

CONCEPTUAL REFERENCE

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Reference of terms is important. And the reference of terms is reference of concepts. Definitory determination of concepts does not allow for determination of singular referential acts. Referentiality of a concept should be determined by ability of organisms to identify, or range individuals as instances of these concepts. Referentiality of concepts should be determined by considering the importance of psychological findings concerning the structure of concepts such as findings about the prototypicality of exemplars. Cognitive mechanism of basic categorical perception should be moved into an account of (conceptual) reference.

I

I shall begin with some knowledge and some intuitions we all seem to harbour about reference. First, we think that reference of sentences is their truth values. But this can not be the whole story. Primarily, in this case, the reference of all sentences would be reduced to True and False only - and by any means, this would be too rough an account.

So, here is our first intuition: More detail is need. Our knowledge about the procedure at this point is that compositionality should be moved into the explanation of reference.

What does compositionality mean? It means exactly what our previous intuition has announced: that the reference of sentences depends on the reference of the parts of sentences, of the terms they are composed from.

So, reference of sentence "The cat is on the mat" would depend on the reference of the "cat" and "mat", and of their relation. It is true that relation, "is on", and the ordering of terms is crucial here. "The mat is on the cat" would have, altogether,

different truth conditions than the previous sentence, although the terms composing it are the same. It is thus the ordering of terms that matters.

But, there is one much more crucial point I am speaking about: Even if the syntactic arrangement of terms is important for the referentiality of sentence (the two mentioned sentences refer to different situations: one situation where the cat is on the mat, another one where the mat is on the cat), one should not forget that terms are at least equally important.

Thus, I think that an absolutely important point is not to forget about the referentiality of terms. (Unfortunately, one often seems to proceed like that.)

In other words, it seems to me that one is conditioned to forget the referentiality of terms, when speaking about referentiality (of sentences, or propositions, or whatsoever their ontological or other interpretation might be).

Why is one conditioned to forget the primacy of referentiality of terms?

The answer, it seems to me, is that the nature of terms is not properly, i.e. realistically, understood. And, this is due to a tradition, which is not specially suited for an account of referentiality of terms.

So, it becomes important to know how the referentiality of terms has been actually and usually treated. Here is an example. Some terms would comprise "cat", "mat", "is brown", "is under": thus, everything from what are called singular referring expressions ("the cat"), to relations (is on").

But, what corresponds to these terms? What is actually the referentiality of terms? I could claim that this is the referentiality of words, if decided to stick with the earlier introduced referentiality of sentences. But, actually, I think that it might be better to speak about the *concepts*, instead of speaking about the words.

There seems to exist a kind of parallelism between the usual treatment of sentences and concepts, however. We have seen that there is a curious property of sentence referentiality which does not allow for the differentiation of referentiality. All the references divide along the two (truth) values, truth and falsity. We may thus imagine a situation where all sentences would be grouped in two extremely large sets, one comprising the true sentences, and other the false ones.

Treatment of concepts seems to me to proceed along similar lines. But, in order to understand this, we should look a little bit at the usual treatment of concepts.

Usual treatment of concepts is extensional (intensionality is, roughly, treated along the same lines, so one does not need to bother about its presentation here. What does extensionality mean?

Most usual definition of extensionality would be set theoretical.¹ Thus, the extension of the concept "cat" would be all and only cats (the actual, the passed, the future, and the possible, if this suits your ontological taste).

This set-theoretic way of determining concepts, however, seems to me to shelter

¹ Here, as in some other points, I am indebted to Bojan Žalec.

a proximity with the above mentioned determination of referentiality for sentences (or propositions).

It seems to me that sentences, in referring to truth values (truth, falsity), do not actually refer. In the same vein, it seems to me that concepts do not refer. The intuition is that there is no reference to particular situations for the sentences, in the view described above. There is no such reference as the reference to the situation that the cat is on the mat, when we have a sentence "The cat is on the mat". The reference is to the Truth only. This is why the disquotational theory of truth, according to which the sentence "The cat is on the mat" is true iff the cat is on the mat, is much better. But note that there is no mention of reference in this account of truth of the sentence.

