

BOZICKOVIC'S *THE INDEXICAL POINT OF VIEW*. SOME COMMENTS.

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Abstract: In these short comments, I concentrate mostly on the discussion about belief retention, about Frege's dilemma concerning sentences containing temporal indexical expressions and about the problems of cognitive significance it raises. I argue that Bozickovic's interpretation of Perry's proposals (both of the

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70's proposal and of its later developments) is not accurate. I offer an account of these problems that I take to be congenial with Perry's own explanation and which I think might complement Bozickovic's own proposal.

1. Introduction

There are many things I agree with in Bozickovic's book. The book is full of novel ideas and arguments about very much discussed topics. I have here the wonderful but rare opportunity to discuss some aspects of the book with some detail and hopefully resolve some doubts I have about the view Bozickovic advocates. The space to do so, however, is rather limited, and the topics and arguments presented are all fascinating and complex, so it has been a difficult task to focus only on a few issues here. This is why, rather than emphasizing the positive aspects of the book, I mostly focus on some ideas or arguments with which I either disagree or I am not sure I fully understood.

I concentrate mostly on the discussion about belief retention, about Frege's dilemma concerning sentences containing temporal indexical expressions and about the problems of cognitive significance it raises. I argue that Bozickovic's interpretation of Perry's proposals (both of the 70's proposal and of its later developments) is not accurate. I offer an account of these problems that I take to be congenial with Perry's own explanation and which I think might complement Bozickovic's own proposal.

2. Frege's example

Frege did not discuss indexicals much, but his few notes have been highly influential. Let me start by quoting here what he said about “today” and “yesterday” in “The Thought”

If someone wants to say the same today as he expressed yesterday using the word ‘today’, he must replace this word with ‘yesterday’. Although the Thought is the same its verbal expression must be different so that the sense, which would otherwise be affected by the differing times of utterance, is re-adjusted. The case is the same with words like ‘here’ and ‘there’. In all such cases the mere wording, as it is given in writing, is not the complete expression of the Thought, but the knowledge of certain accompanying conditions of utterance, which are used as means of expressing the Thought, are needed for its correct apprehension. (Frege, 1918 [1956], 296)

Frege seems to be anticipating many of the claims and problems later discussed by Kaplan, Perry and others. The basic idea, for my purposes here, at least, is that the (conventional) meaning of sentences containing indexicals - “Today is beautiful” and “Yesterday was beautiful,” to use Bozickovic’s examples - do not fully determine the Thought expressed.¹ We have to take into account “the accompanying conditions of utterance;” time of utterance, in this case.²

¹ I use capital letters to differentiate Frege's notion Thought, as the sense of a sentence, from subjective thoughts.

² Actually, this is not enough for Frege. We need the time plus a sense that determines the time as referent. That is, we need to add

Now, it seems quite clear that the cognitive significance of an utterance on Tuesday of “Today is beautiful” and an utterance on Wednesday of “Yesterday was beautiful” is different. Suppose the day in question is December 17. Then, it seems that *what* is said on both occasions is the same: that December 17 is beautiful. This can be read as a Fregean Thought or as a Russellian proposition, but however you think of the content of a statement, it seems quite uncontroversial that this content is not only said in different ways - using different sentences-, but also that the speaker’s cognitive relation with December 17 and its properties is different, depending on the time of the utterance. That is, we can believe that today is beautiful because we perceive it is, and this belief we most naturally express with the aid of the indexical “Today.” But we cannot believe that yesterday was beautiful based on present perception of the day itself. We can believe it through perception of reports of the day, if we read or hear about it, or perception of the day’s effects like, say, if one is tanned. In most cases, however, we rely on memory, and this belief we most naturally express with the aid of the indexical “Yesterday.” These differences in *how* we believe that December 17 is beautiful is, roughly, what we normally mean by saying that beliefs have different cognitive significance.

