be extended to simple demonstratives. For

the simple demonstrative 'that' could be treated (semantically) as an elliptical form of 'that thing', where 'thing' expresses a property that every individual satisfies. Thus a simple demonstrative could be treated as a special case of a complex demonstrative. This treatment of simple demonstratives is probably better motivated by the immediately preceding analysis than by the analysis in the main text.

25. Many thanks to Joseph Almog, Greg Carlson, Richard Feldman, Peter Lasersohn, Gail Maunder, Mark Richard, and Ted Sider for helpful discussion and comments.