In the same manner, the situation might be depicted for concepts. As I said, the reference of concepts is usually determined by extensionality. And extensionality is determined by the set (of cats, say).

But, the determination of concepts with the help of sets accords well with a very particular view, with the *definitory* view of concepts. According to this view, definitions are the mechanisms for determining of concepts. But, definitions accord very well with extensionality.

Definitory and extensional determinations for concepts are equivalent. Definition of cat comprises the (extensional) set of cats. All and only cats are covered by the definition of cat. And those cats are exactly what is in the extension of the concept.

All would be well if there were not a difficulty at this point. We have observed that the referentiality of concept cat is usually seen as determined by definition and extensionality. (There is a further question whether extensionality could not be countered with something else, with intensionality for example. However, I shall not proceed to develop this line of thought here.) But there is a pressing question to be asked, is it appropriate that concepts are to be determined and understood definitorily. If it turned out that this were not the case, some consequence for referentiality of concepts might follow.

Particularly, definitory view of concepts treats all instances of concepts at equal footing. But this does not allow for an appropriate account of referentiality of concepts.

I believe in particular that the determination of a concept with the help of definition does not allow a singular referential act. But this singular referentiality is the referentiality, according to me. It seems to me inappropriate to allow the possibility of an account of reference where it is uncertain that such an account does not allow for any actual particular referential act of an organism.

At this point, one should ask what is to be understood under the referentiality of a concept. The referentiality of a concept should be determined by the ability of an organism to identify, (or range particular), an X, as an instance of concept. So the

test for individuation and for referentiality would be equal. An ordinary conceptual work, or task to be fulfilled with the help of concepts, the organisms have to perform, is ranging over an entity, over an X, under a concept. Some X seems to be there. I can refer to this X if I see that this X is actually cat. But, in this manner, I classify, range X under the concept of a cat. On the other hand, we are not able to claim for an organism that it refers to a concept, if it does not recognize, or range, at least one X, at least one instance, under this concept. But giving conditions where an organism would range an X under a concept seems to be giving conditions, for an organism, to identify X. I said earlier that the difference in looking at the nature of concepts should influence our views about the *referentiality* of concepts.

I can only say that there are difference at looking at the nature of concepts. Here, I shall only state some differences with some other views on concepts.² The biggest difference is that the overall view of concepts is nondefinitory.

But this should mean that it is an empirically fact (because most of the findings about the structure of concepts are empirical findings of experimental psychology) that the definitory account of concepts is not adequate. My question is whether those findings may change the elucidation of the question of *referentiality* of concepts.

This question becomes still more interesting if one considers the poor treatment of referentiality by definitory approach of concepts. Of course, I am speaking about conceptual referentiality, the question about the mechanisms of reference characteristic for concepts.

The answer might be articulated by looking at some of changes in the accounts of concepts, different to definitory accounts. I shall try to comment on such changes in presenting what conceptual structure could mean for an account of referentiality of concepts.

The first finding is that for most concepts, we cannot give any necessary and sufficient, (thus definitory) conditions. Most concepts are graded, thus, they harbor more or less typical members, to various extent. There is no definitory cat. This seems to be like that because no one is able to refer to the definitory cat. Some cats are more typical, and are thus easier, faster ranged as cats, then some other kinds. This condition to range some X under a concept is in opposition to the definitory view. My claim is that this is in opposition with the indiscriminative definitory view, according to which any cat would be a member of the concept cat with equal right, exactly because this is not the way how conceptual identification

² I have written extensively at the nature of concepts: nondefinitory, similarity based (prototypes, exemplars), non-similarity based views of concepts (variability, conceptual coherentism). For this last proposal, but also as an overview, see my article "Conceptual Coherence".

works. Concepts are not shaped definitively, their structure is nondefinitive. And this is because concepts have built in the mechanism of referentiality, the ability of the organism using a concept to sort out at least one member of the concept, to identify an X as a member of the concept. This is exactly the requirement of referentiality for concepts. Thus, referentiality is the reason why conceptual structure should be taken as nondefinitive.

