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ORIGINAL RESEARCH

On Compulsive Talkers

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Abstract
This paper reevaluates Kaplan's (Themes from Kaplan, Oxford University Press, Oxford, pp 481–563, 1989b) infamous 'compulsive talker' objection to Reichenbach's (Elements of symbolic logic,AQ1 Macmillan, New York, 1947) token-reflexive theory of indexicals. It argues that Kaplan's objection depends on the modal status of Reichenbachian tokens. On one interpretation, Kaplan's objection stands. But on another, equally plausible interpretation, the following points hold: (i) Reichenbach's theory effectively preempts contemporary discussion of rigid definite descriptions, (ii) Kaplan's own analysis of indexicals in terms of *dthat*-terms comes extremely close to Reichenbach's own analysis, and (iii) Kaplan's 'compulsive talker' objection should be rejected.

1 Introduction

Token-reflexive theories of indexicals hold that the semantic rules associated with any indexical-type determine the semantic contribution of properly produced tokens of such types relative to certain relational properties of such tokens. For example, Hans Reichenbach (1947) argues that the semantic contribution of properly produced tokens of the first person indexical-type *I* to tokens of sentences containing them should be analysed as in (1):[1,2]

[1] Here and throughout this paper, I use number-symbols in enumerated examples (e.g., '(1)' below) in a non-standard manner that differs from the ordinary use of number-symbols in philosophy and linguistics papers. Normally, number-symbols are used as names of sentences (i.e., the class of similar tokens, such as the tokens similar to that token following the number-symbol '(1)' on your copy of this paper), but here I treat them as names of a token in the sense to be fully explained in Section 2 (cf. Reichenbach 1947, 285, ft. 1).

[2] Similarly, *here* and *now* should be analysed as follows:

(i) 'Here' means the same as 'the place at which this token is uttered'.
(ii) 'Now' means the same as 'the time at which this token is uttered'.

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(1) ‘I’ means the same as ‘the person who utters this token’.

In his *Demonstratives*, David Kaplan famously rejected Reichenbach’s analysis with the following remark:

> It is certainly true that
>
> I am the person who utters this token
>
> But if [(1)] correctly asserted a synonymy, then it would be true that
>
> [(2)] If no one were to utter this token, I would not exist.
>
> Beliefs such as [(2)] could make one a compulsive talker. (Kaplan, 1989b, 519–520; my numbering)

Despite its brevity, Kaplan’s remark can be reconstructed into a powerful objection. For if (1) correctly expresses a synonymy, then (2) expresses the same content as (3) as uttered by the same speaker in the same context:

(3) If no one were to utter this token, the person who utters this token would not exist.

The trouble is that (3) seems plainly true; and so, if (1) correctly expresses a synonymy, then (2) should also be true. But (2) seems plainly false: as Kaplan notes, anyone who truly believed (2) would presumably become a compulsive talker for fear of popping out of existence. Thus, (2) and (3) do not express the same content. Kaplan’s verdict: Reichenbach’s analysis in (1) is incorrect.

Kaplan’s arguments against token-reflexive theories of indexicals have been highly influential, with philosophers generally accepting his arguments.[3] Indeed, even proponents of token-reflexive theories of indexicals typically accept the general thrust of his ‘compulsive talker’ argument and instead offer alternative proposals to escape its conclusion.[4] The aim of this paper is to show that such attitudes are unwarranted and such steps are unnecessary, since Kaplan’s objection trades on a certain understanding about Reichenbach’s notion of a token.[5] As we shall

[3] For a representative assessment, see the following remark: “I accept Kaplan’s remarks on Reichenbach’s confusion of indexicality with self-reference, a confusion embodied in Reichenbach’s term ‘token-reflexive’, as definitive” (Millikan, 1990, 273).

[4] See, for example, Recanati (1993), García-Carpintero (1998, 561–562) and Rieber (1998, 74–75), who defend token-reflexive views while conceding Kaplan’s point *vis-à-vis* Reichenbach’s view.

[5] This is somewhat ironic, since Kaplan quotes Reichenbach on token reflexives at length in the passage leading up to his ‘compulsive talker’ objection, with the quoted passage ending with the following sentence:

> We therefore need inquiry only into the meaning of the phrase ‘this token’.
> (Reichenbach 1947, 284, cited on p. 519 of Kaplan 1989).

