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Mental content, teleological theories of

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Mental Content, Teleological Theories Of

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Article definition:

Teleological theories of mental content always rest on prior theories of the relation of a true mental representation to what it represents. They add to this an account of falsity or emptiness in thought.

Introduction:

To describe the "mental content" of, say, a belief or desire or intention is to tell what actual or possible state of affairs that thought represents. For example, if you believe that the earth is flat or if you wish it were, either way, the content of your thought is *that the earth is flat*. According to the 19th century philosopher Franz Brentano, the mark of mental states that represent or are about other things, distinguishing them

sharply from all other things, is that they can bear real relations to nonexistent things or facts, as when someone believes that the earth is flat or thinks of a golden mountain. Brentano's called this peculiar characteristic "intentionality." Intentionality poses a paradox for naturalistic theories of mind. How can a natural state of a natural creature bear a natural relation to something nonexistent?

What are Teleological Theories of Mental Content?

Telos means purpose. Naturalistic teleological theories of mental content refer to the biological function or purpose of intentional mental states to explain Brentano's paradoxical relation. These theories generally begin with some more basic theory of the relation between a true thought, taken as embodied in some kind of brain state, and what it represents, for example, with the theory that true mental representations covary with or are lawfully caused by what they represent, or that they are reliable indicators of what they represent, or that they "picture" or are abstractly isomorphic, in accordance with semantic rules of a certain kind, with what they represent. The teleological part of the theory then adds that the favored relation holds between the mental representation and its represented when the biological system harboring the mental representation is functioning properly, that is, functioning in accordance with biological design or, perhaps, design through learning, but that when the system fails to perform as designed, false or empty representations may be produced. Then "what is represented" may indeed be nothing real: To say "what is represented" is to tell what would have had to have been the case with the represented or the world had the system produced or harbored that same representation when functioning properly.

Teleological theories of content thus separate "intentional" signs and representations, those capable of displaying Brentano's relation, quite sharply from natural signs. Even when intentional representations are true, neither the fact that they represent nor what they represent is determined by any current relation they actually bear to their representeds. The representational status and the content of the intentional representation are both determined by reference to its natural purpose or the natural purpose of the biological mechanisms that produced it, and these purposes are determined, it is typically supposed, by history, by what these mechanisms were selected for doing, either during the evolution of the species or through earlier trial and error learning.

Thus naturalistic teleological theories are "externalist" theories of mental content. They imply that the content of one's thought is not determined by anything before one's mind or within one's consciousness or even within one's head. Just as actually remembering something, rather than merely seeming to remember it, does not happen wholly within one's present head but requires that one has previously encountered that thing, thoughts that are about something actual also require the right sort of history. It would be possible for a teleologist to avoid this externalism only with a non-historical and also non-environment-relative account of the nature of biological functions.

Arguments for Teleological Theories of Mental Content

Perhaps the best argument for teleological theories is that no other naturalist theory, taken alone, explains Brentano's relation without losing determinacy of mental content. For example, causal role theories, picture theories and natural-information theories all map mental content only onto idealizations of actual minds or brains, since

actual minds can make bad inferences, collect misinformation and fail correctly to identify things perceived. Nor does any of these theories, taken by itself, offer a determinate way to move from an actual mind/brain to just one idealization of it, hence to just one determinate set of contents for its intentional states. But on a teleological theory, if we assume that it is determinate when a mind or brain is functioning as it was designed to function, this will define the relevant idealization, no matter which underlying theory of representation turns out to be the correct one.

Nor do teleological theorists have to suppose that the occurrence of false beliefs means there is something wrong with ones cognitive systems. Biological systems often fail to perform their more distal functions due to an uncooperative environment rather than to internal failure. It does not matter how strong and healthy the bird's wings are, if submerged in water they will not be able to perform their functions properly. Nor does the teleological theory need to imply that most of our beliefs are true or useful. Actual performance of proper functions is often statistically abnormal. Failing to escape the cat or the owl constitutes a failure of the mouse's behavioral systems to perform all of the functions for which they were designed. This does not prevent most little mice from being eaten by one predator or another anyway. If only states of true belief are biologically proper, this has no bearing on the statistical frequency of true versus false belief.

History

The teleological theory of mental content is a late 20th Century product. Dennis Stampe (1977) is usually cited as the first to articulate it. In an effort to explain the possibility of "infidelity" in representation and also "vacuity" ("Santa Clause," Macbeth's

hallucination of a dagger) that would be consistent with a causal theory of reference, he described the content of a representation as what the representation would probably have been caused by if its producing devices *were* "functioning properly." Gareth Evans described the content of "information based thoughts" in a very similar way (though more was required of them as well), and explicitly claimed that their producing mechanisms could "malfunction" yielding "informational states" that "fail to fit their objects" or that are "of nothing" (Evans 1882:128-9). Stampe and Evans used the notion "function" without analysis, but in 1984, David Papineau and Ruth Millikan independently proposed teleological theories of mental content, both explicitly taking "function" to be defined by reference to natural selection and/or (Millikan) trial and error learning. In (1986, 1988) Fred Dretske modified his formerly purely informational theory of mental content to include a teleological layer to account for "misinformation," but describing the functions of belief-like states as derived only from a trial and error learning history, not from natural selection. About the same time, Jerry Fodor visited the teleologist camp briefly with an essay that he soon repudiated as "viciously wrong," but was eventually persuaded to publish (Fodor 1990). Since then a considerable literature has appeared, criticizing, defending or embellishing teleological theories of content.

