This is a Paper about Demonstratives

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Abstract

Demonstratives (words like 'this' and 'that') and indexicals (words like 'I', 'here', and 'now') seem intuitively to form a semantic family. Together they form the basic set of directly referring 'context sensitive' terms whose reference changes as the environment or identity of the speaker changes. Something that we might expect of a semantics for indexicals is therefore that it would be closely related to a semantics of demonstratives, although recent approaches have generally treated them separately. A promising new theory of indexicals is the 'token-contextual' account, which accounts for a wide range of uses of indexicals without encountering the problems faced by competing models. So far this theory has not been considered for demonstratives, however, but only for the indexicals 'I', 'here' and 'now'. In this paper I show that the token-contextual account can be elegantly extended to cover demonstratives. Doing so restores unity to our understanding of a natural semantic family, and allows us to identify a single rule governing the most basic context-sensitive terms.

Keywords Demonstratives · Indexicals · Contextualism · Tokens · Kaplan

1 Kaplan on Demonstratives

In Kaplan's agenda-setting paper 'Demonstratives' (1977), a set of terms was identified whose reference appears to change from one context to the next. Included in this set were words like 'this' and 'that', which I will henceforth call simply 'demonstratives', and words like 'I', 'here', 'now', which I will call 'indexicals'. These terms are generally considered to form the set of prototypically 'context sensitive' expressions in natural language (Cappellen and Lepore 2005: 1): depending on who uses them, where they are, what time it is, or what they are pointing at, the terms refer

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to different things. Suppose Descartes produces the following sentence in Holland in 1641, pointing at a piece of wax:

1)   I am here now, and this is a piece of wax

In 1), 'I' refers to Descartes, 'here' refers to Holland, 'now' refers to 1641 and 'this' refers to the piece of wax he points at. But if I produce the same sentence in Paris in 2020, pointing at a wax pig, the terms will refer to different things: me, Paris, 2020, and the wax pig I'm pointing at. Such is not the case, for example, for proper names or natural kind terms. If Descartes says "wax melted in Holland in 1641" in 1641 in Holland, he says just what I would say if I produce the same sentence 400 years later in Paris.

Demonstratives and indexicals are also paradigmatic instances of 'directly referring' expressions. A term that refers directly is a term that picks out its object *de re*, without any intervening description.[1] I can point at a painted block of wood before me that I believe is a lump of cheese, say 'that', and refer to it successfully, my false belief notwithstanding. The indexicals 'I', 'here', and 'now' are also all terms that refer directly, as Perry (1977) showed us – we can refer to ourselves, and to the time and place where we are located even if we have false beliefs about who, where and when we are. For this reason, philosophers have come to regard indexicals and demonstratives as playing a crucial role in allowing our thoughts to connect to our environment without relying our having intervening true beliefs about our environment.

Kaplan proposed a special set of rules that govern the semantic behavior of these terms. Kaplan calls these rules the 'character' of the terms, and proposed that when coupled with a 'context' – which is a set of objects including at least an agent, a time, and a place – the character of a demonstrative or indexical tells us what the term refers to. Kaplan's original rules hold that the term 'I' picks out the agent of the context, 'now' picks out the time of the context, 'here' picks out the place of the context, and 'this' picks out an object in the context indicated by the speaker's pointing finger.[2] The elegance of the account can be highlighted by noting that really just one simple rule is at work here: a demonstrative (or indexical) picks out the object of the type appropriate to that demonstrative (or indexical) in the context. We can see why Kaplan referred to them all simply as 'demonstratives'.

The problem for Kaplan's account is that it is left unclear *which* context we are to evaluate any particular utterance of a demonstrative or indexical against. We might assume, *prima facie*, that the utterance should be interpreted against the context of the speaker or 'producer'. This would imply that an utterance of 'I' refers to the agent in the context of the producer – which is the speaker; 'here' refers to the place at

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[1]Some hold that all terms refer by description (see Chalmers 2006 a recent defense), but among those who defend the widely held view that at least some terms refer directly, demonstratives and indexicals are regarded as paradigmatic examples (see Recanati 2012 a recent defense of the direct reference view).

[2]Note that Kaplan's characters are not Russellian descriptions. It is not because the referent of 'now' satisfies the description 'the time of the context', that it is referred to by the indexical. Rather, these rules characterize the relationship between the indexical or demonstrative and its referent, while reference is established by the actual physical relationship between the producer and the object. This is simply to reiterate the point that demonstratives and indexicals are directly referring terms on this approach, rather than terms that refer on the basis of an intervening description.

the context of the producer – wherever she is located; 'now' to the the time that the producer speaks; and 'this' to the object identified by the producer's pointing gesture. Let's call this view the 'producer-centered' account.

For many uses, the producer-centered account seems to get the right results. Applied to Descartes' utterance in 1), according to this view, 'I' refers to Descartes, 'here' refers to Holland, 'now' refers to 1641, and 'this' refers to the piece of wax. Just the results we might hope for. However, counterexamples were quickly identified. Consider the following message recorded on an answering machine:

2)   I am not here now, so please leave a message

When this message is heard by a caller, the term 'now' does not refer to the time the message was produced – but to the time the message plays back (Sidelle 1991). A similar example for 'here' can be constructed. Recall the tour-guide in the film Jurassic Park who conducts the bus tour of the park remotely, from the safety of a central office. As the bus is passing the Tyrannosaurus Rex enclosure he says:

3)   Here you can see T-Rex

Of course 'here' in 3) does not refer to the location of the tour-guide, who sits in the central office, but to the location of the bus, where T-Rex can be seen (O'Madagain 2014). And so we also have a straightforward counterexample to the producer-centered account of 'here'.

Although the debate about Kaplan's semantics has been largely focused on puzzling uses of indexicals, there are also puzzling uses of demonstratives that do not fit the model, as Kaplan began to recognize. First, demonstratives can be used without any finger-pointing gesture. Suppose, Kaplan considered, that a man has robbed a bank, and as he flees the manager, staring at the fleeing robber, shouts:

4)   Stop that man![3]

It seems clear that here the manager succeeds in referring to the fleeing man without any pointing gesture. In fact there are many underexplored ways in which we can use demonstratives that do not fit Kaplan's rule.

