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An indexical expression is conventionally associated with a rule which, in context, determines the reference of the expression in that context. The rule associated with 'I' is the rule that a token of 'I' refers to the person who utters that token. The rule associated with 'here' is the rule that a token of 'here' refers to the place where the token is uttered. The expression is not associated with the reference directly by a linguistic convention, but indirectly, via the context of utterance. The reference is the entity which stands in the right contextual relation to the occurrence of the expression. What is conventionally encoded in the expression-type, independent of context, is the nature of the contextual relation in question.

In what sense can we talk of mental indexicality? Linguistic conventions have no role to play here. Still, I suggest that some concepts are indexical in the sense that they too are associated with a rule which contextually determines the reference. The reference of an indexical concept is the entity which stands in the appropriate contextual relation to the thinker in whose thought the concept occurs. The nature of the contextual relation which the reference must satisfy determines the *type* of the concept.

In the first part of this paper I will give an overview of the theory of indexical concepts.[1] In the second part I will discuss an argument due to Jerry Fodor, to the effect that any epistemic approach to concept individuation (including the the theory of indexical concepts) is doomed to failure.

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[1] See Recanati 1993: chapters 6 and 7, for an elaboration. The foundations of the theory can be found in the work of Gareth Evans and John Perry (see Evans 1982, Perry 1993).

I. Indexical concepts: an overview

1.1. What indexical concepts are
Following Strawson, Perry and others, we can think of concepts as mental files in which we store information concerning the reference of the concept. In this framework, indexical concepts can be construed as special files whose very existence is contingent upon the existence of certain contextual relations to entities in the environment. The file exists only as long as the subject is in the right relation to some entity; a relation which makes it possible to gain perceptual information concerning that entity. Thus in virtue of being a certain person, I am in a position to gain information concerning that person through e.g. proprioception. The mental file 'Self' serves as repository for information gained in this way. The concept 'here' which occurs in my current thoughts concerning this place is a temporary mental file dependent upon my present relation to the place in question. I occupy this place, and this enables me to gain information concerning it simply by opening my eyes and my ears. The perceptual information thus gained goes into the temporary file.

When the contextual relation on which an indexical concept is based no longer exists, the concept disappears. When I leave this room, I can no longer think of this room as 'here'; I have to think of it under a different concept. I can still think 'here'-thoughts, but the 'here'-concepts occurring in those thoughts will be concepts of different places, hence different concepts (though concepts of the same type as my present 'here'-concept).

I assume that demonstrative concepts, such as the concept 'that man' or 'that thing', are a sub-class of indexical concepts. They are based on certain contextual relations to objects, in virtue of which we can not only perceive them but also focus our attention on them in a discriminating manner. When we are no longer in a position to perceive the object or to focus our attention on it, we can no longer think of it under the demonstrative concept which depends upon the existence of a suitable demonstrative relation.

1.2. Cognitive dynamics
Indexical concepts, I said, are mental files in which we store information gained via the contextual relations on which the concept is based. But what happens when the relation is broken and the temporary file based on it disappears? What happens to the information stored in the file?

A similar question arises with respect to indexical expressions. When the context changes, we cannot express the same content unless we ajust the indexicals to the new context. As Frege said,

> 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 readjusted. [Frege, The Thought]

Similarly, an adjustment of indexical concepts must take place if the context changes. As I pointed out earlier, I can no longer think of a place as 'here' if I no longer occupy that place. And I cannot think demonstratively of an object which I can no longer perceive. In both cases, however, another indexical concept is readily available. In the demonstrative case, the demonstrative relation to the object no longer holds, but another relation holds, in virtue of which I remember the object. On that relation another indexical concept is based, distinct from but closely related to the original demonstrative concept. Let us call the new concept a Past Demonstrative (see Evans 1982 on 'past-oriented demonstratives'). Just as demonstrative concepts (or 'present demonstratives') are based on demonstrative relations in virtue of which one can perceive the object, past demonstratives are based on certain relations in virtue of which one can remember the object. When a demonstrative concept comes out of existence because the demonstrative relation on which it is based no longer holds, a past-demonstrative concept systematically comes into existence because the perceptual episode has impressed our memory. We can therefore say that the present-demonstrative 'that man (which I see)' is *converted into* a past-demonstrative 'that man (which I saw)'.

Not only can an indexical concept be converted into another type of indexical concept, as in this particular case; two distinct indexical concepts can also be linked together. This is what happens when, for example, the subject recognizes a certain object which he perceives as being a certain object which he has perceived before and still remembers. In recognition, a demonstrative concept and a past-demonstrative are linked together. This linking gives rise to a third type of concept based on a more complex relation which I call 'familiarity'. An object is familiar to the subject whenever multiple exposure to that object has created and maintained in the subject a disposition to recognize that object.

