

## ON THE PERSISTENCE AND RE-EXPRESSION OF INDEXICAL BELIEF<sup>1</sup>

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**Abstract:** This paper is devoted to an examination of issues concerning the persistence and linguistic re-expression of indexical singular belief. I discuss two approaches to the topic: the directly referential approach, which I take as best represented in Kaplan's views, and the neo-Fregean approach, which I take as best represented in Gareth Evans's views. The upshot of my discussion is twofold. On the one hand, I argue that both Kaplan's account and Evans's account are on the whole defective. On the other, I claim that a broadly Fregean account is still to be preferred, since by positing semantically efficacious modes of presentation it is clearly better equipped to deal with the phenomena in the area. In particular, I argue that the notion of a memory-based mode of presentation of an object (a spatio-temporal particular, a region in space, a period of time, etc.), as introduced by Christopher Peacocke, turns out to be indispensable to account for the persistence and re-expression of intentional mental states over time.

**Keywords:** Belief. Cognitive dynamics. Indexicals. Modes of presentation. Fregean sense. Singular proposition.

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## SOBRE A PERSISTÊNCIA E RE-EXPRESSÃO DE CRENÇAS INDEXICAIS

**Resumo:** Este artigo contém um exame crítico de questões relativas à persistência e re-expressão linguística de crenças singulares indexicais. Nele são discutidos dois tratamentos destas questões: a concepção diretamente referencial, que eu vejo como sendo melhor representada pela visão de David Kaplan; e a concepção neo-Fregeana, que eu vejo como sendo melhor representada pela visão de Gareth Evans. O resultado da discussão tem duas faces. Por um lado, argumenta-se que tanto o ponto de vista de Kaplan como o ponto de vista de Evans são, em geral, incorretos. Por outro lado, sustenta-se que uma concepção Fregeana em um sentido amplo deve ainda ser preferida. Uma vez que, ao postular modos de apresentação indexicais semanticamente eficazes, essa concepção está claramente melhor equipada para lidar satisfatoriamente com os fenômenos na área. Em particular, argumenta-se que a noção de um modo de apresentação singular baseado numa memória de um objeto (um particular espaço-temporal, uma região no espaço, um período de tempo, etc.), tal como a noção foi introduzida por Christopher Peacocke, se revela como sendo indispensável para explicar adequadamente a persistência e a re-expressão de estados mentais intencionais através do tempo.

**Palavras chave:** Crença. Dinâmica cognitiva. Indexicais. Modos de apresentação. Sentido fregeano. Proposição singular.

### INTRODUCTION

This paper is devoted to an examination of the topic of cognitive dynamics as introduced by David Kaplan in his essay ‘Demonstratives’ and further exploited in the sequel ‘Afterthoughts’.<sup>2</sup>

I discuss two approaches to cognitive dynamics: the directly referential approach, which I take as best represented in Kaplan’s views, and the neo-Fregean approach, which I take as best represented in Gareth Evans’s views. The upshot of my discussion is twofold. On the one hand, I argue that both Kaplan’s account and

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<sup>2</sup> Kaplan 1988a (especialmente 537-8) and 1988b.

Evans's account are on the whole defective – even though there are features of each of those views which seem to be along the right lines. On the other hand, I claim that a broadly Fregean account is still to be preferred since by positing semantically efficacious modes of presentation it is clearly better equipped to deal with the phenomena in the area. In particular, I argue that the notion of a memory-based mode of presentation of an object<sup>3</sup> (a spatio-temporal particular, a region in space, a period of time, etc.), turns out to be indispensable for the purpose of accounting for the persistence of intentional mental states over time.<sup>4</sup>

The structure of the paper is as follows. In Section 1 one of the outstanding problems in cognitive dynamics is introduced. In Section 2 an immediate reaction to the problem, the Natural Realignment Claim, is formulated and two different readings of it are isolated for further consideration. In Section 3 one of those readings, the Sufficiency Claim, is considered and rejected. Section 4 contains an examination of the remaining claim, the Necessity Claim, in

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<sup>3</sup> The relevant notion is introduced and expounded in Christopher Peacocke 1983, Chapter 6.

<sup>4</sup> Although the claim will not be argued here, I also believe that so-called “notational variance” claims made in connection with indexical reference and content should be regarded as unwarranted in the area of cognitive dynamics as well. There have been some such claims on the neo-Fregean side, claims to the effect that the most plausible directly referential account of indexical reference and content one could devise would be at bottom a notational variant of a Fregean theory, for it would be bound to employ some Fregean notion of indexical sense; and there have been some such claims on the neo-Millian side as well, claims to the effect that the most plausible neo-Fregean account of indexical reference and content one could devise would be at bottom a notational variant of a Millian theory, for the indexical senses posited by the account would turn out to be redundant or semantically inert. When considered in relation to issues about the persistence of mental states with content over time, I think such notational variance claims emerge even more clearly as definitely wrong.

connection with Kaplan's and Evans's views. Finally, in Section 5 those views are both regarded as inadequate and an alternative account is sketched, the Necessity Claim being eventually rejected.

## 1. THE PROBLEM

Cognitive dynamics is the study of attitude-retention. It is concerned with the conditions under which propositional attitudes – e.g. beliefs, desires, and fears – can be said to persist over time, and the conditions under which ascriptions of the form ‘x continues to believe (fear, desire, etc.) that *p* at time *t*’, or of the form ‘x no longer believes (fears, desires, etc.) that *p* at *t*’, can be said to be true or false, correct or incorrect.