Suppose a speaker is sitting back in a boat on the river, eyes closed, enjoying the day, and says:

5)   This is lovely

Here the reference is perfectly clear – the reference is the context of the speaker: her environment, the lovely day. But the speaker needn't look at anything, or point at anything, for reference to be established in this case. Demonstratives unaccompanied by gestures or eye gaze are also often found in writing. Consider the title of this paper:

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[3]This is a complex demonstrative, insofar as the reference of the demonstrative seems to be restricted to objects that satisfy the description 'man', and which can be contrasted with 'bare' demonstratives that include no such restriction. Some (Lepore and Ludwig 2000) do not take complex demonstratives to function similarly to bare demonstratives, while others including Kaplan (1989), Braun (1994) and Siegel and Glanzberg (2004) take such cases to work as bare demonstratives constrained to objects of the type in the nominal, which I adopt for present purposes.

6)   This is a Paper about Demonstratives

In 6), the term 'this' picks out this paper, but there is no eye gaze or pointing finger at work. Such cases can be found commonly – imagine your niece is concerned about her siblings eating her food, so she inscribes a note on her carton of juice, reading 'This is Úna's!' She doesn't need to stand around pointing at the carton for the reader to know what the demonstrative refers to. Or, we might find an inscription on a dangerous object – an electric fence for example, reading 'Danger: this is an electrified fence!' In none of these cases is eye gaze or finger-pointing doing any work, and in none of these cases is the producer present – but reference is perfectly clear in each.

Perhaps we might suspect that in such cases a great deal of work is being done by the predicates – 'a paper', or 'an electrified fence'. But we can just as easily use demonstratives without the support of predicates. Consider the following use that has become common on social networks, when posted next to a cute animal video or a pithy political slogan:

7)   This

If 7) is posted on an internet social network next to a cute cat video, the reference of the token is the video it is posted next to. Such uses clearly carry an implication of something like 'have a look at this', or 'this is adorable', or 'this is very relevant right now'. What the implication is must be interpreted by the viewer in the context. But *what* the demonstrative picks out is quite transparent. Nevertheless, in such a use there is no pointing, no eye gaze, and no helpful predicate to narrow reference down.

Very little attention has been paid to such uses of demonstratives – particularly such entirely unadorned cases as 7). And yet they are commonplace. How can we explain them?

2 The Usual Suspects

There are two well-worn approaches within natural language semantics that have attempted to resolve the puzzles facing Kaplan's account: those that appeal to a speaker's intentions to determine meaning rather than a simple conventional rule, and those that appeal to multiple rules to determine meaning.

2.1 Intentions

First let's consider the intentionalist approach. In the case of the automatic indexicals 'I', 'here' and 'now' it has been argued that intentions fix, from one case to the next, either the character that governs a token indexical (Smith 1989), the context in which a token indexical is supposed to be evaluated (Predelli 1998, 2002; Akerman 2009, 2015), or the content of a demonstrative component that may belong to indexicals, supposing 'I', 'here' and 'now' are equivalent to 'this person', 'this place' and 'this time' (Krasner 2006; Mount 2009; Recanati 2001, 2010)[4]. According to

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[4]Recanati endorses this claim for 'here' and 'now' only.

these views, the reference of a token indexical is determined not by a conventional rule, but by its producer's intentions. This allows that a token of 'now' can refer to the time of playback of an answering machine message, for example, just in case the person who records the token intends either the character, context of interpretation, or demonstrative content of the indexical to deliver the time of hearing as the reference of the token, and similarly for the Jurassic Park and other cases. In effect, on this approach, the answer to the question 'which context' that arises for Kaplan's approach is 'whichever context is intended'. An indexical or demonstrative refers to the agent, time or place in the context intended by the speaker.

The same strategy has been adopted in the case of demonstratives. Kaplan proposed, having considered some puzzle cases for his original rule, that the reference of a token demonstrative is really determined by a 'directing intention' on the part of the speaker (Kaplan 1989; see also Reimer 1991). The pointing gesture, he concluded, is simply a pragmatic device designed to clarify the reference for an audience, but the speaker's intention is really doing the work of fixing reference. This recourse to the speaker's intention as the sole arbiter of demonstrative reference has been endorsed widely (Wettstein 1984; Bach 1992; Perry 2002; Recanati 2001, 2010; King 2014).

Intentionalism is attractive because it allows us to easily get the right referents for the puzzle cases above. All that is required, after all, is that the producer of the token intends it to refer to the right object. However, by rejecting that linguistic meaning is constrained by any standing rules, intentionalism raises what is known as the Humpty Dumpty problem.

On Humpty's view, our words mean whatever we intend them to. But Humpty's theory risks absurdity. It seems clear, for example, that John cannot, while standing on Trafalgar Square at 2 p.m. on the 15th of June 2007, use the sentence 'I am here now' to express the proposition that Bill was in Singapore at 5 p.m. on the 23rd of January 2006 (Akerman 2009: 164). And yet, according to Humpty, if John simply intends the utterance to have this meaning, then this is what it means.[5]

Humpty Dumpty presents just as serious a difficulty for demonstratives. Suppose, intending to refer to Rudolf Carnap, but with my eyes focused intently on a plum before me on the desk, I point at the plum and declare:

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[5]One push back against the Humpty Dumpty worries is given by Donnellan (1968), who points out that with enough stage-setting one can get a phrase with one standard conventional meaning to mean something quite different. He convincingly explores how one could get the phrase 'there's glory for you' to mean 'there's a nice knock-down argument', playing on Davidson's example from Alice in Wonderland. But this response does not get at the heart of the problem. We could indeed get the phrase 'I am here now' to mean what Akerman considers – for example if we tell our audience in advance that this is what we shall mean when we use that phrase. But it is crucial to remember that we cannot get the phrase to have that meaning simply by intending it to. The stage-setting is essential. The fact that altering the meaning requires this kind of stage-setting, and is not possible by altering our intentions alone, is sufficient to illuminate the problem with the intentionalist position. We can of course allow that what has sometimes been called 'speaker's reference' can can be fixed by intentions alone – speaker's reference being simply what a person intends to refer to Kripke (1977). But this leaves 'semantic reference', which is generally understood as what a word can effectively be used to refer to in a coherent conversation, on the table. The task of the current paper is to figure out what it is that constrains the ways in which demonstratives can be effectively used.