I find this difference between *what* is believed and *how* it is believed one of common sense. Of course, the issue is how to incorporate this common sense difference in our theoretical apparatus. But even disagreeing on how to account for it, I believe that we can agree on the fact that

to the meaning of ‘today’ so that it arrives at a sense that refers to the day in question. Perry calls this extra-element “sense completer” in “Frege and Demonstratives” (1977).

believing on Tuesday that “Today is beautiful,” and believing on Wednesday that “Yesterday was beautiful” is believing the same thing about the same day, but in different ways. We can also agree, I think, that these different ways lead to different actions and to further different beliefs. If I believe that today is beautiful, I might decide to wear light clothes and spend the day outside. The belief that yesterday was beautiful would not incite such decisions (unless supplemented with other beliefs, of course, like “so today should be beautiful too”). This indicates, I think, that the two beliefs have different cognitive import or impact: the day is presented in different ways (she feels or perceives that the present day is nice; she remembers it was, etc.), different relevance the subject, different effects, etc.

But this neat difference between the *how* and the *what* is not present in Bozickovic's interpretation of Frege's passage:

‘Today is beautiful’, uttered on Tuesday, and ‘Yesterday was beautiful’, uttered on Wednesday, will convey the same cognitive value, i.e. involve the same mode of presentation of **d**, just in case the subject takes **d** as the same from Tuesday through to Wednesday. This ensures that the subject thinks of **d** under the same mode of presentation from one occasion to the next, which is, in turn, required for the belief with which she began to be retained [...] In so doing, she will associate with **d** a cluster of features and properties she takes **d** to possess. These may include the properties *being the present day* or *being the previous day*. Although they respectively amount to the characters of ‘today’ and ‘yesterday’, these properties do not shape

the subject's way of thinking of *d* in the way in which they are supposed to on Kaplan's and Perry's views ... (84)

According to this then, the mode of presentation and with it, the cognitive value of "Today is beautiful" and "Yesterday was beautiful," remains the same across time, as long as the subject takes them to refer to the same day. This is how, Bozickovic claims, we ensure that the same belief is retained from one day to the next. On my view, however, what is believed (the content) remains the same across time (so belief retention is guaranteed), but not how it is believed; that is, not the cognitive import of it.

Before I go on, a short terminological clarification. I follow the standard interpretation of Frege's puzzles of identity, where by two identity statements having different cognitive significance it is usually meant that one person might believe one but not the other. Issues with cognitive significance thus involve the beliefs competent speakers must have to consider a particular statement true. In the example at hand, the beliefs a competent speaker must have to consider that "Today is beautiful" and "Yesterday was beautiful" are true are, or might be, different.

This, in turn, is linked to the fact that these two statements have different cognitive impact in the speaker. Bozickovic uses here the term "cognitive value," rather than "cognitive significance," but I believe we are referring to the same phenomenon. Frege, when dealing with puzzles of identity in "Sense and Reference" (1892 [1948]), was mostly concerned with the difference of cognitive value between " $a = a$ " and " $a = b$," and he solved it with the incorporation of modes of presentation, which were parts of the senses of singular terms. But by cognitive value there he meant that

one identity is analytic and the other synthetic. That is not the case with “today”/”yesterday.” So, I will assume that by “cognitive value” Bozickovic means the facts mentioned in the paragraphs above: cognitive significance and cognitive impact.

But if this is the case, how can “Today is beautiful,” uttered on Tuesday, and “Yesterday was beautiful,” uttered on Wednesday, “convey the same cognitive value, i.e. involve the same mode of presentation of **d**”?

Referring to the same day (or thinking about the same day), December 17, is surely not enough. This will ensure that both are true if December 17 is/was beautiful, and false otherwise. But I do not think that the fact that the “subject takes *d* as the same [...] ensure[s] that the subject thinks of **d** under the same mode of presentation from one occasion to the next,” as Bozickovic claims. The subject might believe that two days are one and the same **d**; but she might be wrong. If this is the case, in an important sense, she would not be thinking of **d** under the same mode of presentation; she would rather be thinking of, say, **d** and **d**’, or she might not even be thinking **d** at all. But, more importantly, if what Bozickovic claims were the case, the intended reference of “today” and “yesterday” would determine the mode of presentation and thus the sense of the singular term, contrary to what Frege claimed.