Here, one can embrace mechanism similarity as a way out of definitory troubles. There may be an abstract prototype, set of characteristic properties, that might lead the gradation and explain its reasons. Such prototype of the concept bird would include properties of being feathered, nesting in trees, singing. The set of properties would have task of recognizing an entity, an X, as being similar to the prototype, in order for the organism commanding the prototype to be able to range the entity X under given concept. But, what does this ranging mean? It means that organism possessing the prototype is able to refer with the help of concept. Or, in other words, referring to entity X by a concept shows, or proves, that organism is entertaining this concept.

What does similarity mean in the case of the prototype? It means that more typical entities would be sooner recognized as members of a concept. I would sooner recognize a swallow to be a bird than I would recognize a chicken to be a bird, because swallow shares more properties existing in the prototype of the concept bird, than the chicken does. Thus, swallow is more typical for birds, because it is more similar to the prototype. Actually, it seems that we have to do with referentiality of concept bird. What is introduced is the mechanism of the prototype - this is new in comparison to the definitory rendering of the mechanism of concepts. And this mechanism is introduced in order to make it possible to explain how an organism refers by means of a concept. The measure of similarity or prototypicality is at the same time a measure of referentiality of particular concept.

All this is even clearer in the case of another strategy to explain the mechanism of concept by the help of similarity, i.e. the mechanism of exemplars. Here, it would not be the set of properties typical for a bird that would determine the concept membership for an entity. It would be a typical exemplar. It is the similarity to the typical exemplar, thus, the particular bird (or dentist) that I know, that would determine my having the concept. It seems clear from here that it is the concern of referentiality that guides this mechanism.

What to say then, of the ways to explain the mechanism of the concepts with the means of nonsimilarity? I shall mention two ways: the mechanism of variability, and the one of conceptual coherence. The mechanism of variability presents a way of how to categorize by other means than similarity. Because of greater variability of the size of pizzas than variability of coins, one classifies X (a

circle of the mid-size between pizzas and coins) more readily to be a pizza than to be a coin. Where is referentiality here? This only shows us that there are other means to achieve referentiality of a concept than the ones of similarity.

Actually, what we have got here is the point that referentiality of concepts might be, and mostly is, achieved by the relations of concept with other concepts. In our previous case, we had comparasion of two concepts.

I have proposed yet another conceptual mechanism by introducing coherence as a non-similarity based mechanism of conceptual structure. Now, the story of coherence basically includes the existence of the background conceptual system, and the beating of competitors.³ What does this mean? Doesn't the story undermine all my explanatory efforts, because I have to presuppose the existence of conceptual system? To this I would reply that exactly this presupposition shows how the real gamble in this story concerns the *referentiality* of concepts. It does not matter that concepts, or their possessing by the organism, is already presupposed by this story. On the contrary what matter is the possibility of achievement of referentiality for a particular concept with the help of the background conceptual system, possessed by the organism. On the basis of this background system, what really achieves conceptual referentiality, is the beating of competitors. To categorize this X as a cup (the system, we shall presume, does not know yet that this is a cup), the concept cup should beat irrelevant competitors first (the concept of goodness), and then it has to beat competitors with weaker relevance (the concept dish is beaten by the concept cup because of its weaker relevance in referring function). Thus, all of the story is being masterminded because of the referentiality. No other mechanism makes this clearer than the mechanism of conceptual coherence, because it presupposes possession of the nonreferential system of concepts as the means of achieving referentiality for a particular concept.

This story should stress two things: that conceptual mechanism is basic for and because of referentiality, and that the underlining of the cognitive conceptual mechanism takes us away from the traditional definitory way of determining concepts.

Here, comes an attack of the defender of definitory view of concepts. All the story, he would tell us, does contribute nothing as to the elucidation of concepts. All we have described are actually psychological mechanisms that characterize the organism-s epistemic access to the concepts. Ignoring such psychological humdrum, concepts exist, independently of any way of access that anybody might

³ Here, Iborrowed from epistemology, particularly from Keith Lehrer. My guess is that the same mechanism as he introduces in epistemology might work well for concepts, because of their reliability. In fact, the concepts- reliability might be due to their referentiality.

have to them. And thus philosopher's task is the description of concepts as such, without psychology.⁴ To this line of argument, I would reply that it is no good for explanation of concepts, because it does not take into account theirreferentiality. And, I shall argue, it is only possible to take into account referentiality of concepts by underlining the role of the cognitive, psychological mechanisms, with the help of which conceptual referentiality is possible. I shall now turn to the defense of the thesis that cognitive mechanism are important for an account of referentiality of concepts.⁵

II

I shall defend the thesis that some kind of psychological, or cognitive mechanism, is necessary for an appropriate account of conceptual reference, thus of the reference of concepts. It should be obvious, from the previous page, that there are reasons to suppose that conceptual reference is necessary for an account of reference of sentences or propositions.