8) This is the greatest philosopher of the 20th century!

It seems obvious that the demonstrative in 8) does not refer to Carnap. But since intentionalism holds that a demonstrative refers to whatever its producer intends, then it fails to explain why the demonstrative does not refer to Carnap. Similarly, although the demonstrative in 7) can refer to the cat video posted next to it, it cannot refer to anything at all. It cannot refer, for example, to Moby Dick just because the person who types out the post has the great whale in mind when she posts it. The token demonstrative in 6) cannot refer to Kaplan's 1977 paper, and although the demonstrative in 5) can be used to refer to the lovely environment of the speaker, it surely cannot be used to refer to anything she might intend, such as a piece of cheesecake she had the week before, etc.

Recognizing worries of this sort, some argue that the meanings that intentions can assign to demonstratives or indexicals must be constrained by the ways those words would be interpreted by a 'competent' or 'normal' hearer (Romdenh-Romluc 2002: Recanati 2004: 19, King 2014: 225). Certainly, this would seem to block 'I am here now', produced by John on Trafalgar Square, from meaning that Bill was in Singapore at 5pm on the 23rd of January 2006. It would also block the demonstrative in 8) from referring to Carnap. In each case, after all, what we might imagine as competent interpreters of English would never assign those meanings to those utterances produced in those contexts. The constraint seems, as a result, to save the intentionalist from Humpty Dumpty without appealing to conventions.

However, it is not clear that this appeal to competence allows us to retain intentionalism. To begin with, the appeal to competence seems to be really a tacit appeal to conventions. We must ask ourselves, after all, why a competent speaker of English will take the demonstrative in 6) to refer to the paper it adorns, and not Kaplan's 'Demonstratives'. A natural answer is that a competent hearer knows the conventions of the English language, and those conventions are such that a demonstrative used in such a context refers to the document it's printed on, and no other. And this means that an appeal to competence to block Humpty Dumpty meanings is really an appeal to convention in disguise.

A further problem for the appeal to competence is that it seems to render *misunderstanding* between competent speakers impossible. Weatherson (2002) raises this worry with an example along the following lines. Suppose I leave a note in a colleague's mailbox reminding her that there's a faculty meeting on the day I write the note, reading 'there's a faculty meeting today'. I then leave work, expecting my colleague to read the note in the afternoon. But my colleague cannot come in that day after all (let's imagine nobody can – the school is placed on lockdown for a week due to a recent explosion of a nasty flu). By the time anybody arrives back at work, they cannot tell when the note was written. No competent speaker is, in the end, in a position to decipher my note. But the competence constraint says that an utterance is only meaningful if a competent audience can understand it. This means the note is meaningless, which seems hard to accept.

This kind of concern can also be raised for demonstratives. Suppose I am an adept birdwatcher and, recognizing a Roseate Tern among a large flock of seabirds, I say to my friend who can't tell a seagull from a duck:

9)   That's a Roseate Tern!

We can allow that my friend is a perfectly competent speaker of English, and yet, as he stares bewildered at the flock of birds, he will nevertheless be unable to tell which bird I am referring to. But if he is a competent speaker of English, and still cannot tell what I've referred to, the competence constraint implies that I have not referred to anything. Advocates of the competence constraint have suggested in such cases that perhaps I really am not referring to anything (King 2014: 223). But again this is hard to accept. Consider that a perfectly coherent response from my friend would be to ask 'which one are you referring to?' This response presupposes that I did indeed refer to one of the gulls, and so the coherence of such a mundane exchange seems to require that it is possible to refer to something and not be understood, even by a competent audience.

2.2 Multiple Conventions

In light of the problems that arise for unfettered intentions, and the poverty of the 'producer-centered' conventional account, some have proposed that there are *many* conventional rules governing indexicals. On this view, the rule that applies in any context is determined not by a speaker's intentions, but by non-intentional features of the context (Sidelle 1991; Corazza et al. 2001; Gorvett 2005; Parsons 2011; Michaelson 2013; Egan 2009). In ordinary speech, indexicals are governed by producer-centered rules, but on answering machines, perhaps, a different rule governs our uses of 'now', and so on for other puzzling cases. This strategy avoids the Humpty Dumpty problem that intentionalism runs into, because it accepts that linguistic meaning is constrained by convention. But it also holds the promise of accommodating a wide range of uses that do not seem to be accommodated by Kaplan's model, given that on this view there may be many different rules and not just one.

Something like the multiple-rule approach has been adopted to deal with some unusual uses of demonstratives too. For example, if I say "what was that!", when a loud 'bang' is heard by us both, it seems clear that I have referred to the loud bang. Perhaps, then, in a context where some possible object of demonstrative reference is mutually salient, then a demonstrative produced in that context refers to the mutually salient object. In another context, however, I might notice an interesting sight that is not easy for you to see – such as the Roseate Tern considered above, and refer to it demonstratively. In a context where an object is visible to the speaker but not the hearer, then, a demonstrative might refer to the object the speaker is paying attention to. This approach entails that different rules govern demonstratives depending on the context they are used in (see Gauker 2008 for such an approach). Indeed it is widely recognized that when the words 'this' and 'that' are used in contrast with one another, 'this' refers to an object closer to the speaker, while 'that' refers to an object further away. But when the words are used on their own, however, there is no distinction. There is good linguistic evidence, then, that there are at least some context-dependent conventions governing demonstratives (Diessel 1999, Tomasello 2009: 200).