1.3. Nonparadigmatic indexical concepts

In contrast to demonstrative concepts, recognitional concepts based on the familiarity relation are stable: they depend only upon the continued existence of the subject's disposition to recognize the object, which disposition transcends particular encounters with the object. Despite this stability, recognitional concepts are indexical. First, they depend for their very existence upon the existence of a contextual relation to the object, namely the relation of familiarity. Second, the reference of a recognitional concept depends upon the context: it is that object (if any) multiple exposure to which has created and maintained in the subject the recognitional disposition which underlies the concept. Which object that is depends upon the context. In a different environment, the very same recognitional device in place in the subject would have had the function of detecting another object than what it actually has the function of detecting in the actual environment.

Natural-kind concepts are themselves recognitional concepts, distinguished from the above by the fact that their content is arguably general rather than singular. We use the superficial or 'stereotypical' properties of water to detect water in the environment. What we detect is that substance (H_2O) multiple exposure to which has created and maintained in us the disposition to recognize it. But in a different environment a different substance would possibly play the same role: it would have the same superficial characteristics and multiple exposure to it would have created and maintained in us the same disposition to recognize it via those characteristics. In such a context we would have a concept very similar to our water-concept and internally indistinguishable from it, but it would not be a concept of water. It would be a concept of twater or XYZ (however we call the substance which plays the role of water on Twin-Earth). The reference of our water-concept therefore depends upon the context, even if the context at issue is much broader than the context relevant to determining the reference of 'here'. In this way Putnam's claim that natural-kind concepts are indexical can be justified.

Like demonstrative concepts, recognitional concepts presuppose some form of acquaintance with the reference, hence the extension of the notion of indexical concept which I have just suggested may seem natural. But what about cases in which the subject is not acquainted with the reference but has merely second-hand knowledge of it? I have argued that, in such cases, the subject possesses a *deferential concept*, and that deferential concepts themselves are indexical (Recanati 1997, 2000a, 2000b, 2001). While the indexical concepts talked about so far serve as repository for information gained in perception through various relations of acquaintance with the reference, deferential concepts serve as repository for information gained in communication through *linguistic* relations to the reference. Thanks to deferential concepts we can think and talk about

matters we have no first-hand knowledge of. We are freed from the limited context of our own perceptual experience; but the content of our thought is still dependent upon the (linguistic) environment in which we live.

II. Compositionality and epistemic properties: a reply to Fodor

2.1. Fodor's argument
I have claimed that certain epistemic relations to the referent are constitutive of indexical concepts, which are based upon those relations and exist only as long as they exist. But Fodor has repeatedly argued that *nothing epistemic can be essential to or constitutive of any concept*. This holds in virtue of a constraint which Fodor dubs the Compositionality Constraint (CC):

(CC) Nothing can be essential to or constitutive of a concept unless it composes. As Fodor puts it (somewhat ambiguously, as we shall see): "P is a possession condition on a constituent concept iff it is a possession condition on that concept's hosts." (Fodor 2001a:142)

This constraint itself is supported by the following consideration: If (CC) is false, Fodor says, "the following situation is possible: The possession conditions for RED are *ABC* and the possession conditions for RED APPLE are *ABEFG*. So denying [the Compositionality Constraint] leaves it open that one could have the concept RED APPLE and not have the concept RED" (Fodor 1998a: 37). But this is incompatible with the usual compositional account of productivity and systematicity. According to that account, RED APPLE is a complex concept *containing RED as a constituent,* and the semantic value (reference) of the complex concept is a function of the semantic values of its constituents. It follows that it should *not* be possible to have the concept RED APPLE without having the concept RED. Fodor concludes that we need (CC) to explain the productivity and systematicity of concepts.

From (CC), it follows, according to Fodor, that epistemic properties cannot be essential to concepts, because epistemic properties precisely do not compose. Thus consider WATER. I argued that it is a recognitional concept, based upon a capacity to recognize water (in normal conditions). But that epistemic property supposedly characteristic of recognitional concept does not compose. Complex concepts such as that of WATER TANK are not themselves based upon a capacity to recognize water tanks in normal conditions; or, if we assume that they are associated with such a capacity, that

capacity (to recognize water tanks in normal conditions) need not depend upon the capacity to recognize water in normal condition. (I assume we don't have to look inside the tank to recognize a water tank.) Since epistemic properties do not compose, they are not essential to concepts and cannot be used to individuate them or to type them. Hence — if Fodor is right — the theory of indexical concepts I have presented is deeply mistaken.

2.2. An inconsistent triad?

I grant Fodor that, to account for productivity and systematicity, we need the following assumptions:

- *Constituency*: Concepts are used as constituents of more complex concepts.
- *Compositionality of reference*: The reference of a complex concept is determined by the references of its constituents (and the way the constituents are put together).

I also accept Fodor's claim that the epistemic property characteristic of recognitional concepts — the fact that such a concept is based upon a disposition to recognize its instances in normal conditions — does not compose, and that the same thing holds of epistemic properties in general. In contrast to the concept's reference, which is compositionally determined by the references of its constituents, there is a sense in which the epistemic properties of a complex concept are not determined by those of their constituents. Thus, as we have seen, the capacity to recognize water tanks is either not essential to the concept WATER TANK or, if essential, it is not determined by the capacity to recognize water which is (by assumption) essential to the concept WATER.

