

## MILLIKAN PRESENTATION

I have been rather selective about what I discuss her, choosing to focus upon those things I think are most relevant to our purposes.

1. Very generally Millikan is concerned with providing a theory of content or mental meaning that is resistant to the misrepresentation problem that both Dretske and Fodor have tried to account for. Fodor with his notion of asymmetric dependence. And Dretske with his functional informational theories.
2. For Millikan a statistic or average condition will not be acceptable for her because such fixing depends upon arbitrary parameters. How are we to fix average conditions in some way that is not terribly Ad-hoc.
3. The approaches of Fodor, Dretske, Stampe, and Matthen don't work.

A functional theory of representation all on its own is not going to work because it yields too many things as representations. "Every state of every functional system has normal causes, things that it is a response to in accordance with design" (282). So, reddened faces would be representations of overheating, too much sun or muscle exertion.

Fodor: some sort of causal story and "status as representation is determined by the functional organization of the part of the system that uses it" (282). But still has the problem of misrepresentation as he fails to spell out content fixing conditions.

Matthen: Saying something has the function to represent or indicate or detecting is not helpful unless what detecting, representing et. al. are spelled out. And if detecting is a function of a representational state, it must be something that the state affects or produces. But it cannot just be the case for the function to be that it be produced in response to something else, as nigh, anything could count then as a representation--eyeclosings when something heads toward the eye would represent things coming toward the eye. Flushed skin etc. Or is it "not the representational states themselves, but the part of the system which produces them, which has the function of detecting? It has the function say, of producing states that correspond to or covary with something in the outside world?" (283). Callous formation of the skin--covaries with a state of the world--namely friction against the skin--does it represent friction? Flushed skin again.

Dretske and Stampe: They deal with what representing or "detecting" is: They each have a description of what a natural sign is or what a natural representation is and then "assimilate *having the function of representing R* to being a natural sign or representer of R when the system functions normally" (283). Problems: the production of natural signs is a side effect of normal operation of many systems. Red face again. And such an accidental effect is not a representation. Further, that it just isn't the case that a representation must carry natural information. Danger signals in nature that occur in the absence of any real danger. Recall Dr. Eliasmith's telephone example for a similar point.

4. However, Millikan is convinced that a teleological or functional approach is the way to go if we are to solve the misrepresentation problem and provide an adequate account of content fixation. And that the way to do this properly is to focus upon representation consumption rather than representation production.

Her account is a historical one. The evolutionary history of an organism determines the contents of a system's or a consumer's representations. I am not sure if I will actually put enough emphasis on this later.

What does this mean? That the system that makes use of a representation to perform its function is going to be the thing that determines the content of the representation. And the representation can't just be a natural sign. It has to be a representation for that system itself. The representation has to be one that the system understands and it has to be one that was presented for that system (this gets restated again in a more jargony fashion later).

Here is where things get difficult. But what I am going to do is give you a list of the concepts/ notions that Millikan is going to use to explain her misrepresentation accounting for solution to the problem of content fixation as well as try and unpack her formal account of her theory of content fixing. Then I will go through an example of Millikan's to make things as clear as I can.

Proper Function: the thing a system or trait of a system does, because doing that thing is why it is still present in organisms. The reason why it still exists. The paradigm cases are those systems whose proper functions that were selected by natural selection because what the system does increases fitness (improves number of offsprings). The heart's proper function is to pump blood because its pumping blood is why it was selected. The heart is still around in organisms because it pumps blood and pumping blood in this way increases the fitness of the animals that had it, so it stayed around. This notion also includes functions that are not what they were originally selected for, but are still around because they do that thing. Feather's have been theorized to have been selected for because they assisted in cooling of the organisms who had them, however now because of their being there in organisms while other traits were selected for, we can now say that their proper function is to aid in flight.

This does not imply nativism, it could be the proper function of something to change over time (like learning) given its conditions of life. It is there to do x because doing x was conducive to fitness, its proper function then is what it was selected for or why it was kept around after being selected for despite now doing something else)

Normal conditions: (I realize that Millikan gives 'normal explanation' first, but normal explanations depend upon normal conditions). A Normal condition is the condition of an organism's or system's environment (and the system's relationship to that environment) that enables the system to perform its proper function (do what it is there to do--was preserved for). example: the normal condition for the stomach's vomiting function (which is getting rid of poison) is that there be poison in the stomach.