I assume for the purposes at hand a familiar, though not fully uncontroversial, picture of propositional attitudes, the so-called relational view. On this view the attitudes are relational mental states, holding between given subjects, on the one hand, and *thoughts* or *propositions*, on the other; the latter are said to be the *contents* of the mental states and they are supposed to possess unrelativized truth-values.<sup>5</sup> We shall be mostly concerned with attitudes that have *singular* thoughts, i.e. thoughts that are irreducibly about *specific* objects, as their contents.<sup>6</sup>

Let me now introduce one of the most challenging issues in cognitive dynamics. The problem concerns mainly the phenomena

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<sup>5</sup> Thus, they are unlike sentences of a natural language in that their truth-values are not supposed to vary along with variations in certain evaluation parameters (e.g. time).

<sup>6</sup> I assume, of course, that there are indeed such thoughts, another assumption, which is not completely uncontroversial. In addition, I am aware that concerning some cases it is not beyond dispute whether a given proposition is a singular proposition in that sense; but we need not worry about the issue here.

of retention of those attitudes which have indexical propositions as their contents, propositions that might be expressed by utterances in given contexts of sentences containing at least one occurrence of an indexical referring expression. The kinds of indexical content whose investigation seems to be more interesting are: (1) temporal indexical thoughts, such as the thought that *tomorrow* museums are closed in Florence; (2) spatial indexical thoughts, such as the thought that *here* is hot; and (3) perception-dependent indexical thoughts, such as the thought that *this dog* is a German Sheppard.

Cases where one is dealing with indexical contents of those types are problematic because they often involve some realignment in the linguistic means of expression of a thought – on the part of a given thinker – as time goes by. In other words, there are situations in which the verbal expression of an indexical thought entertained by a thinker at a given time must, at a later time, be readjusted in a certain way by the thinker in order for the thought in question to be then entertained; so that one could presumably say that some propositional attitude held at the earlier time towards the thought in question has been retained by the thinker at the later time, the very same thought being the object of the attitude on both occasions. Naturally, such readjustments are to be thought of as being operated in the linguistic means employed for the expression of the thoughts. Indeed, it does not make much sense – at least in the light of the picture of content we are assuming – to think of the thoughts as being themselves subjected to any sort of change or realignment.<sup>7</sup> As we shall see, the problem is that certain linguistic means which *prima facie* suggest themselves as appropriate to the effect do not seem to

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<sup>7</sup> Note that this is only apparently inconsistent with the claim, currently endorsed by many philosophers, that indexical thoughts (or at least a vast majority of them) are irreducibly indexical in nature, in the sense of containing indexical ingredients which cannot be analysed away in terms of some allegedly “eternal” elements.

capture certain facts about the cognitive structure of given thinkers. Such difficulties typically arise from the fact that very often the objects thought about at the earlier times are no longer indexically accessible at the later times.

Here is a general formulation of the problem. Suppose that at a time **t** a subject **x** holds a belief **b** with content **that p**, where the proposition **that p** is a singular indexical proposition. Suppose that, at **t**, **x** sincerely and assertively utters, or assents to, a token of a sentence-type **S** containing some indexical referring expression **i** and expressing, with respect to the context of use, the proposition **that p**. We are then invited to consider the following questions. Under what circumstances should we say that, at a later time **t'**, **x** has retained her belief **b**? Notice that this question, taken as a question in *philosophical semantics*, is to be intended in the following sense.<sup>8</sup> What sentence or sentences **S'** – presumably containing some indexical expression **i'** different from, but co-referential with, **i** – must **x** be disposed to assent to, or to assert, at **t'** so that we would be entitled to say that her belief **b** has been retained at **t'**? Obviously, a minimal requirement one should make here is that **S'** must have the same content as **S**, i.e. it must have the proposition **that p** as its content (relative to the context of use). Indeed, identity of mental content over time is clearly a necessary condition for attitude-retention.

The following sort of simple situation will illustrate the problem.<sup>9</sup> Suppose that, at a certain time **t**, I sincerely and assertively utter, or assent to, a token of the sentence-type

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<sup>8</sup> The question will be taken mainly in this sense throughout the paper. Of course, retention and re-expression are different things: the former does not entail the latter even with respect to fully articulate speakers of a human language.

<sup>9</sup> I concentrate on cases involving temporal thoughts, but the remarks could surely be adapted to apply to other varieties of indexical content.

**(1) This room is hot now.**

One would then say that at  $t$  I hold a particular belief about the temperature in the room where I happen to be at  $t$ ; the belief might be formed on that occasion, or it might already exist and just be linguistically manifested then. Now what sentence or sentences should I be prepared to accept<sup>10</sup> at a later time  $t'$ , say three minutes later, in order to retain (or re-express) the belief I formed or voiced at  $t$ ? How should I readjust at  $t'$  the thought – relative to its verbal expression, of course – I entertained and believed at  $t$ ? Well, assuming that at  $t'$  I am still in the same room, a natural candidate would be a token of the sentence

**(2) This room was hot three minutes ago;**

To take another case, consider the notorious ‘today’/‘yesterday’ example.<sup>11</sup> Suppose that on a certain day, say  $d$ , Jones says

**(4) Today is fine,**

and believes it. What sentence or sentences should he be disposed to accept on the following day,  $d+1$ , so that one could say that he has then retained his previously manifested belief about the weather on  $d$ ? Again, a plausible choice would apparently be given in the sentence

**(5) Yesterday was fine.**

Analogous questions might be naturally raised with respect to sentences containing other categories of indexical terms, such as

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<sup>10</sup> Henceforth I use ‘accept’ to cover either cases of (sincere and reflective) assertion of a sentence or cases of (sincere and reflective) assent to a sentence.

<sup>11</sup> This example can be found as early as in Gottlob Frege’s 1918 essay ‘Der Gedanke’ (Frege 1967).

spatial indexicals like ‘here’ and ‘there’ or perceptual demonstratives like ‘this pen’ and ‘that pen’.