I shall further try to defend the view that cognitive mechanism of Basic Categorical Perception is appropriate for an account of conceptual reference.

So let me state my thesis:

Thesis: The cognitive mechanisms of Basic Categorical Perception are necessary (and sufficient) for an account of (conceptual) reference.

This thesis that I shall defend with help of some premises. The first one is the following:

Premise 1: The account of reference, as determined (definitory) by set theory, is insufficient.

As we have seen, the account of concepts, is inadequate for to the nature of concepts. The determining of concepts needs a nondefinitory account, by the help of prototypes, exemplars, variability or coherence. This claim would be difficult to beat. The main attack on it could come from the side of a philosopher, defending the unaffectedness of concepts as such by the epistemological considerations of psychological access of the organism to them. Concepts, such a defender would

⁴ This is roughly the criticism that Rey has addressed to the nondefinitory minded psychologists, explanators of concepts.

⁵ And this would mean, the referentiality as such, taking into account the previous remarks that referentiality of sentences and propositions depends on the referentiality of concepts and terms.

say, may be described without caring about the psychological accesses.

But, by previous remarks, it seems clear that such a way of reasoning is doomed to failure, because the definitory view does not account for the referentiality of concepts, and referentiality is basic for an appropriate account of concepts, as we have seen. Even without this, it would be clear, however, that an account of concepts according to definitory means is insufficient.

I shall have to defend in the next premise the soundness of the claim that reference really is basic for an account of concepts.

Premise 2: *It is necessary for someone, in order for him to say that he mastered reference, that he should be able to refer actually (singularly) to at least one thing.*

It is should to say that concepts should refer. But the reference of concepts seems not to be possible without someone, some organism, to point, sort out, or individuate, with the help of a concept, at least one particular thing. Thus, organisms such as people refer with the help of concepts, and a concept does refer once an organism is able to apply it. So mastering of a concept by an organism would be necessary for the referentiality of a concept.

Concepts do not seem to dispose with reference independently of organisms entertaining them. But in order to be able to refer with the help of concepts, organisms should be able to apply them. The concept cat does not refer if stated only set theoretically. It needs an user. But the organism using the concept of a cat may not be claimed to have the concept of the cat before hiis able to refer appropriately with the concept of a cat to at least one token of a cat.

Without the ability of someone to point out at least one appropriate item belonging to a concept, we might not say that he would refer with the concept, and that the concept would possess the reference, accordingly.

Let me proceed to the next premise now:

Premise 3: *The capability of referring, by someone, is possible only if he masters the cognitive mechanisms of Basic Categorical Perception.*

How does an organism sort an entity out? It seems to be clear that the organism is incapable of exercising this, to point to an entity belonging to a concept, if he does not possess some appropriate cognitive conceptual mechanism. How this is a necessary condition might be grasped easily when thinking about the difference of entities that refer and of those which do not refer. A stone on the road does not refer, or point something out, unless someone does the pointing with its help. But to exercise this pointing, the entertaining of an cognitive mechanism is

necessary. So, a person might be said to be able to refer, but not a stone. What is this mechanism, whatever it might be, do? It has to fulfill the following task: It has to recognize an entity X as a member of a concept. There is an entity X there. I do not know what it is. I should dispose of a mechanism to categorize this entity. Actually, I do possess such a mechanism, and I can claim, because of this, that the entity is a cat. Which is the conceptual cognitive mechanism that allows me to exercise this sorting out? I shall claim that it is the mechanism of Basic Categorical Perception. The cognitive mechanism of Categorical Perception (CP) comes in two levels: as a sensory, and, secondly, as a conceptual mechanism of sorting. At sensory level, the mechanism of CP is coherentist. The cognitive mechanism of conceptual structure requires the existence of the background system of (of nonreferentially specified) concepts, and the mechanism of sorting out one concept consists in beating the competitors. I shall not go into detailed description of this coherentist framework for concepts, which, according to me, should consist of the coherence external to a concept and besides, of the coherence of the elements internal to the concept. I might only conjecture here that referentiality would bring those both in connection. It is only important for me to establish, at this point, that a cognitive mechanism is necessary for the mastering of reference of concepts.