But Reichenbach’s explanation of how he interprets the phrase ‘this token’ is notably absent from Kaplan’s discussion. I am arguing that careful consideration of Reichenbach’s interpretation of ‘this token’ can effectively neutralise Kaplan’s objection.

see, Reichenbach has in mind a quasi-technical use of the term 'token', one which departs from ordinary use. On one interpretation of Reichenbach's notion of a token, Kaplan's objection stands. But on another interpretation, we see that Kaplan's objection falters and Reichenbach's own view is revealed to be much closer to Kaplan's than it first seems.

2 Reichenbach's Theory of Tokens

Let us begin by elucidating Reichenbach's treatment of indexical terms. As we have seen in (1), indexical terms are explained with reference to *tokens*. To understand the role that tokens play in Reichenbach's theory of indexicals, we must first understand the role that tokens play in his theory of language.

According to Reichenbach, language is fundamentally a system of *signs*. More specifically, he takes language to be a system of a certain class of physical things, such as "ink marks on paper, chalk marks on a board, sound waves produced in a human throat" (Reichenbach, 1947, 4). These physical things get their linguistic significance in virtue of the intermediary position between an object for which they are a substitute and their user, namely, that "[t]he person, in the presence of a sign, takes account of an object; the sign therefore appears as the substitute for the object with respect to the sign user" (Reichenbach, 1947, 4). For individual signs to serve their practicable purpose in a system of language — that is, to explain how we can take different individual sound waves, produced at different times by different people, to be tokenings of *the same word* — we must be able to use different individual physical signs for the same linguistic purposes: "linguistic signs must be *reproducible*" (Reichenbach, 1947, 4).

To explain how individual signs can serve this function, Reichenbach distinguishes between a *token*, which is to be understood as "the individual sign" used on a particular occasion, and a *symbol*, which is to be understood as "the class of similar tokens" bearing the same appropriate relation to one another (Reichenbach, 1947, 284).[6] For example, there are eight instances of the letter 'u' in the preceding sentence-token, all of them distinct tokens belonging to the same class of similar tokens.[7] For Reichenbach, tokens are unique physical entities located at a particular space-time region and different tokens are identified as being of the same type in

[6] "For practical purposes, linguistic signs must be *reproducible* since we use different individual signs for the same logical functions. The individual sign is called a *token*. Thus in the two sentences 'Los Angeles is a city' and 'Los Angeles is situated in California' we have the same word 'Los Angeles', but appearing in two different tokens; and now in making the explanation a third token of this word has been used. Different tokens of the same word have the same meaning, or are *equisignificant*. [...] The class of similar tokens is called a *symbol*. Saying 'the same symbol occurs in different places' makes 'tokens of the same symbol-class appear in different places'." (Reichenbach, 1947, 4–5).

[7] Just as it is important to distinguish between tokens of words (i.e., individual signs on particular occasions) and the words themselves (i.e., the class of all such similar tokens), it is important to distinguish between tokens of sentences and the sentences themselves. Reichenbach himself is not always as clear as he could be in making this distinction. Thanks to an anonymous reviewer for stressing this point here and elsewhere.

virtue of their similarity with each other and their conformity to the type of symbol they instantiate, but different tokens of the same type are distinct entities.[8]

Using the token–symbol distinction in his treatment of indexical terms, Reichenbach explains that he will be interpreting the phrase 'this token' in (1) as a novel operation which he calls *token-quotes*, an operation similar to, but importantly different from, ordinary quotes. He elucidates this operation as follows:

> Whereas the ordinary-quotes operation leads from a word to the name of that word, the token-quotes operation leads from a token to a token denoting that token. Let us use little arrows for the token quotes; then the sign:
>
> [(4)] $\searrow a \swarrow$
>
> represents, not a name for the token '*a*' in [(4)], but a token for it. [(4)] is not a name because the token [(4)] is a reflexive token and cannot be repeated; thus
>
> [(5)] $\searrow a \swarrow$
>
> not only is a token different from [(4)], but also refers to a different token. (Reichenbach, 1947, 284–285; my numbering)

It is important to note that, for Reichenbach, the term 'this token' functions in the same way as token quotes in the sense that "[t]he different tokens, similar to one another, constituting the symbol 'this token', are not equisignificant to one another", and so do not denote the same thing (Reichenbach, 1947, 286).[9] For example, if we consider the token (6) below:

(6) If no one were to utter this token, the person who utters this token would not exist,

we must observe that, while (3) and (6) are evidentially tokens of the same sentence-type, they are not the same token, and so their respective occurrences of 'this token' each denote something different. On Reichenbach's understanding of the function of

[8] Reichenbach writes:

> In part, equisignificant is given by geometrical similarity of the tokens [...] ; but we have also equisignificance between printed and handwritten tokens, and between these spoken tokens. The coordination of these different tokens to one another is of course a matter of convention. To have a convenient term we shall call these different kinds of tokens *similar* to each other, using the word 'similar' in a somewhat wider sense. (Reichenbach1947, 5)

For further discussion of the type–token distinction for signs, see Bromberger (1989, 2011), Bromberger and Halle (2000), Szabó (1999), Leckie and Williams (2019).

[9] Actually, Reichenbach observes a slight difference in the usage of the phrase 'this token' and the usage of token quotes, but considers it 'irrelevant' for his purposes: "The token including the arrow quotes refers to the same token with the exclusion of the arrow quotes, whereas the phrase 'this token' refers to the latter token including the token of the word 'this'. The tokens of the word 'this' are therefore reflexive, whereas the arrow quotes are not" (Reichenbach, 1947, 286, ft. 1).

the phrase 'this token', the tokens of 'this token' in (6) denote the token (6) and the tokens of 'this token' in (3) denote the token (3).

3 Compulsive Talkers Revisited

Reichenbach is clear in his treatment of tokens that they are non-repeatable, physical entities. That is, on his account, tokens are *temporally-bound* in the sense that an utterance of a particular token occurs wholly at a specific space-time region and never appears at any other (non-overlapping) space-time region. But he says little about the modal status of tokens, and, in particular, whether they are world-bound in the sense that they occur wholly in a single possible world and do not appear at any other world.

The central contention of this paper is that the success of Kaplan's compulsive talkers objection trades on the answer to this question. If Reichenbachian tokens are transworld entities—that is, if they appear in more than one world—then Kaplan's argument goes through. But if Reichenbachian tokens are world-bound, then Kaplan's argument falters.[10]

[10] There is little in Reichenbach's writings on modality that helps us to see what he might have thought about this issue. Reichenbach's views of modality are largely confined to Chapter Eight of *Elements of Symbolic Logic* (1947) and his posthumously published book *Nomological Statements and Admissible Operations* (1954), which was subsequently reissued in 1976 under the title *Laws, Modalities, and Counterfactuals* (1972), with a new foreword by Wesley Salmon; the foreward can be found reprinted, with minor alterations, in *Synthese* as Salmon (1977). In those places, Reichenbach develops a highly idiosyncratic account of laws, modalities, and counterfactuals that makes little contact with contemporary discussions of those subjects. Indeed, Reichenbach's views on laws, modalities, and counterfactuals have been largely neglected, as observed by Wesley Salmon in his foreword to the 1976 reissue:

> Republication of this work, which has been out of print for many years, requires a few words of explanation. [...] Reichenbach's monograph attracted little attention when it was first published, and it is almost completely ignored today. This lack of attention is not due to any demonstrated inadequacy in his results. Only a few philosophers seem to have been aware of the existence of this monograph, or what it is about, and those who were cognizant of it may have been repelled by its admitted complexity. (Salmon, 1977, 191)

Furthermore, given his commitments as a logical empiricist, Reichenbach would likely have eschewed any discussion of the modal status of tokens in terms of possible worlds or modal logic.

> Reichenbach also avoids the postulation of myriad 'possible worlds' the sort David Lewis (1973) resorts to. Although such worlds may be 'accessible' in the abstract set-theoretic sense of the term, they are forever inaccessible to us for purposes of observation. Reichenbach would have abhorred such metaphysical fantasies. (Salmon, 1977, 226)

Given these facts, it is far from clear what Reichenbach might have thought about the present question. Consequently, it is necessary to depart from strictly Reichenbachian lines and reinterpret his theory of indexicals through the lens of a technology he would likely reject. I hope that redemption is reason enough to justify this departure.

3.1 Kaplan Vindicated

First, let us suppose that tokens are transworld entities, that is, they appear in more than world. On this assumption, what follows about the truth of the sentence 'If no one were to utter this token, the person who utters this token would not exist'?