## 2. THE NATURAL REALIGNMENT CLAIM

Let us call the above claim, the claim that sentences such as (2) and (5), taken with respect to the envisaged contexts of utterance, constitute choices which are appropriate for attitude-retention the **Natural Realignment Claim**. I take it that it is a *prima facie* intuitively sound claim.

Now the Natural Realignment Claim might be given two different readings. Take Jones's case, for instance. On the one hand, it might be held that Jones might be said to have retained on **d+1** the belief he held on **d** (by accepting then (4)) *only if* he would be disposed to accept (5) on **d+1**. That is to say, the claim is that a disposition to accept a token of the sentence in question on the later occasion is *necessary* for retention of the belief had on the earlier occasion.<sup>12</sup> On the other hand, it might be held that Jones's disposition to accept (5) on **d+1** is *sufficient* for retention of the belief he held on **d** (by accepting then (4)). I shall refer to those distinct versions of the Natural Realignment Claim as the **Necessity Claim** and the **Sufficiency Claim** (respectively).

## 3. THE SUFFICIENCY CLAIM

It is instructive see why the Sufficiency Claim version does not hold, e.g. why Jones's propensity to accept (5) on **d+1** is not – taken *per se* – sufficient for belief-retention. In what follows I mention two

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<sup>12</sup> Naturally, it is assumed – and I shall keep this assumption throughout our coming discussion – that Jones is an articulate speaker of English eager to give voice to his beliefs; otherwise such a claim would be manifestly false.



different ways by means of which such an insufficiency could be displayed.

First, suppose that on  $d+1$  – for instance as a result of a blow in the head – Jones forgets everything about the preceding day, especially what the weather was like then. Suppose further that on  $d+1$  – being aware of Jones's condition – a reliable friend gives him some information about  $d$ , including the information that it was a fine day; and suppose that Jones accepts this testimony without any reluctance. Then one might surely conclude that on  $d+1$  Jones would be disposed to accept (5). Yet, under such circumstances, one would hardly say that he would have thereby retained on  $d+1$  the particular belief he held on  $d$  (by accepting then (4)). It seems that in order to secure belief-retention Jones's disposition to accept (5) on  $d+1$  must be causally connected in some way or other with his acceptance of (4) on  $d$ . Indeed, one would have to say that he is disposed to accept (5) on  $d+1$  *because* he accepted (4) on  $d$ ; or that he believes today – i.e.  $d+1$  – that yesterday – i.e.  $d$  – was fine *because* he believed yesterday that yesterday was fine. And in the above sort of situation, such a causal connection – which, as the case suggests, may involve memory – is clearly absent.

Second, suppose that Jones accepts sentence (4) at 11:58 p.m. on  $d$ ; and that three minutes later, being unaware that midnight has already passed, he comes to accept sentence (5). Of course, under such circumstances, with the word 'yesterday' Jones intends to refer to  $d-1$ , a day on which – he remembers (let us suppose) – the weather was also fine.<sup>13</sup> Therefore, Jones accepts (5) on  $d+1$ ; even though he would reject such a description of his situation if he were confronted with it. However, it is obvious that one could not claim that he has

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<sup>13</sup> One might also assume that he correctly remembers the weather on  $d$  (whatever it was like)

thereby re-expressed the belief he held on **d**.<sup>14</sup> Again, some kind of causal connection appears to be required for attitude-retention. And in those circumstances such a connection – which, as the case suggests, may involve the exercise of a tracking ability, the ability to keep track of a period of time as time passes – is missing. In effect, in the envisioned situation one would not say that Jones accepts (5) on **d+1** *in virtue of* his previous acceptance of (4) on **d** (the reason being that meanwhile he has lost track of day **d**).

Now one might be attracted by the idea that *some* sort of internal continuity is constitutive of attitude-retention, the required causal connection being regarded as resting upon such continuity. Here are two proposals for fleshing out this idea, both suggested by previous remarks and to which I shall return later.

The first proposal brings out memory as one of the forms of interior continuity which are crucially present in attitude-retention. I take for granted that, in general, memory is not epistemically transparent to the subject. There clearly is a distinction between *remembering* and *seeming to remember*; for instance, it is possible to remember certain events while thinking that one does not remember them, or at least without thinking that one remembers them. So endorsing the claim that there is some sort of interior continuity involved in attitude-retention does not entail that the retained mental states be epistemically transparent to their subjects.

The second proposal brings out the already noticed tracking capacity. One might remark with respect to Jones's case that he thinks that he is believing a different thing – when he accepts sentence (5) – in virtue of the fact that he thinks that he has correctly kept track of time, whereas in fact he has mistracked the days; wrong beliefs about content identity may thus be caused by wrong beliefs

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<sup>14</sup> At most, and even this is rather problematic, one could perhaps claim that Jones has thereby retained a certain belief held on **d-1** about the weather on that day.

about tracking. Hence the continued exercise of an ability to keep track of an object, namely a day, as time flows may also provide us with a form of internal continuity of the kind needed for attitude-retention.

The notion of tracking an object has its clearest and primary application in the case of perception. Following Evans, one might maintain that an exercised ability to track a spatiotemporal particular over time and/or space should be in general taken as being constitutive of that variety of attitude-retention one might call *P-retention*. Roughly, P-retention consists in a subject's re-expressing by means of perceptual demonstratives certain attitudes previously held towards perception-dependent thoughts, for instance certain previous perceptual beliefs (also expressed then with the help of perceptual demonstratives). I shall refer to this claim as principle **(K)** and give it the following formulation. Let the thought **that q** be a perception-dependent thought about some spatiotemporal item *v*. Then the following holds:

**(K) Necessarily, if a subject *x* P-retains a belief *b*, with content *that q*, throughout an interval of time from *t*<sub>0</sub> to *t*<sub>*n*</sub>, then *x* keeps track of *v* from *t*<sub>0</sub> to *t*<sub>*n*</sub>.**

Thus, suppose that on seeing a certain woman at a party I say 'She is French' and believe it. The claim is then this. In order to be able to P-retain on a later occasion during the party the belief about the woman in question I previously voiced by uttering that sentence – that is to say, in order to be able to re-express later that belief by means of a perceptual demonstrative, e.g. 'That woman' or 'The woman over there' or 'You' – I must somehow have kept track of the woman in question from one moment to the other (by means of some sensory modality, e.g. sight, or some combination of sensory modalities).