Normal Explanation: The Normal explanation is difficult to encapsulate, but I will try to put it clearly. Normal explanations are generalized accounts of what the conditions of a system or an organism were when they performed their proper functions each time it actually performed its proper functions under normal conditions. like what environmental conditions were necessary, what relationships to other organisms were necessary etc. for the system or organism to perform its proper function. Such an explanation is going to include the normal conditions of the performance of the proper function.

“A normal explanation explains the performance of a particular function, telling how it was (typically) historically performed on those (perhaps rare) occasions when it was properly performed” (284). It is a historical notion, in that it provides generalized accounts of what the conditions of a system or an organism were when it did a thing in the past, as well as the conditions of the environment in which it did that thing and how it was the structure of the environment and organism at that time that entailed the performing of said function. The thing being the proper function.

These are not statistical notions. These are not on average performance of proper function, or statistical explanations of 6 times out of 7 when X, Y or what have you.

5. Back to the consumer. The consumer is all we need to focus on to determine the content of a representation. If we know how, in what way the consumer is taking the representation, how it is using the representation, then we have the content of the representation.

Important quotation that makes little sense: “Although a representation always is something that is produced by a system whose proper function is to make that representation correspond by rule to the world, what the rule of correspondence is, what gives definition to this function, is determined entirely by the representation’s consumers” (286).

This means that the meaning of the representation is dependent upon the system using the representation and what the system is using it for (what the system does with the representation). It is this use of the representation that determines how it is that the representation corresponds to the to the world, and so fixes its content.

Millikan specifies two conditions that must be met in order for a system to use an inner item as a representation.

i) If the representation does not “accord” with (correspond to) a represented by a specifiable rule then the “representation will not be able to fulfill all of the consumer’s proper functions in so responding (to the representation)--not, at least, in accordance with a normal explanation” (286).

She puts it formally as follows “the representation and the represented accord with one another, so, is a normal condition for proper functioning of the consumer device as it reacts to the representations. Note that the proposal is not that the content of the representation rests on the function of the representation or of the consumer, on what these do. The idea is not that there is such

a thing as behaving like a representation of X or as being treated like a representation of X. the content hangs only on there being a certain condition that would be *normal* for performance of the consumer's functions--namely, that a certain correspondence relation hold between the sign and world--whatever those functions may happen to be" (287).

Meaning: that the content of the representation is that state of the world that would (and has in the past) enable(d) the successful functioning of the consumer of the representation. The "rule of correspondence" is determined by the consumer insofar as only when it performs its proper function, because of the information about the world provided by the representation, is the consumer performing its proper function.

Content of a representation is fixed by what has happened in the past--what did enable the successful performing of its function, where the successful performance of of its function determined the content in virtue of performing its function because of the representation. Its being able to perform its function because of the representation is what determines the correspondence

The normal condition is that the correspondence holds, not that the conditions of the world, but the correspondence between world and representation be one that enables the consumer to perform its proper function. This is the normal explanation, without an example. There is misrepresentation when the correspondence does not hold, and the function is performed in the absence of correct information contained by the representation. It does not perform its proper function if the state of the world that the representation has as its content does not obtain and is used by the consumer to perform its proper function anyway. But it cannot be said to be performing its proper function since the state of the world that is required for the function to have actually performed does not exist.

The representation has the content that it does because the normal condition has held in the past, has lead to successful proper functioning in the past. And so the representation has this content regardless of whether it is misrepresenting the world or not. So when we have the normal condition again.

The content of the representation is determined, though, by its history, by the performance of the proper function in past environments when the environment was a certain way. . .

ii) That there is a syntax and a semantics that is determined by the consumer and the correspondence between representation and world. I take this as saying there is a syntax and a semantics for representations.

This all becomes clearer when an example is used. maybe.