To ground our discussion, let us assume the Lewis–Stalnaker account of counterfactuals, the view according to which subjunctive conditionals of the form ⌜If it were that ϕ, then it would be that ψ⌝ have the following truth-conditions:

(7) The sentence ⌜If it were that ϕ, then it would be that ψ⌝ is true at a world w iff the closest-ϕ world relative to w is also a ψ-world,

where ϕ, ψ are indicative, declarative sentences and a ϕ-world is a world in which ϕ is true (Stalnaker, 1968; Lewis, 1973).[11] It follows straightforwardly that (3) is true, on this account, just in case the closest world such that no one were to utter the token (3) is one in which the person who utters the token (3) would not exist.

Next, we must consider how to interpret the definite description in the sentence 'the person who utters this token would not exist'. The key observation is that, while the token (3) is a transworld entity, and so can appear in different worlds, there is no guarantee that it must appear in every world. Consequently, we must ask ourselves what the definite description 'the person who utters this token' in (3) denotes in a world where (3) has not been uttered.

For concreteness, let us assume an intensionalised version of Russell's theory of definite descriptions. According to this view, the sentence 'the person who utters this token would not exist' denotes the following proposition:

(8) $\lambda w.\neg\exists x[P(x, w) \wedge sp(x, \Theta, w) \wedge \forall y[P(y, w) \wedge sp(y, \Theta, w) \rightarrow x = y]]$,

where '$P(x, w)$' formalises that x is a person in w, 'Θ' is the name for the relevant token (3), and '$sp(x, \Theta, w)$' formalises that x speaks the token Θ in w.

Combining the Lewis–Stalnaker theory of counterfactuals and the intensionalised Russellian theory of definite descriptions, we can see that Kaplan's conclusion follows immediately. The closest world in which no one utters the token (3) is one in which the definite description 'the person who utters this token' fails to denote. And since the consequent as in (8) is true at a world just in case there is no one who satisfies the nominal material of the description at that world, it is true in the closest antecedent-satisfying world. In other words, (3) is true, even though (2) is false.[12]

[11] For simplicity, we make both the Limit and the Uniqueness Assumption. Neither assumption is essential for my argument.

[12] Things are slightly trickier on the Fregean theory of definite descriptions, but the result is similar. According to the Fregean analysis of definite descriptions, the definite description ⌜*the F*⌝ refers to the individual who is uniquely *F*, if there is one, and fails to refer, otherwise (cf. Frege, 1892; Strawson, 1950; Elbourne, 2013). Then, if we look at any world in which no one utters the token (3), the nominal material associated with the definite description will fail to pick out an object and so the definite description 'the person who utters this token' will fail to refer. Since it is generally infelicitous to assert

3.2 Reichenbach Vindicated

Let us now turn to the second interpretation of Reichenbach's notion of a token, the interpretation according to which tokens are temporally-bound *and* world-bound.[13] On this interpretation, an utterance of a particular token could not have occurred at any other time than it actually did and it could not have been uttered in another circumstance or world than it actually was. Consequently, any given token could not have been uttered by any other person than it actually was.

Given this interpretation, how should we understand Reichenbach's treatment of token-reflexives? In particular, how should we understand Reichenbach's phrase 'the person who utters this token'?[14] To get clear on these questions, and to see how Reichenbach intends this device to be used, it is instructive to see how he himself symbolises tokens of sentences containing token-reflexives in *Elements of Symbolic Logic*.

Consider, for example, Reichenbach's example of a man who utters the sentence 'This boy is tall' (Reichenbach, 1947, 286). Letting the token used by the man (i.e., the whole sentence-token he uttered) be named 'Θ', Reichenbach symbolises the man's utterance as follows:[15]

(9) $t[(\iota x)b(x).rf(x, \Theta)]$,

where 't' means 'tall', 'b' means 'boy', and 'rf' means 'referred to'. Importantly, the token denoted by 'Θ' is not the token used for the above formulation (9), but rather the token uttered by the man just mentioned. Thus, on this symbolisation, 'this boy' means the same as 'the boy to whom Θ refers', namely, the boy to whom Θ actually refers.[16]

Footnote 12 (continued)

subjunctive conditionals when their antecedents deny a presupposition that their consequents make, (3) is likewise infelicitous. Witness, for example, the infelicity of the following sentences:

(i) #If I were never to have started smoking, I would have stopped smoking by now.

(ii) #If George was front-runner in the race, then even he could win.

While the Fregean theory fails to vindicate our initial judgment that (3) seems true, it still predicts a truth-value difference between (2) and (3).