The multiple-rule approach, however, raises its own problems. The rules it posits risk being ad-hoc: we can always stipulate a new rule for any unexpected use of a demonstrative or indexical we come across, without undermining the view that there are multiple rules governing these terms. But this means that the account is unfalsifiable, and that's not a great sign (Popper 1959). Also, the more rules we postulate as governing some word, the harder we should expect it to be to learn, since we would need to learn many rules to master it. Demonstratives, however, are typically among the first ten words learned by infants (Clark 1978), and we have no evidence that indexicals are particularly difficult to master (Predelli 2002: 313; Corazza 2004: 306). The approach also entails that indexicals and demonstratives are lexically ambiguous, but we have independent reasons to think that they are not (Cohen 2013: 11-13). And finally, the approach yields no prospect for unifying an account of demonstratives and indexicals, since demonstratives will presumably follow different rules again.

Overall, then, the 'unfettered intentionalist' and the multiple-rule theorist seem to introduce as many problems as they resolve. There may be ways around each of these problems for a proponent of either view, but it's safe to say that one way to avoid them all would be to find just one rule that identifies the content of an indexical or demonstrative for any context – in other words, an account just like Kaplan's original.

Kaplan's rule interpreted as the 'producer-centered' model, of course, doesn't seem to work. However an alternative 'token-contextual' account, that seems to retain the simplicity of Kaplan's view with a slightly different set of rules, has recently been defended for indexicals (Cohen 2013; O'Madagain 2014). I turn to this account next, and then consider how it might also apply to demonstratives, to yield a simple unified account of the basic set of context-sensitive terms.

3 Tokens

The main innovation of the token-contextual proposal is to focus not on the context of the producer to identify the rules governing indexicals, but on the context of the token. On the token-contextual view the character of the indexicals 'I', 'here', and 'now' is to pick out the agent, place, or time of the context of the token – the context-centered on the spatio-temporal location of the token utterance itself. The answer on this view to the question 'what context' is simply 'the context of the token'. Such contexts will be fixed by the place or time in which a vocal utterance or an inscription occurs. Ordinarily when we speak, the sounds that constitute our utterances occur in the location in which we produce them. However, semantic tokens can often occur in locations or at times other than where the producer of the token is – sometimes due to recent innovations like answering machines, but also due to simple devices like written notes that can be left behind to be read later. The token-contextual view allows us to make sense of such cases where the producer-centered view falls short.

The token-contextual view posits just the same number of rules as posited by Kaplan, but with the small modification of replacing the role for the context of the producer in the rule with a role for the context of the token. We can think of the

account as providing us with the following rules governing indexicals (with a notable role for intentions included, to be explained shortly):

i.   'I' refers to the intended agent of the token at the context of the token[6]
ii.   'Here' refers to the intended place at the context of the token
iii. 'Now' refers to the intended time at the context of the token

Importantly, the context of the token is identical to the context of the producer in many uses of indexicals. In 1) the account will therefore produce the same results as the producer-centered view. The tokens of 'I', 'here' and 'now' produced by Descartes in 1) occur in the context of the producer, and so an account that predicts that the terms refer to the agent, place or time of the token will predict that in 1), the terms will refer to Descartes, Holland, and 1641. But in cases like 2) and 3), the context of the producer is not the context where the tokens occur. In these cases, the producer-centered view gives the wrong results. The token-contextual account, however, gives the right results. The time at the context of the token of the term 'now' on an answering machine is the time the message is played back for the hearer. And that is exactly the time the token is understood to refer to. And the place at the context of the token for the message in 3) is the place where the message is broadcast – on the bus. And this, too, is exactly the location the token is understood to refer to.

The token-contextual approach is highly promising because it not only accounts for a wide variety of uses of indexicals, but it does so with a single set of conventional rules – one for each term. This comes close to restoring the simplicity of Kaplan's original approach, steering a course between the Scylla of an indefinitely expanding list of rules, and the Charibdis of Humpty Dumpty. The account avoids the Humpty Dumpty problem because it posits standing rules constraining the meaning of indexicals, thereby giving us some way to explain how there are limits to the ways they can be used. For example, it predicts that 'I'm here now' uttered by John in Trafalgar Square cannot express a proposition about Bill being in Singapore three years later, because the agent of the token 'I' at the context of the token is John, the time the token occurs is 2006, and the place is Trafalgar Square. The account also avoids the problems of multiple rule accounts: since it posits just one rule per term it runs into no difficulty explaining the ease with which we learn the terms, and for the same reason it denies that the terms are lexically ambiguous, allowing us to preserve our

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[6]Practically it is redundant to include both 'intended' and 'at the context of the token' in the case of the first person indexical. For one thing, there is only one possible agent of the token, being the speaker, so intentions are not resolving an indeterminacy of reference here; second since the identity of the agent of the token cannot change as the token is brought into a new context, it is also redundant to include 'at the context of the token' (Cohen 2013: 9). However, the fact that these aspects of character are not resolving a referential indeterminacy does not mean that they play no role in the character of the term – they may play an intensional role that makes no extensional difference. It can always be assumed, after all, that when an agent says 'I', they do indeed intend to refer to themselves, even if there isn't anyone else they could use the term to refer to. I therefore include these elements to illustrate the intensional symmetry in the character of the terms.

intuitions to that effect. For these reasons, the token-contextual view seems like a very promising account of these fundamentally important terms.[7]

Notice that the token-contextual account has not dispensed with intentions entirely. It has been widely noted that even if we adopt the extremely strict 'producer-centered' account, prototypical uses of indexicals 'here' and 'now' will still leave a great deal of indeterminacy that a speaker's intentions are plausibly required to resolve. When Descartes says 'now' in 1), he could refer to 1641, but he could also be referring to the minute he spoke, or to the seventeenth century – since these are all times in which Descartes, the producer, is speaking; similarly, he could refer to his seat by the fire, his cellar, or the whole of Holland when he says 'here' (Krasner 2006; Mount 2009; Recanati 2010). It seems that we must appeal to Descartes' intentions to decide which out of these referents his utterance refers to, since they are all to be found at 'the context of production'. The token-contextual rules leave the same basic indeterminacy within the context of the token, and therefore must make the same appeal to intentions to fully resolve reference. If the token-contextual rule were to be characterized as 'the place at the context of the token' *tout court*, we would find that we are left with no way to decide whether the term 'here' in 1) referred to Descartes' cellar, Amsterdam, or the planet Earth, which are all places to be found at the context of the token. It is important to include 'intended' in our characterization, as a result, to play the same 'finalizing' role in the determination of reference that they must play on the producer-centered account. Notice however that assigning this role to intentions is not at all the same as allowing intentions free reign to pick any context at all as the one an indexical is to be interpreted against. The 'intentionalist' views considered and rejected above allow a speaker's intentions to determine the context against which a token indexical is to be interpreted, with no constraint on which contexts are allowed. Appealing to intentions to play a role in determining reference within a context that is the context of tokening, on the other hand, allows that the terms are constrained by convention after all.[8]