Indeed, Frege is quite explicit in rejecting the idea of the object referred to by a singular term being a part of the Thought expressed by a sentence. Not only that, he claims that whether or not we believe the object exists does not affect the Thought. So, the object the speaker takes to be the referent also seems to be quite irrelevant. This is what he

says, with regards to sentences including the proper name “Odysseus”

Let us imagine that we have convinced ourselves, contrary to our former opinion, that the name ‘Odysseus,’ as it occurs in the Odyssey, does designate a man after all. Would this mean that the sentences containing the name ‘Odysseus’ expressed different thoughts? I think not. The thoughts would strictly remain the same; they would only be transposed from the realm of fiction to that of truth. So the object designated by a proper name seems to be quite inessential to the thought-content of a sentence which contains it (*Introduction to Logic*, in Beaney (1997, 292-93)).

This being so, I have trouble understanding why the speaker taking **d** to be the same at *t* and at *t'* should determine the senses - or mode of presentations - associated with the singular terms, and thus determine the Thought expressed. Of course, “Odysseus” and “today”/”yesterday” are quite different singular terms. Hence the problem. But still, it seems to me that this way of interpreting Frege goes against Frege’s most fundamental claims, including those that require Thoughts (and modes of presentations included in them) to be objective. What Frege defends in “Thought” is not that what day the speaker takes **d** to be determines the thought expressed, but rather that “the time of utterance is part of the expression of the Thought.”³ The change in

³ Notice that he doesn't say “part of the Thought”, but only part of the expression of the Thought. This is, I think, because times cannot be parts of Thoughts, just as the Mont Blanc cannot be part of the Thought. This is also, I believe, what led Kripke to claim

“verbal expression,” is necessary, Frege claims, to avoid the change of sense, which would otherwise happen due to the difference in the time of utterance.

My sense of puzzlement is not helped by Bozickovic's comments about cluster of properties the subject “takes **d** to posses.” I presume that the subject would take **d** to posses the property of *being the present day* on (and only on) Tuesday and *being the previous day* on (and only on) Wednesday. These properties, as he admits, amount to the character of “today” and “yesterday.” But, how can the possession of these properties not “shape the subject's way of thinking of **d** in the way in which they are supposed to on Kaplan's and Perry's views”?⁴

Now, Perry's proposal, which involves a distinction between what is believed and how something is believed, is clearly a departure from Frege. Among other things, because he rejects the Fregean-Russellian view on propositional attitudes (See Perry, 1977, 1979, and 2019). But, it captures quite well the idea of including the time of utterance in the expression of the Thought; that is, explaining the role verbal expressions (role of indexicals) play in expressing a Thought. In other words, including *when* a sentence is uttered in explaining the same content at different times. I believe that

that Fregean senses must be identified with linguistic meaning and to treat the time of the utterance as an “unrecognized piece of language” (Kripke, 2008, 202)

⁴ I discuss Perry's claims about cognitive significance and roles later on, but let me just point out here that Kaplan did not claim that the character (or role) of the indexicals supplies cognitive significance. This is, I think, an important, but not always acknowledged, point of difference between Kaplan and Perry.

this is what Frege was trying to explain, and so I think that Perry's account is actually more amiable to Frege's program than the interpretation given by Bozickovic and by the so-called neo-Fregeans (most notably, Evans, 1981).⁵

The discussion of cases similar to this is, of course, a major issue in Bozickovic's work, and he does offer an explanation for this. Still, I find this quote intriguing and it would be nice if he could clarify in what sense what the agent takes to be the referent of an utterance (or the object she believes something about) determines the mode of presentation expressed by the utterance of a sentence.

3. Belief retention

Much of Bozickovic's book is devoted to account for belief retention. Let me start by attempting to clarify what I think it means to retain a belief across time. When asking whether or not we can retain a belief over time we might be asking, at least, three different questions. First, whether or not we can retain the same belief-content at different moments of time. I take this first question to involve, in the examples under discussion, a singular proposition. That is, going back to Frege's example above, what we want to know is if the subject retains the belief about the day in question, namely, if she comes to believe and keeps believing that it (December

⁵ Indeed, and contrary to what is widely believed, I think Perry's view is closer to Frege's than the one defended by Bozickovic (or by the so-called "neo-fregeans"). Among other things, because in Perry's proposal the order of determination of sense and reference, which I take to be fundamental for Frege, is not reversed. See Perry (2019) for a discussion about the Fregean roots of his views.