      What I question is the gist of Fodor's argument: the transition from the non-compositionality of epistemic properties to the impossibility of construing them as essential to concepts. Once we realize that epistemic properties do not compose, Fodor says, we can no longer take them to be essential to concepts without threatening the usual account of productivity and systematicity. That is what I deny. I think there is no inconsistency in holding simultaneoulsy that

[1] Epistemic properties do not compose.
[2] The usual account of productivity/systematicity (i.e. the account based upon the two assumptions listed above) is correct.
[3] Epistemic properties are constitutive of certain classes of concepts.

In other words, I hold that the theory of indexical concepts (and epistemic approaches to concept individuation more generally) are compatible with the usual account of productivity and systematicity even if we accept that epistemic properties do not compose. Hence what I will do, in the last section of this paper, is scrutinize Fodor's argument to the effect that [1]-[3] form an inconsistent triad.

2.3. Simple inheritance vs. compositional inheritance

What is incompatible with the usual account of productivity and systematicity is the claim that one could have the concept RED APPLE without having the concept RED.[2] Fodor thinks this claim follows from [1] and [3] in the above triad, but he is wrong. He would be right only if [1] entailed the *non-inheritance* of epistemic properties from constituent to host. But [1] only says that epistemic properties *do not compose*. This, I claim, is different from saying that they are not inherited, in the simplest possible sense of the term.

To show that the epistemic properties that are constitutive of constituent concepts are inherited by their hosts (even if they do not compose) is a trivial matter. If the complex concept RED APPLE (or WATER TANK) has the concept RED (or WATER) as a constituent, and the concept RED (/WATER) has, among its possession conditions, an epistemic capacity S (e.g. the capacity to recognize red things, or water, in normal conditions), it *immediately* follows that one cannot have the concept RED APPLE without having the concept RED and therefore without having the epistemic capacity S (simple inheritance). What does *not* immediately follow is this: that one cannot have RED APPLE without having *an epistemic capacity S* which is to RED APPLE what S is to RED*, viz., the capacity to recognize red apples in normal conditions (*compositional* inheritance). In other words: The constitutive epistemic properties of constituent concepts are perforce inherited by their hosts, yet they do not compose in the sense in which standard semantic properties such as reference compose. The reference of the complex concept RED APPLE (or WATER TANK) is compositionally determined by the reference of its constituents. That implies that the complex concept *has* a reference of its own, which is determined by the reference of its constituents. But the complex concept RED APPLE can inherit the epistemic possession conditions of its constituents *without having an epistemic possession condition of its own* (let alone one determined by the possession conditions of its constituents): again, one can have the concept WATER TANK without having the capacity to recognize water tanks; or, if one has the capacity to recognize water tanks, it will not be

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[2] More specifically, that claim is incompatible with the assumption I dubbed 'Constituency'.

determined by one's capacity to recognize water in the way in which the reference of WATER TANK is determined by (inter alia) the reference of WATER.

Compositionality turns out to be a much stronger form of inheritance than what I called 'simple inheritance'. But only the failure of simple inheritance would threaten the usual account of productivity and systematicity, by forcing us to acknowledge the possibility of having RED APPLE without having the concept RED. In the relevant passages where he presents his argument against epistemic approaches to concept individuation, Fodor systematically trades upon the ambiguity of 'inherit' between the two notions I have distinguished — simple inheritance and compositional inheritance. His argument is fallacious because it rests on that ambiguity.[3] The fact that epistemic properties do not compose is the fact that the epistemic properties of the constituents are not *compositionally* inherited by the hosts. Still, the epistemic possession conditions for the constituents *are* inherited by the hosts (though not 'compositionally'), and that is sufficient to guarantee that one cannot have a complex concept without having its constituents.

There are a few passages where Fodor himself, faced with the skepticism of his colleagues and friends, seems to recognize that his argument does not go through. Then he uses another argument (Fodor 1998b). He says that if we do not accept (CC), we do not explain *why* the epistemic properties of the constituents are inherited by their hosts; we can only *stipulate* that that is so. But I fail to see the force of this argument. The basic fact to be explained is the productivity/systematicity of concepts. To explain that fact, we make two assumptions: Constituency, and Compositionality of reference (CR). We can, if we wish, mention only CR, since it presupposes Constituency. Be that as it may, once we have Constituency, the simple inheritance of epistemic possession conditions is ipso facto explained; it does not have to be stipulated. Nor do we have to enrich CR into CC in order to explain it. I conclude that Fodor's constraint CC is unmotivated, or (what amounts to the same thing) it is motivated only by his desire to rule out epistemic approaches.

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[3] Quote from Fodor's review of Cowie, p. 142.

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