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[7]There are of course some puzzle cases for the view. Michaelson (2013) raises the puzzle of the term 'here' on a post-card. If it is posted in Tahiti, and received in London, the term 'here' seems to refer not to the place in which it is read, but the place it is written. But Cohen (2013) argues that such a case might take its reference anaphorically from locations indicated on the post-card – from the post-mark or the picture on the front of the card. Another puzzle: a telephone call in which the term 'here' is produced by the speaker, but another token is produced in the receiver's hand-set in a faraway location (O'Madagain 2014). Since we now have two tokens located in two different places, this yields a puzzle for the claim that the token-location trivially determines reference. To maintain the token-contextual view, we would need some way to decide which token is the one that determines reference. O'Madagain argues that in this case we can indeed appeal to the speaker's intentions to make this distinction: if the speaker intends the sound that comes out of her mouth as the true semantic token, but while the sound produced faraway is merely a copy, then it is the sound in the context of the speaker that is the reference-fixing token. This appeal to intentions does not entail that a speaker can alter the meaning (or 'character') of a term from one occasion of use to another, and so it avoids the Humpty-Dumpty worries that token-contextualism is designed to avoid. Challenges to the token-contextualist account of indexicals raised so far appear, therefore, to be manageable.

[8]The role assigned to intentions here is closer to what Kaplan suggested in a later discussion of his account (Kaplan 1989), where he proposes that speaker intentions will be necessary to fully resolve reference within an already determined context. Of course, Kaplan makes no mention of token-contexts, rather he seems to be considering how to fully resolve reference within the context of production.

With this overview of the token-contextual approach out of the way, let us consider where the view can go next. So far, the account has been explored only for the indexicals, 'I', 'here' and 'now'. My goal here is to explore how the framework might be extended, to cover demonstratives in addition to indexicals. Why? Well, the general semantic principle at work in indexicals is that their reference is fixed by the context of the token, then we have good reasons to think that this account should also apply to the semantics of demonstratives. First, the distinctive context-sensitivity of indexicals and demonstratives and their shared status as tools of 'direct reference' suggests that they form a natural semantic family, and as such warrant a unified semantic treatment – which is why they were treated together by Kaplan. Second, the indexicals 'I' 'here' and 'now' seem to be everywhere replaceable with the complex demonstratives 'this person', 'this place' and 'this time' without loss of meaning (Krasner 2006; Mount 2009; Recanati 2001, 2010). If the semantics of demonstratives were not systematically related to the semantics of indexicals, this intersubstitutability would be hard to explain. Finally, where an apparent semantic family is found, it is surely in principle preferable to account for the behavior of the family using a single semantic approach rather than several, assuming simplicity as a theoretical virtue. And so, we might reasonably hope that the token-contextual view could be extended to account for the behavior of demonstratives also. As we shall see, indeed, once we have extended the account to demonstratives, it will become clear that the case of demonstratives is actually the simplest instantiation of the rule.

The central idea in the token-contextual view is that the context of the token allows us to identify what the utterance refers to. For the indexicals 'I', 'here', and 'now', the reference is identified as a component of the context – the agent, place, or time. So what should we expect of the demonstrative? While the reference of an 'automatic' indexical is restricted to agents, places, or times, a demonstrative can refer to just about anything. Considering the rules the token-contextual view stipulates for indexicals in light of this difference, a natural suggestion is the following:

iv.   'This' refers to the intended object at the context of the token

In other words, demonstratives refer in exactly the same way that indexicals refer – except that for demonstratives, reference is not automatically fixed to a place, time, or person. This character is broad enough to allow a demonstrative to refer to any kind of thing, since there is no limit to what we might find at a context of the token; but it also constrains reference in a way that might give us some chance of avoiding Humpty Dumpty. Let's see how this plays out for the puzzle cases introduced above.

Let's begin with the case of the demonstrative as it appears on social networks, where neither pointing gestures nor eye gaze nor even a helpful predicate can narrow down reference:

7)   This

Does the token-contextual rule predict the right reference here? I think it's quite clear that it does. The reference of the demonstrative is the cute animal picture, or the important political statement that appears immediately next to the token on the viewer's newsfeed. The object of the demonstrative is indeed at the context of

the token – it is positioned immediately next to it on the webpage presented to the viewer. If it were not, one would have no way of telling what the demonstrative referred to.

Consider the alternative that the unfettered intentionalist offers in this case. On such a view, the token could refer to anything the speaker intends – including Moby Dick. But in such anonymous cases as social networks, the audience may have little personal knowledge of the producer of the token, and there is no conversational context from which to deduce such knowledge. The difficulty of the interpretative task faced by the audience that the intentionalist view predicts does not match the ease with which we decipher demonstratives in such contexts. But the token-contextual rule gives us an explanation for how the audience decides so easily what the token refers to: the token-contextual rule predicts that the reference should be in the context of the token – and this is indeed exactly where the reference is found.

Something similar is happening in 6):

6)   This is a Paper about Demonstratives

How did you tell that the demonstrative in the title of this paper referred to the very paper you were setting out to read, rather than, say, Kaplan's 'Demonstratives', which is also a paper about demonstratives? On an unconstrained intentionalist view it could, after all, refer to just about any paper.