The foregoing remarks seem to point to an extension of principle **(K)** to cases of attitude-retention in which given subjects are able to re-express by means of temporal indexicals, e.g. ‘yesterday’ and ‘a moment ago’, certain beliefs formerly held towards temporal indexical thoughts, for instance certain previous temporal beliefs involving ‘today’-thoughts or ‘now’-thoughts. Let us refer to such a variety of attitude-retention as *T-retention*. Then one might formulate as follows the envisaged temporal analogue of principle **(K)**. Let the thought **that** *r* be a temporal indexical thought about a particular time *u*. Then the following holds:

**(K)\* Necessarily, if a subject *x* T-retains a belief *b*, with content that *r*, throughout an interval of time from *t*<sub>0</sub> to *t*<sub>*n*</sub>, then *x* keeps track of *u* from *t*<sub>0</sub> to *t*<sub>*n*</sub>.**

Thus, for example, in order for Jones to be able to T-retain on **d+1** – or to re-express on **d+1** by means of a temporal indexical – the belief he held on **d** about **d** (by accepting then (4)), he must keep track of **d** from **d** to **d+1**. And an analogue of principle **(K)** could also be formulated to cover cases of what one might call *S-retention*, cases in which a subject re-expresses by means of spatial indexicals, e.g. ‘over there’, certain beliefs and other attitudes formerly taken towards spatial indexical thoughts, e.g. certain previous spatial beliefs involving ‘here’-thoughts.

The following general conclusion might be extracted from our reflection on the ‘today’/‘yesterday’ case; and parallel results would surely hold for other pairs of temporal indexicals such as ‘now’/‘three minutes ago’, for pairs of spatial indexicals such as ‘here’/‘there’, and for pairs of perceptual demonstratives such as ‘this pen’/‘that pen’. Given an acceptance of sentence (4) on a day **d**, a subject's disposition to accept (5) on **d+1** would not by itself guarantee the persistence of the belief held on **d**. The reason is that at least one of

the following conditions might not be satisfied: (i)- the subject remembers the weather on **d**; (ii)- he keeps track of the days from **d** to **d+1**.

#### 4. THE NECESSITY CLAIM

Is the Natural Realignment Claim – construed as the Necessity Claim – a sound claim? Recall that this is the claim that, given an acceptance of sentence (4) on **d**, a propensity to accept sentence (5) on **d+1** would be necessary to retain then the belief held on **d**.

To begin with, note that the Necessity Claim *might* be subscribed to by an advocate of a directly referential account of indexical content. Indeed, a direct reference theorist might come to endorse the idea that *only* by being disposed to accept a sentence such as (5) on **d+1** would our subject be able to retain the ‘today’-belief he held on **d**. For she might insist that, at least in the case of singular indexical belief, belief-retention should be regarded as being sensitive, not only to believed **contents**, but also to **ways of believing** contents (**characters**, in Kaplan’s terminology, or **roles**, in John Perry’s terminology).

Thus, in order for Jones to re-express his ‘today’-belief on the following day it would not be enough for him to accept then the same content. This content would (roughly speaking) be the neo-Russellian proposition consisting of the day **d** itself and the property of being fine. Yet, Jones could believe such a proposition on **d+1** under a variety of ways, including non-indexical ones such as those involving date indicators like ‘July 3, 1997’ or ‘John’s birthday’. And it might be reasonably argued that not every way of believing a neo-Russellian proposition is appropriate to secure belief-retention. Accordingly, given that on **d** the proposition in question is believed by the subject under the character (of) ‘today’, the direct reference theorist might impose the following condition

on belief-retention.<sup>15</sup> She might demand that that character, i.e. the “old” singular character, be readjusted in such a way that: (1) the “new” singular character determines the same neo-Russellian content, viz. the same object; *and* (2) the new character is suitably related to the old character, in the sense of belonging to what might be loosely called the same **range** of singular characters or ways of believing. ‘today’, ‘yesterday’, ‘tomorrow’, ‘two days ago’, etc., would form a single range of singular characters in that sense, and ‘here’, ‘there’, ‘over there’, etc., would belong in another range. The Necessity Claim might then be naturally vindicated: only by entertaining on **d+1** the ‘yesterday’-way of believing the above neo-Russellian proposition would Jones be able to retain his previous ‘today’-belief.

The criticism might be levelled against such an account that it would fall short of providing us with any kind of *interior* continuity. On the one hand, neo-Russellian propositions are by definition something that is, in general, wholly external to their thinkers. On the other, it seems unlikely that the notion of a character, or a way of believing some content, might be adequately used to the effect. On **d+1** Jones is required to accept the same content under a suitably related character (in the above sense). However, it is still unclear what relation should obtain between the old and the new character so that it could yield the interior continuity involved in attitude-retention.<sup>16</sup> Hence, lacking the

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<sup>15</sup> Of course, the condition is intended to be generalizable to the other varieties of singular indexical belief.