17) has the property of being beautiful (regardless of when she believes that).

Second, whether we can believe something (a proposition) in the same way over time; that is, if a belief at *t* and a belief at *t'* can have the same cognitive import on the speaker. In this case, it seems, *when* you believe something is relevant, since the access to that moment or interval of time, and the role that moment or interval of time plays for the subject changes as time goes by. One can believe, for instance that "Today is beautiful" on three consecutive days, December 15, 16 and 17. A very happy and grateful person that takes every day she is alive is beautiful would believe every day that "Today is beautiful." If this is so, in a sense, she would be believing the same thing - that the day she lives in is beautiful - even if what she believes, the content, changes.

Third, whether the belief(s) that a person would most naturally expressed by uttering "Today is beautiful" and "Yesterday was beautiful" are two different beliefs or rather only one belief expressible by utterances of two different sentences, that a person has at different times. That is, we might be asking if there is only one belief the subject has across time or if instead there are two different beliefs that share some essential element(s).

The first is a question about *what* we believe. The second, about *how* we believe it. The third question concerns the way we individuate beliefs. Bozickovic, if I understood him well, thinks the second question is just another way of asking the first: the cognitive import of beliefs expressible with sentences containing indexical expressions is due not to *how* we believe them, but to *what* we believe. According to this view, beliefs that are usually expressed with the aid of

indexical expressions have some sort of “indexical content.” This indexical content, what makes the belief indexical, cannot be given merely by the linguistic meaning of the indexical expression, but also by the mode of presentation. The indexical nature of the belief, so to speak, is what accounts for the possible differences in cognitive significance (because of the dynamic senses associated with indexical terms and beliefs).

I am not sure what Bozickovic would think about the third question. I presume he would say that in Frege’s example, for instance, the two sentences have the same mode of presentation, express the same Fregean Thought and have the same cognitive value, so they would be the expressions of one single belief, one that the subject has across time. Because it is held across time, the subject has to accommodate the way to express it (the sentence used), but this is a change in the expression of the belief, not in the belief itself.

Be it as it might, I think differentiating between the first and second question is the key issue for our purposes here, but I also think that Bozickovic failure to understand Perry’s view on what a belief is might be behind some of his (misguided) criticisms. So, let me start by discussing Perry’s most recent view on the third question, to go back then to his views on the first two.

Perry, in his later works (see for instance, Perry, 2019, 2020, and Korta and Perry, 2011), defends that utterances, beliefs, desires, etc. should be considered *episodes*: Things or events that occur in space and time, that have cognitive contents, and have causes and effects. Episodes can be short, like the utterance now of “I am hungry,” or they can extend in time, like the belief that “my name is ‘María’,” which is a

belief I've had for many years now, and will presumably continue to have until I die (or forget my name, whatever happens first).

Considering utterances as causally efficient and cognitively relevant episodes, rather than sentences in contexts, as Kaplan did, is what allows Perry's proposal to deal with certain issues of cognitive significance and cognitive dynamics that Kaplan's proposal could not deal with (see de Ponte, Korta, and Perry, 2020). Utterances, beliefs and other episodes have cognitive contents, which track their truth-conditions (in the case of assertions and beliefs), satisfaction conditions (in the case of commands and desires), and so on. These contents can be thought of as propositions, but these are to be considered as mere theoretical tools to keep track of these content properties of the episodes.

Let me briefly give an account of the two utterances of "Today is beautiful" and "Yesterday was beautiful" using the framework defended by Perry in his later works. To emphasize, in this framework, utterances, beliefs and thoughts are all episodes: things that happen, which have cognitive contents, and which have causes and effects. Utterances, like beliefs, have a variety of truth-conditions, which encapsulate *what else* has to be the case *given* certain facts about the context or the circumstance. These are usually called "incremental truth-conditions."

Consider an utterance, **u**, on December 17: "Today is beautiful." The conditions the world has to meet, for the utterances to be true, are the Referential truth-conditions (Rf). The Reflexive truth-conditions (Rx) are the conditions on the utterance itself.

