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Proper names, rigidity, and empirical studies on judgments of identity across transformations

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Abstract

The question of transtemporal identity of objects in general and persons in particular is an important issue in both philosophy and psychology. While the focus of philosophers traditionally was on questions of the nature of identity relation and criteria that allow to settle ontological issues about identity, psychologists are mostly concerned with how people think about identity, and how they track identity of objects and people through time. In this article, we critically engage with widespread use of inferring folk judgments of identity from study participants' use of proper names in response to experimental vignettes. We provide reasons to doubt that using this method one can reliably infer judgments of numerical identity over time and transformations. We also critically examine allegedly-Kripkean justification of this method and find it lacking. Merely assuming that names are rigid designators will not help. A study participant's use of proper names can be taken to track the participant's identity judgments only if supported by the participant's belief that names used in the scenario are used rigidly.

Keywords: proper names; rigidity; personal identity; individual identity; Saul Kripke

1. Introduction

The question of transtemporal identity of objects in general and persons in particular is an important issue in both philosophy and psychology. While the focus of philosophers traditionally was on questions of the nature of identity relation and criteria that allow to settle ontological issues about identity, psychologists are mostly concerned with how people think about identity, and how they track identity of objects and people through time. In everyday interactions, not only do we keep track of others' beliefs and desires, but we also keep track of individuals that harbor those beliefs and desires. We also track identity of objects other than people. Thus, folk judgments of individual identity over time and various transformations are an important part of folk psychology. There is a growing body of empirical literature that addresses this aspect of folk cognition (e.g. Cohen et al. 2011; Berniūnas and Dranseika 2016; Blok et al. 2001; Blok et al. 2005; Emmons and Kelemen 2014; Johnson 1990; Nichols and Bruno 2010; Strohminger and Nichols 2014; 2015; Tobia 2015; 2016; White 2015; 2016; White et al. 2016) and we believe that reflections on empirical methods employed in those studies are very welcome. In this article, we will critically engage with widespread use of inferring folk judgments of identity from study participants' use of proper names in response to experimental vignettes. Our focus is on empirical research on judgements of transtemporal identity of human individuals, but we believe that our main methodological point extends to empirical research on judgements of transtemporal identity of individuals other than human beings.

2. Two types of research

In order to proceed, we first must distinguish between two strands of empirical research that are closely related but are nevertheless different in a crucial respect. Both types of research describe transformation scenarios and thus involve descriptions of pre- and post-transformation individuals. But while in the first type of research participants are asked to assess whether pre- and post-transformation individuals are in fact the same individual (let's call it a strategy *without* identity presumption), in the second one (a strategy *with* identity presumption) the participants are asked to presume that the identity relation between pre- and post-transformation

individuals holds; then the participants are asked about their intuitions regarding various qualitative differences or similarities between these earlier and later stages of the same individual. Our paper will address only the research strategy *without* identity presumption, since we are interested in how psychologists and experimental philosophers probe folk judgments of transtemporal identity. We will, however, also briefly describe the strategy *with* identity presumption, if only as a contrast that allows to see more clearly the crucial aspects of the first one.

Research strategy *without* identity presumption starts by describing a transformation scenario. Transformations that were explored in empirical literature include: destruction of memory and other distinctive mental states (Nichols and Bruno 2010); reincarnation (Strohmingner and Nichols 2014; White 2015; 2016); PVS (persistent vegetative state) after a car accident (Berniūnas and Dranseika 2016); drastic change of moral character (Tobia 2015; 2016); transfer of a child's brain into a pig's, baby's or other child's body (Johnson 1990); brain transplantation into a robotic body (Blok et al. 2001; Blok et al. 2005; Nichols and Bruno 2010; Strohmingner and Nichols 2014; Berniūnas and Dranseika 2016); upload of memories into a computer (Blok et al. 2001); transformation of a human being into an artifact by means of a machine called 'atom reassembler' (Rhemtulla 2005); pharmaceutical modification of psychological traits (Strohmingner and Nichols 2014); and magical transformations of human beings into animals and inanimate objects (Liittschwager 1994).