<sup>16</sup> This is Kaplan's point in 1988a, footnote 64. However, Mark Richard, a direct reference theorist, makes an interesting suggestion along the following lines (see Richard 1990, p. 228). When Jones accepts (4) on **d** he might be seen as also accepting the sentence ‘A-certain-day<sub>d</sub> is fine’, where ‘a-certain-day<sub>d</sub>’ is construed as being a non-indexical device by means of which Jones would be able to refer to **d** when this day becomes “indexically

appropriate kind of conceptual apparatus, at least to the extent that the semantic level of explanation is concerned, the direct reference theorist seems to be left with the problem of accounting in some way or other for such continuity. Thus, she seems to be left with the general problem of accounting for attitude-retention.

But this dismissal is too quick. One possible move available to the direct reference theorist would be to invoke at this point the already mentioned tracking capacity and take it as providing us with the sort of connection among characters which is involved in belief-retention. The idea is that underlying a given range of indexical ways of believing of the envisaged types (temporal, spatial, perceptual) is the exercise of an ability to keep track of an object over space and/or time. This would give us the needed "internal" element, while being perfectly consistent with the coarse-grained contents posited by the account: structures of

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inaccessible". Thus, on  $d+1$  he could either accept (5) or 'A-certain-day<sub>d</sub> is fine'. And this would apparently provide us with the sort of continuity needed for retention. Our subject employs either distinct tokens of the same name of the object thought about, viz. the day  $d$ , or a "chain" of tokens of distinct names of the object, where the connection between such tokens is secured by memory; one either has "memory traces" of earlier tokens or groups tokens with such traces. The problem is that on Richard's view the objects of belief (and other attitudes) are not, strictly speaking, neo-Russellian propositions since they include not only the objects and properties thought about but also certain expressions in the language of thought which represent them; thus, the object of Jones's belief on  $d$  would be something like the ordered pair  $\langle \langle \text{'is fine', being fine} \rangle, \langle \text{'today', } d \rangle \rangle$ , or the pair  $\langle \langle \text{'is fine', being fine} \rangle, \langle \text{'a-certain-day'}_d, d \rangle \rangle$ . And, given the kind of interior connection between names appealed to above, one might have reasons to suspect that such a view turns out to be rather similar to a broadly Fregean account of attitude-retention such as the one outlined below. Furthermore, Richard's view does not provide belief-retention because the object of belief is not constant and belief-retention should be taken, I think, as requiring identity of content believed.

objects and properties or relations. Of course, one might at this point protest that, by introducing ways of believing which are far from being semantically inert, and notwithstanding the adoption of a purely referential notion of indexical content, the emerging theory would turn out to be more Fregean than Millian. But that is a different issue, irrelevant to our present concerns.<sup>17</sup>

On the other side of the dispute, the “interior continuity” issue would not represent a problem for neo-Fregean approaches to indexical content, especially the account advanced by Evans. The reason is that the considerations usually employed on such an account to establish the result that Jones's acceptance of (5) on  $d+1$  would, under normal circumstances, manifest the persistence of the particular content believed by him on  $d$  (when he accepts (4)), are such that they provide us at once with the desired interior continuity. In effect, on that brand of Fregeanism, it is claimed that the particular proposition Jones believes by accepting (4) on  $d$  is strictly identical to the one he believes by being disposed to accept (5) on  $d+1$ . Because both propositions are composed out of the very same way of thinking of an object (a day); and such a way of thinking is taken to be a temporally extended mode of presentation of the day  $d$ , one which consists in a way of keeping track of  $d$  from  $d$  to  $d+1$  which Jones employs in thought.

Thus, a particular form of internal continuity, the one noticed before and given in the exercise of an ability to keep track of a period of time as it recedes into the past, is in this manner incorporated into indexical content itself. The neo-Fregean theorist would on that basis be able to reach the conclusion that a subject's disposition to accept (5) on  $d+1$  is necessary for her to retain the content believed on  $d$ .

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<sup>17</sup> I think that if the mere admission of *semantically efficacious* modes of presentation or senses is taken as a defining feature of a Fregean theory (whether or not they are located at the level of propositional content), then the protest is sound.



For, on his view, if the subject keeps track of the day  $d$  from  $d$  to  $d+1$  then she is bound to have such a disposition on  $d+1$ , and if she wants to retain then the content of her earlier belief, then she must exercise such an ability. An argument along the following lines could then be mounted with a view to establishing the Necessity Claim. If the above result holds, i.e. if a disposition to accept (5) on  $d+1$  is necessary for preservation of content, then such a disposition is necessary for belief-retention; since, in general, belief-retention requires identity of content believed.

To sum up, we could say that the Necessity Claim might be accepted **both** by a neo-Fregean theorist and by a direct reference theorist in so far as they might both endorse the following line of reasoning (though on different grounds):

*Premise 1:* Tracking an object over time and/or space is necessary for retaining on later occasions singular indexical beliefs expressed on earlier occasions by means of sentences of certain kinds ('today'-sentences, 'here'-sentences, etc.).

*Premise 2:* A disposition to accept sentences of certain kinds ('yesterday'-sentences, 'there'-sentences, etc.) on the later occasions is necessarily involved in tracking.

*Conclusion:* Therefore, such a disposition is necessary for belief-retention.

Now the strongest objection I know to the Necessity Claim comes from the "direct reference" side: Kaplan's criticism in 'Demonstratives'. Kaplan dismisses as unsatisfactory such an answer to the problem of cognitive dynamics; and, as far as I can see, he does not provide us with any alternative solution to the problem, leaving it open. His argument might be represented as the following sort of *reductio*. If, in order to be able to retain on  $d+1$  his former belief,

Jones must replace 'today' with 'yesterday' and accept (5), then if he were someone like Rip van Winkle – someone who systematically loses track of time and never knows his own position in time – it would be utterly impossible for him to retain that belief; for the simple reason that he could never be in a position to accept, or to be disposed to accept, a sentence such as (5) (in a sincere and reflective manner, of course). Naturally, Kaplan takes this as a rather implausible consequence of the claim under discussion. Thus, what Kaplan seems to reject is some such idea as the idea that in order to retain demonstrative or indexical beliefs about a given object for a period of time a subject must keep track of the object in question throughout that period of time; in other words, Kaplan seems to reject some such principles about retention as **(K)** and **(K)\***, and in general Premise 1 of the above argument for the Necessity Claim.