[Rx.] That the day of **u** is beautiful
 [Rf.] That December 17 is beautiful⁶

Similarly, the truth-conditions of another utterance, **u'**, on December 18, of “Yesterday was beautiful,” would be:

[Rx.] That the day previous to the day of **u'** is beautiful
 [Rf.] That December 17 is beautiful

The referential truth-conditions are the same, but the reflexive conditions are different. It is at this level of truth-conditions where the difference in cognitive significance of **u** and **u'** resides, because it is in this level where the difference in how we say something about December 17 resides. The difference in cognitive significance is not in the linguistic meaning (character or role), and it is not in the proposition expressed by the speaker, which it is the same for **u** and **u'**.

This is congenial with Frege’s claim that the time of the utterance must be a part of the expression of the Thought. A relation of precedence between the day of utterance and the day referred to is a condition the utterance has to meet to be true. This is not a content expressed by the utterance, but it is part of the conditions the utterance itself has to meet in order to be true (i.e. conditions needed for an utterance of a sentence to express a content that is either true or false, a Thought, in Frege’s theory).⁷

⁶ We are ignoring here location. Also, take into account that these are just two of various possible sets of truth-conditions.

⁷ In “Cognitive Significance and new theories of reference” (1988) Perry introduces a difference between the proposition expressed and the proposition created by an episode. Although he does not often use this distinction in his later writings, it might help understanding his view. The reflexive content and other hybrid or

The linguistic meaning of the indexical is key to derive the distinction between the referential content and the content used to track the truth-conditions that the utterance itself needs to satisfy. This latter content, or if you prefer, this latter reflexive proposition, is where Perry situates cognitive significance. Or, to be more precise, in one of the various possible hybrid propositions - reflexive or incremental - associated with each episode.

Contrary to what Bozickovic defends, Perry does not defend that characters (or roles) are the bearers of cognitive significance. Rather, he claims that the cognitive significance is given by the proposition that tracks the reflexive truth-conditions, that is, the conditions the utterance (or the belief) itself have to meet in order for it to be true. But this so-called reflexive content is not the proposition expressed, or believed by the subject. And I certainly do not think, as Bozickovic claims, that it is a second-order content or proposition. This is an important issue because Bozickovic argues, in chapter two, that because reflexive propositions are second-order contents, *Critical Referentialism*, Perry's later view, fails to offer a proper explanation of cognitive significance and action. Bozickovic's rejection of *Critical Referentialism* as a proper account of the role utterances and beliefs play in action is almost entirely based on the claim that reflexive contents are second order.

incremental contents are contents or propositions created by the occurrence of episode itself, and contain conditions on the episode. Had the agent not believed or said "Today/Yesterday is beautiful," there would be no reflexive content (no day of **u** or day previous to the day of **u**). But there would still be referential content: December 17 would be either beautiful or not, independently of the subject's beliefs.

But, in what sense is the reflexive content second-order? I admit I do not follow Bozickovic's arguments on this. A reflexive content (or proposition) is an abstract theoretical construct to track the reflexive truth-conditions of the episode (utterance or belief): the conditions the episode itself has to meet, in order for it to be true. These are not conditions on the content of the episode, but rather conditions on the episode. They are not conditions on the conditions on the content of the episode either. Besides, characters are used, not mentioned in it. So, in what sense is the reflexive-content second-order?

4. Today is my husband's birthday

Perry, in "A problem about continued belief" (1980) presents an example that Bozickovic discusses at length:

Smith, whose watch is an hour fast, accepts "Today is my husband's birthday." Just very shortly before eleven, she looks at the calendar and realizes that she had it wrong. It is March 1 and not March 2. Just as this sinks in, she glances at her watch - precisely at eleven, so it shows precisely midnight - and thinks to herself, "so *today* is my husband's birthday." And by doing that she preserves the R-proposition believed, for in this case she does believe { x is my husband's birthday; March 1} even though she also believes { x is my husband's birthday; March 2} and even though she does not accept "March 1 is my husband's birthday." (Perry, 1980, 66)