[13] It is uncertain whether Reichenbach himself had any thoughts about world-boundedness specifically, but given his remarks about the non-repeatability of tokens, it is natural to suppose he would have held that tokens are modally non-repeatable as well.

[14] Thanks to an anonymous reviewer for encouraging me to be explicit about this question.

[15] Reichenbach writes 'a and b' as '$a.b$' and follows Peano and Russell to use for descriptions the notation '$(\iota x)f(x)$' meaning 'the thing x having the property f'. For fidelity, I retain Reichenbach's archaic notation.

[16] As an anonymous reviewer points out, this reveals a surprising aspect of Reichenbach's account: the token doing the referring in a token of 'this boy is tall', according to Reichenbach, is the token of the sentence. But then all tokens of ⌜this ϕ⌝, for some nominal description ϕ, occurring in a token of a sentence denote the same thing. In turn, this raises further problems for Reichenbach's view. For example, how, the reviewer asks, should the view account for cases like 'This beer is better than this beer', accompanied by two pointing gestures to different pints on the table? After all, there is no unique beer referred to by the token sentence.

How do we extend this understanding to occurrences of token-reflexive phrases embedded under a tense or modal operators? How do we use token-reflexive phrases to pick out an individual at some time or world other than the one at which the token was uttered? Here, it is instructive to consider a solution that Reichenbach gives to one of the exercises in *Elements of Symbolic Logic* (Reichenbach, 1947, 414, Ex. 51-B-3.). Supposing a man utters 'When Peter comes, I shall have seen John', Reichenbach symbolises this utterance as follows:

(10) $c = \text{comes}. \quad x_1 = \text{Peter}. \quad y_1 = \text{I}. \quad z_1 = \text{John}. \quad s = \text{see}$
$(\exists t)(\exists t')c(x_1, t).s(y_1, z_1, t').(t_0 < t' < t)$

(Reichenbach 1947: 434)

where '$t < t_0$' indicates time order, 't_0' is the point of speech (i.e., $t_0 = (\iota t)rf(t, \Theta)$), and the existential quantifiers scope over the whole expression.

As it stands, this example does not immediately help us understand how Reichenbach treats the phrase 'the person who utters this token'; the primary purpose of this exercise concerns the symbolisation of tense, and so Reichenbach simplified his solution by symbolising 'I' as y_1, rather than giving it a full token-reflexive analysis. Nevertheless, we can expand 'I' by taking Reichenbach's symbolisation of the token-reflexive in (9) as a guide. Letting 'Θ' denote the token that the man uttered, we have the following:

(11) $(\exists t)(\exists t')c(x_1, t).s((\iota y_1)sp(y_1, \Theta), z_1, t').(t_0 < t' < t)$

This expanded symbolisation states that, when Peter comes, the person who uttered Θ — that is, the man — will have seen John. This is empirically adequate.

What if, instead, we were tempted to expand of 'I' in this example to involve a *three*-place relation between an individual, a token, and a time, rather than a *two*-place predicate between an individual and a token? There would be three ways to do so, but only one of which leads to a correct symbolisation. Consider the following:

(12) a. $(\exists t)(\exists t')c(x_1, t).s((\iota y_1)sp(y_1, \Theta, t), z_1, t').(t_0 < t' < t)$
b. $(\exists t)(\exists t')c(x_1, t).s((\iota y_1)sp(y_1, \Theta, t'), z_1, t').(t_0 < t' < t)$
c. $(\exists t)(\exists t')c(x_1, t).s((\iota y_1)sp(y_1, \Theta, t_0), z_1, t').(t_0 < t' < t)$

Only the last interpretation avoids attributing to Reichenbach a flawed and obviously false symbolisation. Since Θ was uttered at t_0, there is no one who utters Θ at t or t',

Footnote 16 (continued)

It would be more natural to take each token of a demonstrative phrase to be doing its own referential work. But I think Reichenbach's view might be able to accommodate such cases by appealing to implicit content not explicitly expressed in words. Theorists have appealed to implicit content to explain how the domains of quantifiers could differ, such as in classic examples like 'Every sailor waved to every sailor', said of the two passing ships, or how uniqueness conditions of definites could be satisfied, such as in 'The bishop met the bishop; he blessed him'; see (Elbourne, 2008, 2016), for recent critical overviews. I suggest that the demonstrative case should be handled in a similar fashion. Indeed, something like this may be suggested by Reichenbach's informal gloss on the meaning of 'this table' ("'this table' means the same as 'the table pointed to by a gesture accompanying this token' " (Reichenbach, 1947, 284)). Ultimately, however, I must set aside this problem and defer its proper resolution to another occasion.