Instead of hypothetical transformations, real-life transformations were explored in at least one study. In this study, Strohmingner and Nichols (2015) describe how identity change in patients with three kinds of neurodegenerative disease (frontotemporal dementia, Alzheimer's disease, and amyotrophic lateral sclerosis) was perceived by their relatives. In all studies of this type that we are aware of, a pre-transformation individual is uncontroversially a person – an adult or a child, while a post-transformation individual can be either person or non-person. Although conceptually possible, we are not aware of any studies where a pre-transformation individual is clearly a non-person (something like transformation of a piece of wood into a boy named Pinocchio) or at least an entity whose personhood is controversial (say, transformation of a blastocyst into a person). Thus, each transformation scenario involves two temporally separated individuals - we call them pre- and post-

transformation individuals. In the next stage, researchers ask participants whether they hold pre- and post-transformation individuals to be the same individual or not.

While researchers employing the strategy *without* identity presumption ask whether pre- and post-transformation individuals are perceived to be identical, researchers using the strategy *with* identity presumption ask participants to assume that an individual's identity is fixed and instead, focus on particular properties of pre- and post-transformation individuals. This is usually achieved by explicitly asking participants to assume transtemporal identity across described transformations.

Transformations employed in empirical literature include: transmigration (Cohen et al 2011; Strohminger and Nichols 2014: Study 4); soul-switching (Strohminger and Nichols 2014: Study 3); natural changes with the passage of time (ibid. Study 5); or pre-life and birth (Emmons and Kelemen 2014).

Moreover, one study employs a perception of fixed numerical identity as a method for sample selection. In particular, White et al. (2016) recruited their study participants from forums for people who believe that they have lived past lives. It is worth mentioning that studies employing the strategy *with* identity presumption typically explore folk reasoning about personal identity from the first-person perspective – i.e. each study participant is expected to assume to be identical with both pre- and post-transformation individuals.

The crucial difference between the two strategies is that the one *without* identity presumption aims at discovering folk identity judgments, while the one *with* identity presumption assumes identity through time and transformations. In what follows, we will focus only on research strategy *without* identity presumption.

3. The tripartite strategy

Empirical studies of the first type—i.e. studies in which participants are asked to assess whether pre- and post-transformation individuals are in fact the same individual—employ a common tripartite strategy that could be summarized as follows:

Step 1. *Describe a hypothetical transformation.* As it was mentioned in Section 2, the hypothetical scenario describes pre- and post-transformation individuals that differ in

specified ways: for example, bodily or psychological continuity is disrupted or otherwise changed.¹

Step 2. *Check whether the study participants judge the post-transformation individual to be identical with the pre-transformation individual.* Step 2 is crucial in this methodology, since it requires the use of a reliable measure that taps directly into folk intuitions about identity preservation through time. There are several strategies to do this and we will address them in the next section.

Step 3. *Use data collected in Step 2 to draw conclusions about identity criterion(-ia) employed by the folk.* For example, if a transformation involves losing all autobiographical memory, but participants still judge the post-transformation individual to be identical with the pre-transformation individual, then a conclusion can be drawn that, for these participants, autobiographical memory is not thought to be necessary for identity preservation. Likewise, if a disruption of bodily continuity leads participants to judge the post-transformation individual to be identical with the pre-transformation individual, then a conclusion can be drawn that, for these participants, bodily continuity is not necessary for identity preservation.

We will focus our discussion on the crucial Step 2 of this strategy.

4. Proper names as indicators of individual identity judgments

Let us now take a more detailed look at Step 2 of the tripartite strategy described in the previous section. There are several alternative measures of identity judgments in the literature, but one that is most often employed relies on checking whether study participants refer to the post-transformation individual by the name that was originally introduced to refer to the pre-transformation individual. For instance, Blok and his colleagues (2001) describe a transformation and ask participants whether they agree

¹ One may wonder whether it is at all possible to construct scenarios that a) do not assume that pre- and post-transformation individuals are identical, while b) still seem to be a coherent story in a sense that there is something that we talk about throughout the story. However, we will not press this issue further and simply grant for the sake of argument, that such hypothetical scenarios are available to researchers.

with a claim that the post-transformation individual is “still Jim”.² Similarly, in Johnson’s study, children were presented with a story about Garby the pig and then were told: “Okay, now we’re going to pretend something happens to Garby. We’ll pretend that we take your brain out of your head and put it inside Garby’s head. So Garby no longer has his/her pig brain. He/she has a person’s brain, your brain” (1990, pp. 963). As a part of the study children were asked several questions about identity:

First, children were asked an open-ended question, “Suppose we ask this pig with your brain, ‘Who are you?’ What would she/he say [or “think” if the child claimed that the pig could not talk]?” Next, children were asked a contrasting pair of questions about whether the pig with the subject's brain would come when called by the pig’s name or when called by the subject’s name. (ibid, pp. 963-964)

Similar procedures were applied in two other scenarios of transplanting the child’s brain into the body of a baby or a different child. Liittschwager (1994) in her studies on magical transformations asked her participants about the post-transformation individual “Do you think that now *this* is Julie?” (note that proper name here is accompanied by a demonstrative “this”, p. 30). Nichols and Bruno (2010, p. 302) in their third-person version of “pain frame” experiment describe a transformation that involves destruction of memory and other distinctive mental states and ask whether study participants agree with the following claim about the post-transformation individual: “When the doctors administer the series of shots, *Jerry* will feel the pain”.

Likewise, names have also been used in empirical studies on the conception of identity of non-human entities, such as animals, artifacts, rivers, streets, trees and leaves (Rhemtulla 2005; Rhemtulla and Hall 2009; Blok et al. 2005; Rips et al. 2006; Leonard and Rips 2015).

A variation on this theme is using expressions that are not ordinary proper names but are expected by the experimenters to function as such. This is a strategy employed by

² In one study, Jim’s brain was transplanted into a robotic body; in another, Jim’s memories were uploaded into a computer and this computer was placed in a robotic body; see also Blok et al. 2005; Nichols and Bruno 2010: 299; Strohminger and Nichols 2014: 161; Berniūnas and Dranseika 2016.

Rhemtulla (2005) and Rhemtulla and Hall (2009), who use “alpha-numeric nouns”, such as “V74”, or “nonsense syllables”, such as “Maf”, instead of familiar proper names. Rhemtulla justifies this move by claiming that such labels are “just as much” proper names as familiar proper names like “Johnny”, but that these labels may help to reduce undesirable effects of anthropomorphization of non-human entities or imbuing such entities with special individual value (2005, p. 13).

Taken all together, the use of proper names in such study designs can be summarized by two inferential strands (where X stands for any proper name):

A. “No longer X” → “no longer the same individual”

B. “Still X” → “still the same individual”

Sometimes, a stronger version of B is considered, which assumes that not only the identity of the individual is preserved, but also, the *personal* identity, identity *qua* person:

B*. “Still X” → “still the same *person*”

This stronger version comes naturally with the so-called *sortalism* about personal identity, the view that identity conditions of persons are settled by their membership in the sortal category “person”. The two views, B and B*, are not always clearly distinguished. For example, Nichols and Bruno seem to equate the two views: ‘When is someone the same *person* across space and time? That is, when do two *individuals* at different places on different occasions count as quantitatively identical?’ (2010, p. 293, italics our).

In this article, we are not going to argue in detail against B* (but see Blok et al. 2001; Rips et al. 2006; Berniūnas and Dranseika 2016); it will suffice to say that, given currently available data, even if we assumed that using proper names is a reliable indicator of identity judgments, it would likely be not *personal* identity, but some more general type of identity — let us call it *individual* identity.

It is worth mentioning that besides this type of research that explicitly employs proper names to tap into folk identity judgments, there is a small body of research that applies some other measures. For instance, instead of using proper names, participants were asked whether the post-transformation individual is still “you” (in first-person vignettes) (Nichols and Bruno 2010: 301); still “the same person” (Nichols and Bruno

2010: 304; Strohminger and Nichols 2014: 162; Strohminger and Nichols 2015: 4; Berniūnas and Dranseika 2016); or is a “reincarnation” or “true reincarnation” (White 2015a; 2015b). A more complex measure explicitly designed to distinguish between numerical and qualitative readings of identity judgments is employed in (Tobia 2015; 2016). We will have to postpone the discussion of these methodological proposals for a different occasion.³

In the next section, we will describe an allegedly Kripkean justification of this appeal to proper names in experimental designs, and in the last section we will raise some doubts about both of these inferential strands and also about their allegedly Kripkean justification.