Although Perry doesn't analyse it in detail, I think, it is a wonderful (if a bit confusing) example to discuss belief retention. Bozickovic claims:

Smith's respective assenting to and dissenting from two consecutive utterances of 'today is my husband's birthday' shows her as thinking of **d** under two different modes of presentation in spite of the fact that each of these modes of presentation contains as its constituent the property of *being my [Smith's] husband's birthday* as well as that of *being the present day* (although not at the same time). (85)

I find this quite intriguing. The issue is not, I think, that Smith thinks of March 2 under two different modes of presentation. The challenge Perry is presenting is not one of explaining how a person might both accept and reject two utterances expressed with the same sentence, which *she takes to be* about different days. I think what the example shows is precisely the opposite: that neither the identity of the sentence uttered nor the identity of the contents of the beliefs she expresses can fully account for her change of mind. And this is so regardless of whether we take the content of a belief to be a Fregean or a Russellian proposition.⁸

⁸ This, it seems to me, is a nice example of what I take to be one of Perry's main claims in his 1977 and 1979 papers: neither Russellian propositions, nor Fregeans are adequate to account for the role of indexicals in belief and action. Something else is needed. This something else includes, if I am not wrong, rejecting the idea that beliefs are relations between agents and propositions

Perry introduced this example to explain why it is not the case that “preservation of R-proposition believed by retention of text accepted is even a sufficient condition of continued belief. It is an almost sufficient.” (Perry, 1980, 66). In other words, that preserving what is believed and how it is believed is insufficient to have belief retention, strictly speaking. He does not claim, as Bozickovic suggests, that Smith’s consecutive utterances of “today is my husband’s birthday” indicate that she is thinking under two modes of presentation. Quite the contrary.

Going back to our discussion about what belief retention is, or might be, I differentiated between *what* is believed, *how* it is believed and the way in which we individuate beliefs. The difference between the *what* and the *how* is what explains issues of cognitive significance. But it is not enough to explain this case. In this example, what is believed by Smith is the same in both occasions, and, it seems, it is believed in a similar way: a way that would most naturally be expressed by using the indexical “today.” How we individuate beliefs then seems to be the key.

Having a belief is being in a certain mental state, and so changing beliefs is changing one’s mental state. This change is often accompanied by a change in the expressions used. But not always. Similarly, as we saw in Frege’s case above, a change in the sentences used does not always indicate a change in the belief. Neither the sentence used to express the belief, not the proposition expressed by the utterance of that sentence are sufficient or necessary for a change of belief.

altogether and including a variety of incremental levels of truth-conditions for each belief, utterance or cognitive episode.

In the example above, Smith has several beliefs. She believes that her husband's birthday is on March 2. This is a true belief that doesn't change and, presumably will not change for a long time. This is why it is a belief most naturally expressible with a date, and not with an indexical expression. It is a long-lasting episode, like my belief that my name is "María." But Smith also has three false beliefs in the interval of time in question: that her watch is on time (a belief she has at t and at t'), that the day she is living in at t is March 2, and that the day she is living in at t' is March 2.⁹

Given that, and ignoring for now her belief about the watch, Smith has two relevant beliefs on March 1, at, say, 10:58 (11:58 according to her watch): **b**_{10:58} "Today is my husband's birthday" and **b'** "March 2 is my husband's birthday." Two minutes later, at 11:00 (12:00, according to her watch), she believes **b**_{11:00} "Today is my husband's birthday" and she continues to believe **b'** "March 2 is my husband's birthday."

To make the examples a bit clearer, let us call Smith's husband Peter. The reflexive and the referential contents of the three beliefs would be something like:¹⁰

⁹ She also rightly believes at t' that her previous belief at t was false.