and so the definite descriptions in (12a) and (12b) fail to refer. On those interpretations, then, the utterance is guaranteed not to be true. Contrastingly, the definite description in (12c) does manage to refer, since it fixes its referent relative to the time of the utterance, and it refers to the man who actually uttered Θ. If that man will have seen John, when Paul comes, then his utterance is true.

Similar remarks apply to token-reflexives embedded under modals. Suppose a woman says 'I might have been happy' and let 'Θ' denote the token she uttered. As before, the most direct way to implement Reichenbach's ideas within a standard semantic treatment of modality would symbolise her utterance as follows:

(13) $(\exists w)h((\iota x)sp(x, \Theta), w).(w_0 < w)$

where 'w_0' is the world of speech, and '$w_0 < w$' indicates that w is accessible from w_0. Here, the woman's utterance is true iff there is some world accessible from the world of speech such that the person who uttered Θ—that is, *the woman*—is happy. This, again, is empirically adequate.

Furthermore, if we thought that, under modal operators, '*sp*' should be a three-place predicate between an individual, a token, and a world, there would be two ways to symbolise the woman's utterance, but only one would be empirically adequate. Consider the following:

(14) a. $(\exists w)h((\iota x)sp(x, \Theta, w), w).(w_0 < w)$
b. $(\exists w)h((\iota x)sp(x, \Theta, w_0), w).(w_0 < w)$

Since Θ can only be uttered in w_0, only the definite description in (14b) refers; the definite description in (14a) fails to refer. and so the utterance is false on that symbolisation. But on (14b), the Reichenbachean definite description 'the person who utters this token' is interpreted as referring to the person who actually uttered that token, and so the utterance is true iff there is a possibility where that woman is tall.

What does this extended discussion tell us about how Reichenbach intended his theory of token-reflexives to work? Since Reichenbach himself never relativised the symbolisation of the predicate 'utters' in the definite descriptions discussed above to a time or world, this should be considered evidence that determining the referent of such phrases should be done independently from the tense or modal environment in which it is embedded. Furthermore, if we were to relativise the symbolisation to a time or world, the only way to do so that doesn't attribute an obviously false view to Reichenbach is one that fixes the denotation to the time or world at which the token was uttered, that is, to the person who actually uttered the token then. Again, this is the only way we can understand Reichenbach's treatment of token-reflexives that doesn't attribute to him obviously false views.

There are three upshots to note from this interpretation. First, it allows us to usefully relate Reichenbach's theory of indexicals to the theory of rigid designation. A *rigid designator* is a term which designates the same object in all possible worlds in which that object exists and only ever designates that object (Kripke, 1980). While standard definite descriptions are paradigm examples of *non*-rigid designators, some

definite descriptions are rigid designators, such as 'the successor of 2'. Their rigidity arises in virtue of facts about metaphysical reality; in the example just given, the definite description is *de facto* rigid in virtue of the mathematical necessity that 3 is the successor of 2.

Similarly, assuming that Reichenbachian tokens are world-bound and temporally-bound, and that the definite description 'the person who utters this token' is to be understood as I have argued above, any token of the definite description 'the person who utters this token' is *de facto* rigid, since it necessarily denotes whoever actually uttered that token (although, given the nature of tokens, one cannot necessarily use another token of the same type to denote the same person). Thus, we have the following necessary truth:

(15) $\Box[(\iota x)sp(x, \Theta) = (\iota x)ANsp(x, \Theta)]$,

where '$\Box$' denotes metaphysical necessity, 'A' is the actuality operator, 'N' is the now operator, and 'Θ' is the name of the specific token similar to 'the person who utters this token'. The first upshot, then, is that Reichenbach's theory of indexicals can be read as foreshadowing recent work on rigid definite descriptions.