The strongest rejoinder I know to Kaplan's argument is Evans's in his essay 'Understanding Demonstratives'.<sup>18</sup> Evans rejects Kaplan's verdict and takes the above sort of consequence as being perfectly acceptable. He argues that an ability to keep track of time – which, as we have seen, manifests itself in a propensity to accept (5) on **d+1** given an acceptance of (4) on **d** – necessarily underlies Jones's retention of his original belief. If Jones were like Rip van Winkle and that ability were missing, there would be no belief-retention. If the subject has not tracked the object, she has lost it (cognitively speaking); and if she has lost the object, she has thereby lost her former singular belief about it. Rather, the subject would be under the illusion of having retained a certain belief.<sup>19</sup>

How should one assess such a dispute? First, notice that the case presented by Kaplan is an extreme one. I am inclined to think that Evans is probably right when he holds that a subject who

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<sup>18</sup> Evans 1981; see especially footnote 21 on page 311.

<sup>19</sup> Hence, Evans takes attitude-retention to be epistemically opaque, which on my view is entirely correct.

*systematically and massively* mistracks time – e.g. by sleeping for too many consecutive days – could hardly be in a position to retain temporal beliefs; at least, he could hardly retain temporal beliefs involving ‘today’-thoughts, ‘now’-thoughts, ‘this year’-thoughts, and the like. Maybe the right thing to say about someone like Rip van Winkle is that such a person would be unable to *form* any such temporal beliefs in the first place – and hence to retain them, of course. But this is not entirely right either, since it is not fully implausible that Rip might be capable of forming ‘now’-beliefs.

Anyway, there is no need for such an extreme case for an analogous point could be made with respect to cases in which we deal with subjects who only temporarily lose track of time. Thus, let us go back to Jones’s story. Suppose that he accepts (4) at 11:58 p.m. on **d** and that, three minutes later, he is unsure whether midnight has passed; suppose further that he has no means to check the time. Hence, Jones would not be in a position to be disposed to accept (5) at 00:01 a.m. on **d + 1**, such a disposition being grounded on an ability to keep track of a day which he happens not to be able to exercise in the situation described. Therefore, according to the Necessity Claim, it seems that Jones would be prevented from retaining at 00:01 a.m. on **d + 1** the belief he held at 11:58 p.m. on **d**. Yet, there is a clear sense in which at 00:01 a.m. on **d + 1** Jones still continues to believe what he believed three minutes earlier. There is a strong intuition to the effect that it should be possible for Jones to retain then the belief held on the day before about the weather on that day; even if he is *ex hypothesi* not able to think of the day in question as **yesterday**, or as **the day which immediately precedes today**, or to identify it by means of knowledge of his own position in time.<sup>20</sup>

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<sup>20</sup> John Perry shares this intuition and argues in the same vein (but on different grounds) even with respect to Rip van Winkle’s situation (see Perry 1997); I have doubts concerning the extreme case, though.

## 5. MEMORY AND BELIEF-RETENTION

The approach I am willing to endorse, and whose main ideas are subsequently sketched, is one which is both in partial agreement with Evans's views and in partial agreement with Kaplan's views.

*Pace* Evans, I believe that the Necessity Claim is not in general sound. As pointed out, I would agree with Kaplan's verdict that in the above sort of circumstance – in spite of not being disposed to accept (5) on  $d+1$ , and hence in spite of not being in a position to keep track of  $d$  in a certain canonical way, viz. as **the preceding day** – Jones might still be seen as having retained his earlier belief. What sort of retention would that be, and how might Jones manifest it, are questions I take up below.

On the other hand, I believe that principles such as (K) and (K)\* still impose plausible constraints upon a subject's ability to retain in a certain way attitudes with indexical contents. Thus, *pace* Kaplan, I think that the notion of keeping track of an object over time and/or space – in the perceptual case, the notion of following or monitoring a public item as it moves around, we move around, and time passes – should still be seen as playing an important role in an adequate account of attitude-retention. Our rejection of the Necessity Claim should not be regarded as being inconsistent with our acceptance of such principles as (K) or (K)\*. Indeed, there is more than a kernel of truth in Evans's doctrine that in order to retain *in a certain manner* a previous indexical belief a subject must keep track of the object thought about. However, I have strong reservations concerning his doctrine that ways of tracking objects – for instance, the one underlying an appropriate succession of beliefs involving 'today', 'tomorrow', and 'yesterday' – are themselves to be taken as

modes of presentation and thus as component parts of indexical contents.<sup>21</sup>

As remarked before, I think it is perfectly possible for a subject to retain, and also to re-express, on  $d+1$  a belief held on  $d$  (by accepting (4)) without having then any disposition to accept (5). One might represent the basic mistake made by a proponent of the Necessity Claim as consisting in a tacit endorsement of some strengthened forms of principles such as (K) and (K)\*. According to the stronger principles in question, a subject's exercise of an ability to track a given object over time and/or space would be required for the subject to retain *tout court* perceptual or temporal beliefs previously held about the object in question. Whereas, according to the formulations proposed and which I take as plausible, the weaker principles (K) and (K)\* are restricted respectively to cases of P-retention, i.e. re-expression of former perceptual beliefs by means of perceptual demonstratives, and to cases of T-retention, i.e. re-expression of former temporal beliefs by means of temporal indexicals.<sup>22</sup> Using a different terminology, one could say that those principles operate by limiting retention and re-expression to ways of believing available *within* a given range of ways of believing.