¹⁰ Belief-contents and utterance-contents are similar in some respects - most importantly, in that they both track truth-conditions - but they also differ substantially. We will ignore most differences here, for simplicity's sake. Notice, however, that the linguistic meaning of indexicals or demonstratives cannot be a part of the contents of beliefs (beliefs not being linguistic episodes), but rather of the utterances used to express them.

b':

[Rx.] That March 2 is the speaker's husband's birthday

[Rf.] That March 2 is Peter's birthday

b_{10:58}:

[Rx.] That the day of the belief **b**_{10:58} is the speaker's husband's birthday

[Rf.] That March 1 is Peter's birthday

b_{11:00}:

[Rx.] That the day of the belief **b**_{11:00} is the speaker's husband's birthday

[Rf.] That March 1 is Peter's birthday

The referential content of **b**_{10:58} and **b**_{11:00} is the same, of course. And it is different from that of **b'**. Smith was confused about the day she lived on, not about the day of her husband's birthday. The reflexive contents of **b**_{10:58} and **b**_{11:00} are slightly different because they track conditions on two different beliefs. So different in fact that at 11:00 (12:00 according to her watch), she takes one to be true and the other to be false. That is, the difference in the reflexive contents is not an explanation of the change of belief, but rather an illustration of a fact we have to explain.

Smith changed her mind, she abandoned one belief and adopted another. Perry actually says how this happens: "she looks at the calendar and realizes that she had it wrong." I think it is the "looking at the calendar" that is important here: the *when*; the hour at which the two episodes take place, which also determines the day in which they happen. What matters in this case is not when, upon looking at her watch, she thinks she is believing something, but rather when she *actually* believes something. It is not what she takes **d** to be at *t* and *t'*, but rather what **d** actually is at *t* and *t'*. It is not a

question of *what* she believes or *how*, but rather of *when*, and that **b**_{10:58} and **b**_{11:00} are different beliefs, even if they have the same referential content and very similar reflexive ones, so much so that they are expressible with the same sentence.

At eleven, when she glances at her watch, she wrongly thinks it is midnight, so she concludes that her previous belief was wrong, and she abandons it. She believed at *t* that “Today is my husband’s birthday” was true, but at *t'* she stops having that belief, she ceases to be in that mental state. If we take beliefs to be cognitive episodes that happens in our brains, which are located in time and space, with cognitive contents and causal efficiency, Smith’s change of mind is relatively easy to explain. What causes the change in belief is her realization of a fact about the world - that *t* happens in March 1, and not in March 2 - ; what causes her to change one false belief at *t* for another false belief at *t'* is another fact about the world, but one she is not aware of: her watch being an hour late.

In *Reference and Reflexivity*, Perry discusses an example similar to this one in many respects, but related to spatial location (Perry, 2001 [2012], 76-79). The example involves Lindsay, Gordon, and the Stanford’s golf course which, we are told, is in different Counties. I will not get into the details here, but the morale Perry takes from it is quite relevant, I think.

To begin with, Perry warns us against the temptation to suppose that the contexts that are relevant for communication are “not facts about the real world, but the way the world would be if it conformed to the relevant beliefs of the speaker or hearer” (Perry, 2001 [2012], 77). This, I take, is the “temptation” to which Bozickovic has fallen when he claims that Smith might accept an utterance

of “Today is my husband’s birthday” and not the consecutive one, because she is “thinking of **d** under two different modes of presentation.” In other words, that Smith’s representation of the context, what she takes the day of the utterance, **d**, to be is all we need to determine that she changed beliefs.

If my interpretation of Bozickovic’s explanation is right then, Smith’s representation of the context is what determines how we individuate beliefs and thus what explains her change of belief. But this cannot be right. In Perry’s terms, we need the agent’s “incorrect representation of the context to explain *why* he says something false, but we need the real context in which he speaks to explain *that* he said something false” (Perry, 2001 [2012], 78). Applied to our case, we certainly need Smith’s representation of the context, which includes a confusion caused by her watch, to understand *why* she believed what she did, both at *t* and at *t*’. But, to understand *that* she believed something false and, further, *that* she had two false beliefs, and not just one, we need the real context: the real time of the two episodes.

So, to sum up, this example is interesting because it challenges the notion of belief retention. The example shows that retaining a belief cannot mean merely retaining *what* we believe. But it also shows that it cannot mean retaining *how* it is believed. In the framework I am proposing, the Referential content (the *what*) is not sufficient. Nor is the sentence used to express the belief, which includes an indexical, with its cognitive role (the *how*) incorporated in the reflexive content. The missing element, to explain the change of mind, is the *when*: the external facts, the *real* time and day of the episode. Smith believed that today was her husband’s birthday at *t* and at *t*’ but, still, she had two beliefs, two episodes. Qualitatively similar, so to speak, but quantitatively different.