Varieties of Teleological Theories of Mental Content

It is commonly said that according to teleological theories, the content of a mental state is determined by whatever it is "the function of the mental state to represent." This formulation is vacuous, however, unless what it is for one thing to "represent" another is antecedently specified. Teleological theories all need to rest in

the end on more specific underlying theories of the relation between a true representation and its represented Cof the relation it is the purpose of the perceptual or cognitive systems to produce. We can classify teleological theories accordingly.

Stampe (1977) and Fodor (1990) took the representing relation to be causal. Fodor claimed that various kinds of external conditions could in principle be specified under which normal perceptual/cognitive systems would operate optimally in accordance with design, and that what a belief state in the brain represented was whatever would always cause it under these epistemically optimal conditions. Under these conditions, the occurrence of the represented would be sufficient for occurrence of the representation.

Dretske claimed that the function of a perceptual representation is to "indicate" or carry "natural information" about the represented, meaning that if the representation is present, there should be a probability of one, in accordance with natural law, that the represented is also. Occurrence of the representation would thus be sufficient for occurrence of the represented. Theories of this sort might be called "informational theories" in contrast to "causal theories" like Stampe's and Fodor's, but typically the two types have not been clearly distinguished.

Dretske is explicit that representations have the "function" of carrying information due to their situation in some larger system that makes use of the information to guide behavior. Papineau and Millikan claim that it is only the uses to which mental representations are put that is relevant to their content. Millikan claims that a true representation maps onto its represented in accordance with semantic rules determined by the way the systems using the representation are designed to react to it in guiding,

perhaps first inference processes, but ultimately behavior. Representations are designed to stand in for aspects of the world outside the organism and, by varying according these aspects, to control the animal's behavior so as to take account of these aspects. Causal or informational relations between representation and represented play no role in the analysis.

Like Dretske on perceptual representations, Papineau sometimes says that the function of a belief is to be co-present with its represented. But he also says that what a belief represents, its truth condition, is the condition that would guarantee that actions based on that belief plus ones other true beliefs will satisfy one's desires, the function of a desire being to produce its satisfaction condition. Again, causal or informational relations are not mentioned. For both Papineau and Millikan, a useful "correspondence" between representation and represented does indeed occur when the biological system functions properly, but how this correspondence is brought about is not definitional of the representing relation.

Problems for Teleological Theories of Mental Content

The best known argument against teleological theories is the "swampman" argument. Suppose first that teleological theories are right. Then suppose that by some cosmic coincidence, lightning striking a tree near a swamp you are standing beside destroys you, but at the same time puts a different collection of molecules together out of the swamp to form another creature molecule for molecule exactly like to you. This creature wouldn't be you, of course, but it would talk like you and behave like you and, presumably, have exactly the experiences you would have had had you survived. But according to the teleological theory, it would have no intentional mental states at all Cno

beliefs, no hopes, no desiresC because its perceptual/cognitive systems weren't designed by evolution or learning. Everyone agrees, of course, that this creature wouldn't have memories, but beliefs and desires don't seem, intuitively, to require a history in the way that memories do. They seem to be wholly present tense occurrences.

Another common objection asks how people's specific beliefs, such as Paul Revere's belief that the British were coming by sea, could each have a selectionist history. It is commonly suggested that the human mind may not have been designed by natural selection at all, or not designed, at least, to work as it now works. But even if it were so designed, surely neither natural selection nor trial and error learning could have designed, specifically, each belief that each person has. However, the teleologist's position as spelled out by Millikan (1984, 2001) is that the human intellect works in accordance with very general principles of concept formation and belief fixation, applied over and over to diverse subject matters. Compare a calculator, capable of solving an infinite variety of mathematical problems, but always operating strictly in accordance with the same design. Still, is it really plausible that, say, the contemporary theoretical physicist employs no basic principles in thinking except those in use during the evolutionary history of the species?

Teleological Theories of Mental Content and Cognitive Science

The relevance of the teleological theory to cognitive science is indirect. Cognitive scientists interested in mental representation do, of course, need to understand the relation between a representation and what it represents. But they are mostly in the business of trying to understand and to model systems that are operating properly.

They are not modeling broken systems or systems in environments these systems are unable to handle. So they have no reason, for the most part, to take an interest in the nature of false representation. Their theories are base theories of true representation. Suppose, however, that false beliefs and empty ideas do often derive, not from faulty processing or from the brain's own inner errors alone, but from the environment being just too uneven and difficult. Suppose that adequate concept formation and true belief fixation are easy or possible only when the environment fits certain common molds on which our brain tools are fit to operate. Cognitive systems may turn out to be as deeply embedded in, hence dependent on, their specific environments as are other biological systems. Reflection on cognitive error reminds us that a strongly ecological cognitive psychology may ultimately be required.

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