The token-contextual rule, in contrast, gives a straightforward explanation for why the demonstrative refers to the paper you're reading. It does so because it's printed on it (or appears this way, if read electronically), so that the referent of the demonstrative is at the context of the token. Similarly, for Úna's inscription on the juice carton in the fridge 'This is Úna's!' – here it is clearly the carton of juice the demonstrative is inscribed upon that it refers to, that is, the object at the context of the token. And again we find the same thing with the electric fence warning 'This is an electrified fence!' With such a message inscribed on the fence post there is no ambiguity about which fence is referred to. It is the fence at the context of the token.

In example 5), the speaker sits back in the boat with her eyes closed and says:

5)   This is lovely

Clearly, she is referring to the situation she is in – her environment at the time she speaks. And, of course, if the object of reference is the environment of the speaker, then it is at the context of the token. The token-contextual rule therefore gives us the right result for this case. There is more to say about these cases, since it is obvious that there are vague boundaries to the object at the context of the token – in 5) the speaker could surely just as coherently refer to immediate context of the spot on the river they have arrived at, or the larger environment of the whole countryside, etc. I will turn to this concern shortly. But first let's see how the token-contextual rule fares with more prototypical uses of demonstratives that might appear in accompaniment with a directing gesture or gaze.

In the kind of case that Kaplan initially puzzled over, we find a demonstrative used without any finger pointing:

4)   Stop that man!

Here reference appears to be fixed in part by the manager's gaze, locked on the fleeing robber. Does this conflict with the token-contextual rule? It does not. Since the token is produced in speech, the context of the producer is the context of the token. In this context we find the robber, fleeing from the manager. But of course there are many objects in the context – so how is reference fixed to the robber? The answer is that in 4) the manager's intention isolates the object within the context that the token refers to, while his wide-eyed stare at the robber plays a pragmatic role of allowing the audience to identify the reference.

We have already seen how token-contextualism assigns the right referents to the indexicals in 3) and 2), since there the context of production is the same as the context of tokening. Finally, in 1), we find the same outcome for a demonstrative, where the context of production and tokening coincide:

1)   I am here now and this is a piece of wax

In this case, Descartes uses his pointing finger to narrow down the context and isolate the piece of wax as the object of the demonstrative. And here we find that the token-contextual account gives just the same outcome as Kaplan's original account, since in this case the context of the token and the context of the producer, each narrowed down by Descartes' pointing finger, are identical. Just as the token-contextual view gives the same results for prototypical uses of indexicals where the context of the producer and the context of the token yield the same object, so too does the token-contextual of demonstratives.

In all of these cases, then, we find a common pattern that suggests the token-contextual rules predict our use of demonstratives in addition to indexical: the character of the demonstrative is to pick out the object at the context of the token. Sometimes there is only one salient object at the context of the token – such as in 7) where the demonstrative is used on its own without any further predicates or gestures. Here no further work is needed to indicate what the demonstrative refers to. In others, predicates play a pragmatic role to clarify reference for the hearer, and in others still, the context is refined or narrowed down by the use of eye-gaze or a pointing finger.

If the token-contextual account does indeed provide us with a rule that governs demonstrative reference, then in addition to explaining those cases that do work, it should also explain those cases where reference fails. In a case like 8), I fail to refer to Carnap when I point at a plum and say 'this is the greatest philosopher of the 20th century'. Intentionalism fails to explain why not, but the token-contextual account gives us a straightforward answer: because Carnap is not in the context of the token. Similarly, one cannot sit back in a boat on the river, utter 'this is lovely' and refer to the piece of cheesecake you had the day before, because that piece of cheesecake is not at the context of the token. And the same applies to those cases where the context of the producer and context of the token come apart – the term 'this' posted on a social network next to a cute cat video refers to the cute cat video, but it cannot be used to refer to Moby Dick, if neither Moby Dick, nor a picture of Moby Dick, nor anything remotely related to Moby Dick, is at the context of the token. In addition to explaining those cases where demonstrative reference does succeed in surprising ways, then, token-contextualism explains those cases where it fails.

Finally, note that just as the token-contextual account of indexicals ultimately relies on a speaker's intentions to resolve reference to one of the many times and places that occur at the context of a token indexical, a speaker's intentions will play this finalizing role for the demonstrative also. There are indefinitely many objects at the context of any token, and as a result the same indeterminacy remains for a speaker's intentions to resolve in the case of the demonstrative. But as already described, this appeal to intentions to play a finalizing role does not amount to abandoning the conventionalist goal. The conventionalist aims to constrain a speaker's intentions in a way that avoids the excesses of Humpty Dumpty, and at once allow for the many and varied uses we find speakers making of these terms. Once this constraint is identified, there is no reason to deny an ultimate reference-fixing role to speaker intentions.

4 A Unified token-contextual Semantics for Indexicals and Demonstratives

We now have a single semantic approach that appears to be applicable to the whole set of terms Kaplan originally aimed to account for under the umbrella of 'demonstratives':

  i.   'I' refers to the intended agent of the token at the context of the token
  ii. 'Here' refers to the intended place at the context of the token
  iii. 'Now' refers to the intended time at the context of the token
  iv. 'This' refers to the intended object at the context of the token

These rules seem to account for a wide variety of uses of these terms, giving us a good descriptive account of the behavior of the terms. But they also provide for us a good *explanation* for why the terms display the same behaviors that we noted above – their context sensitivity, and their intersubstitutability.

Consider the common degree of context sensitivity that we find in indexicals and demonstratives: the meaning of 'this' refers to a different object if the object at the context changes, just as the meaning of 'now' (for example) refers to a different time if the time at the context it is used in changes. And now consider that the common rule posited by a general token-contextual approach for these terms will explain this: since the basic effect of the token-contextual rules is to cause reference to shift according as the context of the token shifts, indexicals and demonstratives should shift reference according to context in just the same way.