Consider Millikan's case of beavers and their tail splashes signaling danger. The splash is the representation. It represents danger or predator here and now. A Beaver who hear the splash are the consumers of the representation. The beaver performs its proper function of running and hid-

ing from danger--of avoiding danger, when there is actually danger present upon receiving the representation. The beaver only performs its proper function when the splashing (the representation) actually accords with the real presence of danger (it cannot flee and hide from danger if there is none). This correspondence is the normal condition, because only this allows the beaver to perform its hide from danger function. It cannot succeed in fleeing from danger if there is in fact no danger. If there is no danger, it is not hiding from danger. Thus, there has been a misrepresentation. And it is the fact that the consumer (beaver) hides itself has the function of hiding when the splash is made that determines the rules of correspondence. It performs its proper function if the representation corresponds, it does not when it does not. Successful performance of the proper function based upon a representation that determines the representations content. So the splash still has the content "danger" when there is no danger, thus misrepresentation. This is our normal explanation.

The slap of the tail is the syntax, form of the representation, and its content is danger here and now, in this place at this time.

The fact that the normal condition has held in the past, enough to select for this proper function, is what determines the content.

Note that this does not have to happen often, or every time there is a splash. Only enough to actually prevent being killed or what have you. The coloring of juveniles. Even accounts for advantageous havings of false tokenings of x when to err on the side of caution may be beneficial.

Matthen is even more wrong. Because he focuses on function and there cannot be any function directly correlated to a percept. The normal condition, Millikan describes solves this problem.

6. My theory is better than Dretske's.

Millikan also explains why her theory is better than causal/informational accounts--Particularly Dretske's.

The northern hemisphere bacteria that has magnetosomes that guide it north toward oxygen poor water, as oxygen rich water is fatal to the little bacteriums. Dretske, on his theory cannot say that what is represented by the bacteria is the direction of oxygen free water, because the only natural information being provided is about magnetic north.

Millikan's theory can succeed in saying the bacterium represents the direction of oxygen poor water because it is the proper function of the bacteria to move toward oxygen free water. It does this because doing so was advantageous in the past. The normal condition is the magnetosomes actually (in virtue of magnetic north and its correlation with oxygen free water) indicating (representing) the direction of oxygen poor water. So long as the relation holds it is accurately representing the direction of oxygen free water. Even when it misrepresents, say because of a magnetic bar held over it, the content of the representation is still the direction of oxygen free water,

because the correlation between oxygen poor water and the direction the magnetosome pulls in has held in the past, and that that is why the magnetosome functions as it does.

The point about representational content being the same despite different presentations and the content being different because of different functions, despite similar perceptual equipment.

7. Millikan expresses the worry that such a conception of concept fixation does not apply to human belief formations etc.

Bee dances work because they are all variations on a theme. but it is difficult to say what if there is anything biologically normal about beliefs in dinosaurs, quarks, etc.

she sort of shifts emphasis from the representations themselves to the capacity of human beings to form beliefs, which can be accounted for as biologically normal.

Why?

The design to learn, and how this proceeds in evolutionarily determined ways. “there are principles in accordance with which responses are selected by the system to try, and there are specific principles of generalization and discrimination, etc. which have been built into the system by natural selection” (292).

The broad analogy of the computer as structured in a certain way, but does things dependent upon inputs and programming (which are sometimes the same thing).

Fodor and pop-darwinism. But it seems to Millikan and to me, sort of silly to deny that human belief and desire formation capacities were not selected by evolution, as there is very little human behavior that is not in some way dependent upon intentional action.

She uses an argument suspiciously like that put forward by Fodor in *The Language of Thought*, with regard to this being the best or only theory in town.

The wheel analogy.

But does this mean that we can fix the content of human representational states in the way Millikan describes? Does she meet this objection.

8. The last section, which is important mostly for the third point regarding the cleavage in human beings between indicative and imperative representations. In that most animals possess representative states that are both descriptive and motivational the bees it not only has where the nectar cache is, but also tells them where to go.

The upshot is that an account of human representation formation and content is going to have to give an account of both the indicative and imperative representations. As well, as likely how inferences between them occur and what instantiates/enables these inferential functions.

9. Criticism: This all seems like it might end up being terribly circular. The content of representation is fixed by what would make for successful performance of a proper function of a consumer of said representation, and this is the rule of correspondence, and this correspondence must be there in order that there is a normal condition, which is the determining case for a content, which is not an average or statistical notion. How does one distinguish normal from abnormal conditions, with regard to content fixation. Sure the proper function of a heart is to pump blood, but it doesn't need any representations to do this. I realize this is lacking in clear articulation, and I apologize.

Does she actually meet the objection that such an account applies to human beings, because our natural function is to act, though in not necessarily specified ways by our evolutionary history.