5. Roles, actions and previous beliefs

Bozickovic claims that what a subject does, or does not, does not depend on the linguistic meaning of the expressions she is prompted to use to express her beliefs, desires or intentions. A subject's behavior certainly does not fully depend, or cannot be fully linked to the linguistic meaning of indexicals (116ff). I agree with him. First, because I think Perry is right in defending that cognitive significance is not explained by the linguistic meaning, but rather by the reflexive truth-conditions on the episode itself. Second, because, as Bozickovic claims, actions are circumstantial, i.e. their occurrence might, and usually does depend on many factors: previous intentions, beliefs or desires, circumstance-dependent factors, and what not.

Let us use Perry's well-known example: the messy shopper. It is certainly not enough for him to have a belief expressible with a sentence containing an indexical expression, such as (4) "I am making a mess," to provoke him to stop, check his shopping cart and try to fix the sugar box. Many more things are needed besides that. He needs to care about not making a mess, he needs to have his bodily functions in an adequate state (to reach the cart, fix the sugar box, etc), etc.

Suppose the owner of the supermarket happens to be Perry's archenemy, so that he is actually happy to be making a mess at her store. Perry would then presumably believe something that he would express as (5) "I do not like the supermarket's owner, and I wouldn't mind making a mess here, because that would make her mad." Given (5), (4) would certainly not be enough to explain Perry's trying to fix the mess. In Bozickovic's terms, the linguistic meaning of the indexical expression "I" used in the expression of Perry's

belief (4) cannot be systematically linked to his subsequent action. According to Bozickovic, however, actions can be systematically linked to senses or modes of presentation (which are, according to him, fully independent of characters, or roles) (79). This, I admit, I don't understand.¹¹

What I want to show is that, whatever Bozickovic means, it is not something that cannot be accommodated within more straightforward accounts. Nowhere in the “essential indexical”, or in any other paper, does Perry claim, for example, that having a belief, expressible with a sentence containing an indexical expression, is *all* we need to explain action. What he claimed is that the presence of that particular way of believing something, a way of believing expressible by an utterance of a sentence including an indexical expression, is an important part of the explanation of why he tried to fix the sugar box. An essential aspect, if you want, that we would not get with a belief that he would most naturally express with a sentence like “John Perry is making a mess.”

Perry did not claim, I think, that there is a systematic link between the linguistic meaning of the indexical and the subsequent action. Especially not if, by this, we mean that the linguistic meaning of the indexical is sufficient or necessary for action. Indexicals are not essential in this way. But they are not essential in Bozickovic's way either: due to their modes of presentation. Perry never claimed, as far as I know, either of these things. And, I believe, he was right in not doing so. He does not need it, to give an account of the role of indexicals in the explanation of action and, if

¹¹ I will not, however, try to explain my doubts here. See the discussion with Eros Corazza about this issue.

Bozickovic gives up on his (erroneous, I think) claim that reflexive contents are second-order contents, I think that he would agree that this is so.

Actually, Perry's proposal seems to me to be particularly well-fit to account for the circumstantial nature of action that Bozickovic (rightly) defends because it is very much based on the idea of "incremental truth conditions." That is, Perry's proposal explicitly incorporates the "circumstantial" factor, so central for Bozickovic. Paraphrasing Perry's way of putting it, when it comes to discussing what needs to be the case for an utterance (or a belief) to be true, the way to go is incremental: *given that* x and y and z are the case, *what else* needs to be the case for a certain utterance (or belief) to be true.¹² This, I believe, is a much congenial view of the role of indexicals in the explanation of action than putting all the weight on modes of presentations. Also, it is a view congenial with Bozickovic's overall claims and aims.

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¹² "x", "y", and "z" being elements of the circumstance; and they might include traditional contextual elements - time, speaker and location - , facts about the circumstance and facts about the speaker's intention (such as previous beliefs).

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