5. Rigid designation and justification of the method

Why treat proper names as reliable indicators of identity judgments in experimental designs? Often, no justification is provided, perhaps assuming this to be a self-evident platitude or simply uncritically employing methodological decisions made in previous empirical literature. Sometimes, however, justification is given. The only one that we were able to find was based on an appeal to Saul Kripke’s notion of rigid designation (Kripke 1971; 1972). For example, Rips et al. (2006: 7, note 5) write (in a comment on their earlier brain transplantation studies reported in Blok et al. 2005):

We assume, along with Liittschwager [...] and others, that proper names like *Jim* are rigid designators that always refer to the same individual across situations or possible worlds [...] Participants who state that the transplant recipient is no longer Jim are, therefore, affirming that the recipient is no longer the same individual.

Jean Liittschwager writes, in a section titled “Proper Names as Markers of Identity”:

Proper names function as *rigid designators* (Kripke, 1980/1985). That is, a proper name applies to an object regardless of time and circumstances. Thus, a

³ But see Berniūnas and Dranseika 2016: Section 6, for an empirical argument against reliability of “still the same person” probe as a measure of numerical identity judgments; Dranseika (2017).

person can be picked out by the same name, regardless of changes to his or her age, weight, location, occupation, and so on. (1995: 1).

Furthermore, this reliance on Kripkean justification is also sometimes transposed into research on identity judgments of objects other than people. For example, Leonard and Rips (2015; see also Rhemtulla 2005; Rips et al. 2006) rely on personal names in their study of identity of artefacts, like cups (e.g. a particular cup named “Sippy”), and natural kinds, like carrots and trees, where they also mention Kripkean justification in support of their methodology:

Our reason for using proper names is that they provide one of the best, most intuitive, ways of determining whether participants believe that pre-transformation and post-transformation objects are identical. And this is because proper names are typically understood as rigid designators (Kripke, 1980), tracking the same individual across possible situations. (Leonard and Rips 2015: 99).⁴

6. Why merely assuming rigidity won't help

In Section 4, we have introduced two inferential strands used in empirical research on identity judgments:

A. “No longer X” → “no longer the same individual”

B. “Still X” → “still the same individual”

In this section, we suggest that neither of these two inferential strands can be used to draw reliable conclusions about folk judgments of numerical identity. We also argue that although these two inferential strands may seem to be justified by appeal to the Kripkean notion of rigidity, such appeal should remain unwarranted unless supported by appropriate evidence.

Let us then go through the methodology underlying the two inferential strands, and try to identify the work that rigidity assumption is supposed to accomplish.

⁴ See also Hood et al. (2012: 472): “The naming of the hamster was motivated by the philosophical analysis in which proper names are rigid designators of unique identity, tracing identity over both real and hypothesized space and time (e.g., Kripke, 1980).”

We are given two (usually, counterfactual) situations, and want to know whether these individuals are identical. So, we have a pre-transformation individual a , and a post-transformation individual b , both introduced by way of description of the situation, and want to know whether the participant assents to identity statement $a = b$ or its negation $a \neq b$. The methodology under discussion attempts to handle the issue by also supplying a lexical item, a name n , and subsequently infer $a = b$ or $a \neq b$ from the verbal behavior of the participants.

In effect, there also must be a two-place semantic relation of naming (or reference, or denotation) Rna assumed to hold between the name n and the described pre-transformation individual a . Given the assumption Rna , then $a = b$ is inferred from Rnb , $a \neq b$ is inferred from $\sim Rnb$.

The success of the methodology rests on the formal validity of the arguments:

(i) Rna

Rnb

$\therefore a = b$

(ii) Rna

$\sim Rnb$

$\therefore a \neq b$

Which, in turn, depends on the specific properties of the given semantic relation R .

This is where the rigidity assumption is brought in to fill the desired details and thus to complete the picture. And indeed, describing the semantic relation in question as having a rigid rather than a flexible function, and supposing each proper name is a rigid designator, by definition “a term that designates the same object in all possible worlds” (Kripke 2011: 9), with the usually added clause that it also “never designates anything else instead” (LePorte 2013: 2; 2016)⁵, affords the blocking of potential counterexamples that would invalidate the above arguments. For if a rigid designator

⁵ The latter, although not explicitly mentioned in Kripke’s text in this phrasing, is perfectly consistent with and can be derived from what he says.

designates the same object in all possible worlds, then $Rna \ \& \ a = b$ is inconsistent with $\sim Rnb$, and if a rigid designator never designates anything else, then $Rna \ \& \ a \neq b$ would be inconsistent with Rnb . Given the rigidity assumption, everything seems to be falling into place, and hence the particular appeal of this assumption in the context of the aforementioned experiments.