Consider too their apparent intersubstitutability – that the indexicals 'I', 'here' and 'now' seem to be interchangeable with the complex demonstratives 'this person', 'this place' and 'this time'. Of course if the reference of 'this' refers to the object at the context of the token, then according to a standard model of complex demonstratives, the reference of a complex demonstrative 'this place' will refer to the object at

the context of the token that is a place (e.g. Braun 1996; Siegel and Glanzberg 2004) – that is to say, the place at the context of the token. And that is just what 'here' refers to on the token-contextual view. The apparent intersubstitutability of indexicals and certain complex demonstratives is therefore also given an explanation once we posit token-contextual rules as a common semantic principle governing both indexicals and demonstratives.

Finally, consider that if the account given here is correct, then it is not just a case of extending a theory that works for indexicals to demonstratives. Since the rule for demonstratives does not restrict reference to an object of any particular kind, while the indexical rules do, we can see that the rule for the demonstrative is actually the *basic* rule at work here, while the rules covering indexicals are *special* cases of that rule applied to terms whose reference is restricted to agents, places and times. What is identified, in that case, is the basic rule underlying this semantic family which Kaplan described simply as 'demonstratives'. As mentioned in Section 1, Kaplan seems to have had in mind a single basic rule for these terms, such that a demonstrative would refer to an object of the type appropriate to that demonstrative in a context. What his account left unclear was *which* context any token of a demonstrative should be interpreted against. The current account fully restores that level of simplicity. A token demonstrative refers to the intended object of the type appropriate to that demonstrative in the context of the token – for the first person indexical, the intended agent of the token; for 'here', the intended place; for 'now', the intended time, and for 'this', any kind of object at all that is intended by the speaker, and that is at the context of the token.

Indeed, if we suppose that 'I', 'here' and 'now' cannot be felicitously used without their producer intending them to refer to the appropriate kind of thing (for example, intending that a use of 'here' refers to a place, or 'now' refers to a time), this gives us a single rule of reference for the whole family. For any token demonstrative d, intended object o, and context of that token c^t:

$$\text{Ref}(d) = c^t{}_o$$

5 Limiting Cases and Puzzle Cases

A good discussion of a puzzle in the philosophy of language is not complete without considering a range of cases where the theory doesn't appear to work – and there are of course no shortage of such cases for the present theory. In some of these, it will turn out that although they initially appear to be the kind of thing a theory of demonstratives ought to explain, they actually fall outside of the limits of the semantic family we are aiming to provide an account of. In others, we will find that although they initially appear to be counterexamples, a little digging shows us that they are actually consistent with the view.

The first puzzle cases arise when we use a demonstrative to refer to an object or event in the past. One example of this is where the object has just barely passed out of the context of the token. For example, immediately after a loud 'bang' I might say 'what was that?' Or, suppose a strange creature runs across the path before us and disappears in the undergrowth. 'What was that?' I might ask, and here I can easily refer to the strange creature. We might worry that these are counterexamples to the claim that demonstratives pick out objects in the context of the token – but really such cases are simply borderline cases. The object in such cases is only barely outside of the context of the token, and its salience has the pragmatic effect of making it clear which object is referred to – either in the case of the loud bang that we are all still focused on, or the strange creature whose trail into the undergrowth I might follow with my gaze as I speak.

On the other hand, we sometimes use demonstratives to refer to objects that are unambiguously absent from the context of the token – in the distant past or future, or in a distant place. Suppose that the last time I was at your place you served me with some delicious apple pie, and a year later I come by and recall the pie to you: "The apple pie we had last year – that was great!" Now a demonstrative appears to have been used to refer to something that is clearly not in the context of the token, and that surely conflicts with the token-contextual account. However, I suggest, such cases are not true demonstratives. In the apple pie case the reference of the demonstrative is fixed 'anaphorically', by a referring expression produced immediately before: 'the apple pie we had last year'. Reference can also be fixed in such cases 'cataphorically', by a referring expression that appears subsequently: "This is great: CHiPs is back on TV!" In both anaphoric and cataphoric uses, the demonstrative acquires its reference from an independently occurring referring expression – often a definite description (Fillmore 1997; Lyons 1977; Levinson 1983, 2004; Himmelmann 1996; Diessel 1999). Indeed, to refer with a demonstrative to something in the distant past or future, or far away from us, it would seem to be *necessary* to use some independent referring expression in addition to the demonstrative. If I try to compliment the apple pie you served me last year by simply saying 'that was great', without any further qualification, you will have no idea what I am talking about. This dependence on independent referring expressions, however, sets anaphoric and cataphoric demonstratives apart from 'true' demonstratives (or indexicals) at a fundamental level. As explored at the outset of the paper, true demonstratives and indexicals are 'directly referring' terms, which allow a thinker to refer to her environment without requiring her to have intervening true descriptive beliefs about it. The anaphoric cases now considered, however, do not belong to this category, because they take their reference from an independently occurring referring expression which may itself be a definite description. And a definite description forms the paradigm of an expression that refers 'satisfactionally' (Recanati 2012), where it is required that the object referred to satisfies the description that fixes reference. Anaphoric and cataphoric uses of demonstratives are not, therefore, true demonstratives. Rather, they are merely stand-ins for referring expressions of many possible kinds, including definite descriptions, that appear elsewhere in the discourse. As such, these cases do not belong to

the semantic family that we set out to explain – the 'basic set' of context-sensitive directly referring terms.[9]

Another set of puzzle cases is provided by demonstratives that refer to abstract objects via their representations. 'Discourse demonstratives' provide one example. These are demonstratives that refer to propositions that appear elsewhere in the discourse (Fillmore 1997: 103-106; Diessel 1999: 100-105). Suppose I come up with a challenge to the speaker at our conference, and you decide to back me up – 'that's a good point!' you might say. Here the object of your demonstrative is the claim I just made. But of course if we think of the claim you refer to as an abstract object – a proposition – then there is no clear sense in which it is at the context of the token. Such cases therefore raise another puzzle for the token-contextual approach. However, although the proposition you refer to is not in any clear sense at the context of the token, there is a concrete object in the context of the token that represents what you refer to – the utterance that I just produced. It is this concrete object, I suggest, that facilitates reference here. It is after all produced in the context of the token – immediately before you say 'that's a good point'. Compare how we refer to propositions in writing. Supposing I had written down my argument rather than spoken it. In that case, there would be a sentence expressing the proposition you like that you could even point at, and say 'that's a good point!' Or, think of how we can refer to abstract objects such as numbers demonstratively. If I inscribe several numbers on the blackboard and I ask you to tell me which is the number two, you can point to the appropriate figure and say 'this one!' Obviously you did not just point at the number two (which may be impossible). Rather, you pointed at its representation, which stands in for the number. We use speech and writing to represent abstract objects such as numbers and propositions, and the result is that we can refer demonstratively to these things by demonstratively picking out their concrete representations. And we accomplish this just as the token-contextual account predicts.