So the Necessity Claim might be viewed as resting upon an assimilation of attitude-retention in general to T-retention, in the temporal case, and to P-retention, in the perceptual case.<sup>23</sup> But such a conflation is a mistake since not every instance of retention *tout court* is to be taken, for example, as an instance of T-retention (even when

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<sup>21</sup> I thus agree with Stephen Schiffer's criticism of Evans's views in his paper Schiffer 2005.

<sup>22</sup> A similarly restricted principle would hold for spatial beliefs.

<sup>23</sup> Hence, the flaw in the general argument for the Necessity Claim should also be located in Premise 1, but on different grounds than those Kaplan seems to have in mind.

the objects of retention are temporal beliefs).<sup>24</sup> Thus, if Jones mistracked time in the way described before, then – in the light of principle (K)\* – what he would not be in a position to do at 00:01 a.m. on **d+1** is to T-retain the particular belief he held at 11:58 p.m. on **d+1** when he accepted (4). In other words, he would not be able to re-express then such a belief by using a temporal indexical such as ‘yesterday’. Nevertheless, it does not follow that it would be impossible for him to retain, or even re-express, *tout court* that particular belief.

It seems to me that retention should be possible in such cases and the account we have developed so far already provides us with the sort of result we need to make sense of such a possibility. Indeed, it is almost a truism that there is an intimate connection between attitude-retention and memory. One could handle cases such as Jones’s as follows. Supposing that on **d+1** he remembers what the weather was like on **d**, one might say that he would be then in a position to retain the belief had on **d**, such a retention being secured by memory. Accordingly, what one should take as being the extreme case here is not the case of a massive loss of a capacity to keep track of time (Rip van Winkle’s situation), but rather that of a massive loss of memory, i.e. the case of amnesia. Hence, what one ought to say is that temporal beliefs such as the ones we have been discussing could hardly be retained by an amnesiac (*mutatis mutandis* for perceptual and spatial beliefs of the intended kinds).

If this is right then it is reasonable to assert the following. Although Jones is *ex hypothesi* unable on **d+1** to keep track of **d**, i.e. to think of **d** as *yesterday*, he still might be said to have retained on **d+1** his former belief about **d** in a certain way, namely by means of memory, and not in virtue of the particular position he occupies in time or of his knowledge of such a position. I conclude then that one

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<sup>24</sup> Obviously, the converse claim is false.

should regard as unacceptable the claim that a disposition to accept (5) on  $d+1$  is necessary for a thinker to retain or re-express then a belief she had on  $d$  by accepting (4). The presence of such a disposition is therefore not necessary for belief-retention (and it is not sufficient either).

Assuming thus that what I have called the Natural Realignment does not constitute a necessary condition for belief-retention, one is still left with the problem of specifying what sort of linguistic readjustment (if any) could Jones make on  $d+1$  with a view to expressing then the persistence of the particular belief he had on  $d$ . A tentative proposal, suggested by some of the preceding observations, might be sketched in the following way. When Jones accepts (4) on  $d$ , he might as well have accepted a token of a sentence such as

**(6) This day is fine;**

where the demonstrative phrase ‘this day’ is associated in the context with a perceptual demonstrative mode of presentation of the day thought about, viz.  $d$ . Indeed, it seems plausible to regard ‘today’ – taken in its pronominal use – as having a genuinely demonstrative sense, so that an utterance of (4) on a certain day might be seen as expressing the very same thought as an utterance of (6) on the same day. Now if such a suggestion is plausible, then a way by means of which a thinker like Jones could re-express on  $d+1$  the belief held on  $d$  (by accepting (4) then) would be to accept, or to have a disposition to accept, on  $d+1$  a token of a sentence such as

**(7) That day was fine.**

The demonstrative phrase ‘that day’ would be here taken as expressing in the context a memory-based demonstrative mode of presentation of  $d$ , i.e. a way of thinking of a certain day anchored

upon a memory demonstration of the day in question. Reference to a particular day would be in this way secured by memory; and one might still say that the thinker knows which day is in question, or that he is in a certain sense acquainted with the object thought about, since he thinks of that day as the day on which certain remembered events took place.

The idea is that belief-retention would be secured by means of the following sort of realignment of mode of presentation: the primitive perceptual demonstrative mode, the one associated with 'this day' (or 'today'), would be readjusted into a memory-based demonstrative mode, the one associated with 'that day', the same object (day) being presented by both modes.

If one were a strict Fregean and regarded modes of presentation as being locatable at the level of semantic or mental content, then one would have to argue to the effect that such a readjustment of mode of presentation does not constitute a literal change and does not create a *new* mode of presentation. Accordingly, from that point of view there would be a single temporally extended demonstrative mode and a hence a single Fregean thought would be expressed both by (6) and (7) (taken in the intended contexts). But that is far from being a compulsory move. Moreover, I think it is extremely difficult to make sense of the claim that a single mode of presentation is involved in such cases, for there just seem to be two distinct ways of thinking about an object; and that claim is absolutely needed to guarantee identity of content.