However, one might also expect independent grounds for assuming that names are rigid designators, and this is where several interrelated issues arise. Obviously, whenever independent reasons for rigidity of names are required, one may always refer to Kripke's seminal lectures turned into monograph. One might still worry that Kripke's arguments, although widely accepted, are not conclusive, and the alternative theories of naming in natural language are still available. And most of those would put at least one of the two argument forms in jeopardy.

Think about proper names that are sometimes used in a "qualitative" sense and are given more than purely designative function. For example, consider this sentence:

"But now Vegas is no longer Vegas, it's Disneyland gone horribly wrong."

The second token of "Vegas" is an evaluative category rather than a pure toponym. Similarly, if experiment participants deny that a relevant personal name applies in a given situation, this may mean that qualitative rather than numerical identity is denied – "no longer Julie" may be used to express "Julie has changed in important ways", provided that "Julie", in "no longer Julie", is used as a synonym of a certain qualitative description associated with Julie. The proper name might refer to (a set of) qualitative properties of an individual rather than to the individual him/herself. Apparently, some other measures are needed to track judgments about an identity of an individual (not his/her properties). Kripkean theory of rigid designation does not preclude such qualitative uses of name-like lexical items.⁶

⁶ We suspect that this phenomenon of "qualitative" use of names can potentially explain the results of a number of studies that found study participants' decreased agreement with a claim that post-transformation individual is "still John" in scenarios involving deterioration of memory or moral character. However, we will not attempt to address this issue here.

Also, consider the case where the post-transformation individual no longer exists, but the proper name still refers to someone / something. Say, if Julie does not exist in the post-transformation world, some alternative semantic to the Kripkean theory of rigidity may well allow that the word “Julie” can still refer in such world, but not to Julie the individual. For example, names can be used as “stand-ins” for more complex expressions, like “Bentham” can be used as a stand-in for “mortal remains of Jeremy Bentham” or as Liittschwager writes, “one might say that ‘Uncle Ralph’ was in the urn on the mantel (if his cremated remains were contained there), but one would be unlikely to claim that ‘the person’ was in the urn.” (1994; p. 83). Arguably, the more radical is the transformation portrayed in a hypothetical case, the more it is likely that the name will be used in this manner.

If the semantic function of proper names goes beyond pure designation, as in the examples above, the use of those names can no longer be relied upon in tracking individual identities.⁷ Hence the first issue would be to deal with the worry that the alternative interpretations of semantics of names have not been prematurely discarded.

Second, although a rigid designator by definition always refers to the same individual whenever and wherever that individual exists, that provides only an empty framework, a merely formal part of the story. It seems that even by Kripke’s lights, the important question whether a particular word or expression employed in an actual language is a rigid or non-rigid designator is not a merely logical or conceptual issue. Kripke is quite clear that rigidity of proper names is derived from the observation and reflection of particular uses of names in a certain linguistic community. Rigidity of names is by no means a logical or conceptual necessity, but rather a contingent fact about our language. Thus, Jason Stanley claims that “the fact that natural language proper names are rigid designators is an empirical discovery about natural language” (Stanley 2007: 555). Empirical verification of this claim about natural languages by experimental means remains controversial (e.g. Machery et al. 2004; Lam 2010; Sytsma et al. 2015).

⁷ Note, that possibility of “qualitative” and “stand-in” uses of proper names pose challenges to the method of inferring identity judgments from participants’ use of proper names independently of success of the Kripkean justification.