Also falling under the category of this kind of reference-via-representations is to be found where we use demonstratives in conjunction with maps or pictures. Consider a note reading 'This is the Bourgogne', affixed to a map on the wall of a wine

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[9]A variation of the anaphoric case: suppose we go to an amazing party, and the next day when you see me, you say to me 'that was amazing'. You don't need to explain yourself any further because you know that the first thing that I will think of when I see you is last night's party (sometimes called a 'recognitional demonstrative' (Himmelman 1996), also see King 2014: 220). In this case, the party is certainly outside of the context of tokening, but you have not introduced an independent referring expression to pick it out. However, arguably such a case is an elliptical anaphoric demonstrative. In elliptical discourse, a part of the discourse that is playing a grammatical or semantic role is dropped because it is so obvious that it doesn't need to be mentioned. For example, if you want to let me know you'll be back in a minute, you might say 'be right back', rather than 'I'll be right back'. You can drop the referring expression 'I'll', because you know I will be able to figure out what you're saying from the fragment of discourse you have produced. It is however playing a semantic role, even though it is left unstated – it is 'pragmatically presupposed' (Stalnaker 1974; Dryer 1996). In your recognitional reference to last night's party, then, what is pragmatically presupposed is a referring expression from which the demonstrative is anaphorically taking its meaning, so that a non-elliptical version might read: 'the party last night – that was amazing'. And of course, if it is an anaphoric demonstrative, it falls outside of our explanatory target.

shop in Berlin. Obviously the token demonstrative is not in the Bourgogne. Reference in such a case works in the same way – the part of the map where the token demonstrative is inscribed represents the Bourgogne. The demonstrative picks out its object via a representation of its object – and that representation is exactly at the context of the token. Here we find another vivid illustration the sensitivity of demonstratives to the context of the token, since we can see that the demonstrative in such a note will shift reference if the note is moved around the map. If we move the note (and hence the token demonstrative) over to the Cote d'Azur, what it reads will no longer be true; and if we move it back over to the Bourgogne, it will become true once more. The reason of course is that as the token is moved, its context and hence its reference changes.

We might also consider uses of demonstratives in fiction. "This is Sparta!" announces an actor, and although he is on a set in Hollywood we all know what he is referring to. Since Sparta is not in reality at the context of the token, again we have a puzzle for token-contextualism. However, if we first consider such a case from the perspective of a general theory of truth and reference in fiction, it ceases to be so problematic. Consider the 'fictional operators' approach (Lewis 1978; for discussion see Glezakos 2012). On this view, a proposition is true in a fiction if it is true in the context portrayed by the fiction – the propositions are evaluated as though they are governed by a function along the lines of 'In the scenario portrayed by the fiction()'. If we suppose that something like this is right, then we can see that the token-contextual approach is not undermined by the Sparta example. Since the actor is portrayed as being in Sparta, in the scenario portrayed by the fiction, the token demonstrative is *portrayed to token* in Sparta. In the scenario portrayed by the fiction, the object of the demonstrative is therefore at the context of the token. And so on one standard approach to fictional discourse, fiction does not present any special problem for the token-contextual approach.

Finally, there are cases where it is simply unclear whether reference has succeeded or not. Kaplan (1977) considers a case involving a man pointing over his shoulder at what he believes is a painting of Carnap, but is actually a painting of Spiro Agnew, and saying 'this is a painting of the greatest philosopher of the 20th century'. It is unclear whether the speaker says something false of the portrait, or simply fails to refer altogether. On the current view, the temptation is to hold that reference succeeds, resulting in a false assertion, as Kaplan supposed. But others hold that the term simply does not refer (e.g. King 2013). Another similar case is where the 'wrong' demonstrative is used to pick something out: 'he's a dentist', said of someone dressed in a dentist's garb that turns out to be a woman. Again it is unclear whether the speaker has actually referred to anyone, or somehow falsely asserted of the female dentist that she is a male. On the view defended here, the temptation is to say that reference fails, taking 'he' to function as a demonstrative restricted to objects that satisfy the predicate 'male'.

However, such cases are perhaps most notable for the fact that we cannot easily agree whether reference has succeeded or not. This means that they invite someone who holds a theory that implies they do not refer to insist that they do not, and someone who holds an opposing theory to hold that they do. As a result these ambiguous cases cannot be used to decide in favour of, or against, any theory. I have focused

here instead on clearly successful or unsuccessful uses, of which there are already plenty to deal with.

Cases that present a *prima facie* difficulty for the token contextual account therefore ultimately turn out not to. In some cases this is because they turn out not to belong to the semantic family we set out to explain. In others it is because a little digging shows us that there is actually an object at the context of the token that is establishing reference even though there initially appeared not to be. No doubt there are more puzzle cases yet to be found, but the prospects seem good that they too will fit within the token-contextual model when fully explored.

6 Conclusion

To wrap up, there are several reasons to think that the token-contextual approach may hold the key not just to indexical reference, but to demonstrative reference in general. The account delivers the right references for a wide range of uses of demonstratives, including highlighting uses of demonstratives that occur without any accompanying gestures or eye gaze, in speech, in writing, on telephones, on intercoms, and on the internet. It does this without encountering the complexities or pitfalls of the unfettered intentionalist or multiple-rule approaches. It promises to explain why indexicals and demonstratives behave in such strikingly similar ways, bringing theoretical unity to this fundamentally important semantic family. And it does all this on the basis of what is arguably the simplest possible semantics for the family, appealing to just one basic rule.

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