So perhaps one should replace strict Fregeanism with a view on which modes of presentation, in spite of being external to mental content, are nevertheless semantically efficacious. Roughly speaking, modes of presentation, or ways of believing contents, are semantically efficacious in the sense that ascriptions of attitude-retention, in particular the correctness and incorrectness of such ascriptions, or their truth-values, are sensitive not only to the sheer



existence of modes but to their identity and nature. On such a moderately Fregean view, it would be rather natural to take semantic or mental content as being purely referential or coarse-grained, in the neo-Russellian sense of complexes of objects and properties or relations. The above kind of readjustment of mode of presentation might then be regarded as constituting a literal change, in the sense that two demonstrative modes would be involved there: the “old” perceptual mode and the “new” memory-based mode. Yet, on the view in question one would still have a single, purely referential, thought; and strict identity of content could be accounted for in a presumably less troublesome way. Thus, belief-retention would be secured, not at the level of content as on the strictly Fregean view, but at the level of semantically efficacious modes of presentation: only certain modes, modes endowed with certain features and related in a certain way, would be appropriate to the effect.<sup>25</sup>

An analysis of attributions of attitude-retention might be then sketched along the following lines. Let *p* be a sentence used in context *c* and containing some indexical singular term *i* referring to some object *o* with respect to *c*. We want to account for sentences of the form

*x As that p at time t and x continues to A that p at time t',*

or

*x As that p from time t to time t',*

where the schematic letter *A* is to be replaced by any attitude verb.

Here is the proposed account

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<sup>25</sup> See the discussion at page 15.

*x* As that *p* from *t* to *t'* if and only if  $\exists m \exists \langle p \rangle$  (*m* presents *o* and *m'* presents *o* and  $x A^* \langle p \rangle$  under *m* at *t* and  $\forall t_i$   $t < t_i \leq t' \exists m' (x A^* \langle p \rangle$  under *m'* at *t<sub>i</sub>* and  $R m m')$ )

*m* and *m'* are singular indexical modes of presentation,  $\langle p \rangle$  is the neo-Russellian proposition expressed by sentence *p* in context *c*,  $A^*$  is the relation denoted by attitude verb *A*, and *R* is an appropriate relation holding between singular modes of presentation.

The relation *R* should connect modes *m* and *m'* in such a way that *x*'s attitude towards proposition  $\langle p \rangle$  at *t<sub>i</sub>* be caused by *x*'s attitude towards  $\langle p \rangle$  at *t*. On my view, there are two central sorts of relation between modes that are able to ensure such a causal connection: the link through memory and the link through the exercise of the tracking ability. Illustrating, *m* might be the *today*-mode of presentation of day *d* and *m'* the *yesterday*-mode of presentation of *d*; or *m* might be the *today*-mode of presentation of *d* and *m'* the memory based mode of presentation of *d*.

I finish by briefly dealing with an interesting objection put forward by Jason Stanley in discussion. Stanley argues, in defence of Evans's view, as follows. The moderate case mounted before, Jones's case, does not refute the Necessity Claim after all, since the subject Jones surely *has* the propensity to accept sentence (5) on *d+1*. For although this propensity is not manifested in the first few minutes of day *d+1*, nothing prevents it from being regularly manifestible throughout that day. Stanley concludes that Kaplan's more radical scenario is actually needed to reject the necessity claim, which is not good news.

However, I don't find Stanley's move convincing. One might easily change the scenario so that it succeeds in refuting the Necessity Claim without being radical. Suppose Jones comes to accept (4) on *d* and then, during the night of *d*, say at 10 p.m., he is kidnapped and locked in a dark room, where he is kept for the entire day *d+1* in

complete isolation. Jones has no watch, no fax machine, no mobile phone, etc. He is lost in time for all the day  $d+1$ , having thus no propensity at all, at any time throughout that day, to come to accept sentence (5). Yet, I think there is a sense in which he could still retain and re-express at any such time the belief held on day  $d$  by accepting then sentence (4).

## REFERENCES

- ALMOG, J., PERRY, J., WETTSTEIN, H. (eds.). *Themes from Kaplan*. Oxford: Oxford University Press, 1988.
- BRANQUINHO, J. (ed.). *Content and Cognition. Proceedings of the Seminar Series in Analytic Philosophy*. Lisbon: Centro de Filosofia da Universidade de Lisboa, 2005.
- DOKIC, J. (ed.). *Cognitive Dynamics. European Review of Philosophy*, Vol. 2. Stanford: CSLI Publications, 1997.
- EVANS, G. "Understanding Demonstratives". In: H. Parret and J. Bouveresse (eds.). *Meaning and Understanding*. Berlin: W. de Gruyter, 1981. Repr. in G. Evans (1985), pp. 291-321.
- . *Collected Papers*. Oxford: Clarendon Press, 1985.
- FREGE, G. "The Thought: A Logical Inquiry". Translated by Anthony and Marcelle Quinton, 1967. Repr. in P. F. Strawson (ed.) (1967), pp. 17-38.
- HOERL, C. "Cognitive Dynamics: An Attempt at Changing Your Mind". In: J. Dokic (ed.), pp. 141-158, 1997.
- KAPLAN, D. "Demonstratives: An Essay on the Semantics, Logic, Metaphysics, and Epistemology of Demonstratives and Other Indexicals". In: J. Almog, J. Perry and H. Wettstein (eds.), pp. 481-563, 1988a.

- . “Afterthoughts”. In: J. Almog, J. Perry and H. Wettstein (eds.), pp. 565-614, 1988b.
- PEACOCKE, C. *Sense and Content*. Oxford: Oxford University Press, 1983.
- PERRY, J. “A Problem about Continued Belief”. *Pacific Philosophical Quarterly*, 61, pp. 317-332, 1980.
- . “Rip van Winkle and Other Characters”. In: J. Dokic (ed.), pp. 13-40, 1997.
- RICHARD, M. *Propositional Attitudes. An Essay on Thoughts and How We Ascribe them*. Cambridge: Cambridge University Press, 1990.
- STRAWSON, P. F. (ed.). *Philosophical Logic*. Oxford: Oxford University Press, 1967.
- WILLIAMSON, T. “Is Knowing a State of Mind”. *Mind*, 104, pp. 533-565, 1995.
- SCHIFFER, S. “What Reference Has to Tell Us About Meaning”. In: J. Branquinho (ed.), pp. 129-153, 2005.