Finally, the experiments under discussion are dealing with belief ascriptions, i.e. intensional contexts, and although rigidity seems to encourage the extensional treatment of the naming relation, ascribing beliefs on this basis would not be legitimate unless the assumption of rigidity reflects and is in accord with the beliefs of the interpreted participant. More specifically, under the disguise of the argument form (i) above, the experiments employ what should be explicitly reformulated as follows (where P is our participant):

$$\begin{array}{l}
 \text{(iii)} \quad P \text{ believes that } Rna \\
 \quad \quad \quad P \text{ believes that } Rnb \\
 \hline
 \therefore P \text{ believes that } a = b
 \end{array}$$

This argument is not valid, unless our participant believes that the semantic relation R is that of rigid designation. But ensuring that the participant actually uses the name as a rigid designator is a tremendous difficulty in the context where the (transworld) identity of the object named has not been settled. Recall that Kripke is at pains to defend the intelligibility of the concept of rigid designation against some of its critics, who claim that “to make sense of the notion of rigid designator, we must antecedently make sense of ‘criteria of transworld identity’” (Kripke 1980: 49). It follows from Kripke’s notion of possible worlds as stipulated abstractions that identity of objects, and thus rigid designation, in a way precedes (the qualitative description of) those worlds:

We do not begin with worlds (which are supposed somehow to be real, and whose qualities, but not whose objects, are perceptible to us), and then ask about criteria of transworld identification; on the contrary, we begin with the objects, which we *have*, and can identify, in the actual world. We can then ask whether certain things might have been true of the objects. (Kripke 1980: 53)

It seems that for the practical purposes the question of identity judgements cannot be easily detached from the question of rigidity of names. None of the two seems to be independent. That is, the only way to find out whether a competent language user (or a community of such users) employs a particular name as a rigid designator is to find out her specific views about the identity of the object designated.

Hence, if one uses the same name for the two individuals in two counterfactual situations, then either one uses the name rigidly, and so takes the two individuals to be identical, or one takes the two individuals not to be identical and the name is not used rigidly. And if one refuses to use the same name for the two individuals in two counterfactual situations, then either one uses the name rigidly and so takes the two individuals not to be identical, or one takes them to be identical and the name is not used rigidly. Therefore, the idea to take the semantic phenomenon of rigidity for granted in order to reveal the identity judgements, which in their own order are presupposed by rigidity, appears to involve a significant and possibly irreducible amount of circularity and indeterminacy.

One might wonder whether the difficulties about transworld identity that arise due to the modal character of the notion of rigidity are relevant with regard to the allegedly non-modal issue of identity over time within a single possible world. After all, even though Kripke's modal notion is mentioned in the quotes in Section 5, the research discussed in the initial sections is concerned with identity through time, not identity across worlds. Several points are in order here. First, if rigidity assumption is dropped, the problem of explaining why the use of proper names is indicative of identity judgements will rear its head. Second, it is not clear whether any notion weaker than Kripke's modal rigidity could satisfy the methodological demands that it was expected to help resolve. Consider the notion of (nonmodal) temporal rigidity that might be introduced for any name that refers to the same individual at all times when it exists (within one world), noncommittal about transworld identities of the individuals involved. Even if a semantics of names based on temporal rigidity could be granted sufficient intuitive support to make it plausible, difficulties, analogous to those discussed above, would arise about ensuring that the participant actually uses the name as a temporally rigid designator in cases where temporal identity of the object named has not been settled. As a matter of fact, the complications derive not from the specific nature of rigidity (be it modal or merely temporal), but from the need to take into account semantic beliefs of participants and revealing those before their beliefs about the identities of individuals are discovered. Third, it could be argued that a notion of identity involved in judgments about identity through time should be sufficiently stable to support counterfactual situations, that is, if an individual will preserve identity

and be called the same name after some transformation, the individual would be called the same name had the transformation occurred.

The issues discussed here should not be taken to imply that the very idea of tracking identity intuitions through belief ascriptions on the basis of the use of proper names is irreparably flawed and could not be saved by any effort. However, until those issues are properly dealt with and independent support is provided, the rigidity thesis remains an unwarranted assumption.

7. Conclusion

In this article, we critically engage with a method commonly used in empirical research on individual identity judgments that relies on drawing inferences from study participants' use of proper names in response to experimental vignettes. We provided reasons to doubt that using this method one can reliably infer judgments of numerical identity across time and transformations. We also critically examined allegedly-Kripkean justification of this method and found it lacking. Merely assuming that names are rigid designators will not help. A study participant's use of proper names can be taken to track the participant's identity judgments only if supported by the participant's belief that names used in the scenario are used rigidly.

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