Second, once Reichenbach is interpreted on this way, Kaplan's own analysis of the first-personal pronoun involving *dthat-terms* comes extremely close to Reichenbach's own analysis.[17] Kaplan introduces a special demonstrative operator '*dthat*' which "requires completion by a description and which is treated as a directly referential term whose referent is the denotation of the associated description", resulting in a *dthat-term* (Kaplan, 1989b, 521). A dthat-term is a term of the form 'dthat[α]', where α is a singular term, such as a definite description or a proper name. The content of 'dthat[α]' in a context c is the object to which the term α refers in c. For example, the content of 'dthat[the horse that I see now]' in a context c is Secretariat just in case there is exactly one horse in the world of c that the agent of c sees at the time of c in the world of c, and that horse is Secretariat.

Kaplan (1989b, 522) claims that "we can come much closer to providing genuine synonyms [than Reichenbach's own view]" by using his dthat-operator with the following stipulation:

(16) 'I' means the same as 'dthat[the person who utters this token]'.

But, on the present interpretation, this analysis is essentially just that of Reichenbach's. To see this, it is enough to observe that Kaplan remarks that dthat-terms are eliminable in favour of definite descriptions plus Actuality and Now operators:[18,19]

[17] A caveat: Kaplan equivocates on his use of dthat-terms, both in his 1977 manuscript *Demonstratives* (Kaplan, 1989b) and in his 1989 commentary on the manuscript, *Afterthoughts* (Kaplan, 1989a); see Kaplan (1989a, 578–582) and Predelli (2021). The present discussion focuses on the merely rigidifying interpretation of 'dthat' which features in Kaplan's formal system for the Logic of Demonstratives.

[18] Kaplan's remark follows immediately from the definitions of the Actuality and Now operators and the definition of 'dthat'; Kaplan (cf. 1989b, 545–6).

[19] Kaplan uses set bracket notation to denote the semantic content of a term or formula (Kaplan, 1989b, 546).

Remark 13: If β is a variable of the same sort as the term α but is not free in α, then $\{\text{dthat}[\alpha]\} = \{\text{the } \beta\ AN(\beta = \alpha)\}$. (Kaplan, 1989b, 552)

Given Reichenbach's understanding of 'this token' as essentially a rigidifying operator to the actual and the now, Kaplan's proposal here is just that of Reichenbach's.[20,21]

Lastly, we can now see where Kaplan's 'compulsive talker' argument falters. Given the notion of 'this token' under consideration, we can see that (3) is true at w iff the closest world w' relative to w in which no one utters the token (3) is such that *the person who actually uttered the token* (3) *in* w does not exist at w'; otherwise, (3) is false at w. For given that the token (3) is world-bound and temporally-bound, the occurrence of the definite description 'the person who utters this token' in (3) rigidly refers to the person who actually uttered the token (3), and not anyone else who may or may not have uttered a similar token of the same sentence-type in any other possible world. Thus, the closest world w' relative to w in which no one utters the token (3) is just the closest world in which the person who uttered the token (3) in w says nothing. And since that person certainly exists in that world w', (3) is false at w. Consequently, on this interpretation of 'this token', we can see that Reichenbach's analysis correctly predicts that (3) is false, agreeing with our intuitive verdict about the truth-value of (2).[22]

I submit, therefore, that, under the right interpretation, Kaplan's objection is ultimately incorrect and Reichenbach need not worry about compulsive talkers.

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Declarations

Conflict of Interest The author certifies that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

[20] Juhani Yli-Vakkuri (p.c.) suggests that on another charitable interpretation, (16) is exactly what Reichenbach means when he advocates for (1). This interpretation has the advantage that it doesn't require attributing thoughts to Reichenbach about whether tokens are world-bound.

[21] It is also worth noting that this understanding of Reichenbach's theory of indexicals escapes the usual Kripkean objections to descriptive theories of indexicals; see Soames (2002, 49–50).

[22] An anonymous reviewer observes that this interpretation requires us to modify or reject our original intuition about the truth-value of (3), which may seem troublesome, especially since our original intuitions seem right and a successful theory of indexical usage should be expected retain our initial intuitions as much as possible. Nevertheless, I wish to stress that the present interpretation of Reichenbach's theory trades on a technical notion of a token, the characteristics of which should not be expected to be reflected in our ordinary intuitions about sentences involving 'token'. There is some textual evidence for this: "The symbol 'this token' is used to indicate an operation; the meaning of this operation cannot be formulated in the langauge itself but only in its metalanguage" (Reichenbach, 1947, 286). Thus, on this interpretation, we can diagnose Kaplan's objection as arising from a failure to take proper heed of Reichenbach's notion of a token.

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