Now, I shall have to supply additional support to the previous premise, by trying to show that CP is really important for the conceptual reference.

Premise 3.1 *The reference of sentences, according to the compositionality, is built out of reference of their parts, terms.*

It looks like this premise is not specially debatable. And I have discussed it already. The reference of the sentence "The cat is on the mat" would be impossible to understand without first grasping the reference of its parts, "cat", "mat", and "being on". The understanding of the reference of the sentence, of course, requires as well the understanding of implications of ordering of these constituents.

Premise 3.2 *Terms are accounted for by concepts.*

This second premise in support of the third premise above seems not to be specially controversial either. What are actually the constituents of our previous example "cat", "mat" and "being on"? Despite the fact that we have to do with terms or relations, these are accounted for a concepts. It is the names of these concepts that I have written above among the parentheses.

Premise 3.3 *The referentiality of concepts is accounted for by the*

mechanisms of Basic Categorical Perception for concepts.

Now, there comes the last supportive premise to the previous third premises.

We have arrived, once again, to discuss referentiality of concepts. The referentiality of concepts should be accounted for by the mechanisms of Categorical Perception. These are mechanisms that an organism would use for sorting some entities in its environment as belonging to a particular concept. But, what is this sorting of entities into or under concepts, if it is not identic to the organism's ability to refer, with the help of concepts, to those entities? And this referring of the concepts is thus made possible with the help of cognitive mechanism of Categorical Perception.

From all the previous short considerations, one is able to turn back to our starting thesis, which should be supported by them:

Cognitive mechanisms of Basic Categorical Perception are necessary (and sufficient) for an account of (conceptual) reference.

Some point are left for discussion here. First, what is the core of CP? With this term I mean that sorting out, or ranging of entities, usually would succeed at the level of the utmost importance for a particular organism entertaining a concept. The explanation of this point would move in ecologist, Gibsonian considerations, because the importance for sorting of entities, by an organism, is to be traced through the ecological niche the organism finds itself in, and from the requirements of survival for this organism in its environment.

Next, I have claimed that the BCP mechanisms are necessary for an account of reference. We might still be able to use some other kind of mechanisms than those of CP to account for the reference of concepts. But, actually, our previous considerations show that the CP cognitive conceptual mechanisms are the best choice. Because they are the mechanisms of pointing to an entity X as a member of concept, thus referring with the concept to X.

Are BCP mechanisms sufficient? It seems like that. We do not seem to need any other mechanisms to account for the reference of concepts.

This line would require some defense. It might be claimed, namely, that with BCP mechanisms as the only requirement for referentiality of concepts, one is forced to embrace a kind of internalism. The criteria for referentiality do not need to transcend the borders of organism. To this I would reply that the earlier mentioned ecological considerations for success of BCP as the mechanism of the referentiality of concepts would show that the individuation of concepts, and thus of their referentiality (as shown by previous article), has its source in the ecological situation of the organism entertaining concepts. Thus, the cognitive structure of BCP is to be understood as pointing to the evolutionary and ecological reasons of

the organism entertaining concepts. But this would be a theme for another story.

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S a ž e t a k

Referencija terma je važna, a ona je referencija pojmova. Definitorno određivanje pojmova ne određuje singularne referencijske akte tako da bi referencijalnost pojma trebala biti određena sposobnošću organizma da identificiraju ili predaju jedinke kao instance njegovih pojmova. Time dolazimo na teren kognitivne psihologije - kognitivni mehanizmi bazične kategorijalne percepcije treba da uđu u objašnjenje pojmovne referencije.