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The Dilemma of Ahistorical Teleosemantics

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Abstract

Teleosemantic theories aim to naturalize mental representation through the use of functions, typically based on past selection processes. However, the historical dependence of these theories has faced severe criticism, leading some philosophers to develop ahistorical alternatives. This article presents a new dilemma for all ahistorical teleosemantic theories, focusing in particular on the theories proposed by Timothy Schroeder and Bence Nanay. These theories require certain dispositions in the producers or consumers of mental representations, but the appeal to dispositions puts the proponents in an undesirable position: mental content is either overly dependent on current circumstances or ultimately dependent on historical factors.

1 Introduction

Mental representations can be understood as physical states or events (e.g., neural firings in the brain) representing the world as being a certain way. These representations are true or correct just in the case that the world is as they represent it to be. They are false or incorrect when the world is not the way they represent it to be. In other words, mental representations have truth or correctness conditions—so-called “contents.” One of my mental representations is a belief that is true just in the case that Earth orbits around the sun. Similarly, one of my perceptual representations right now is correct when a flat and square object is in front of me (my computer screen).

By virtue of what do beliefs, perceptions, and other mental states represent the world? Teleosemantic theories give promising answers to this question. They are united by the claim that the representational properties of mental representations are grounded in biological functions. Moreover, the overwhelming majority of teleosemanticists (Millikan 1984; Dretske 1986; Papineau 1984; Neander 2017a; Shea 2018; Garson 2019b) assume that the biological functions of traits are grounded in their historical properties (e.g., their selection history). I will call theories “standard teleosemantics” in the case that they subscribe to both (1) the claim that representations are grounded in biological functions and (2) the claim that the biological functions of traits are grounded in their etiological history.

In effect, standard teleosemantics claims that a state or event is a mental representation with some content by virtue of having a particular history. Critics

have identified this historical grounding of contents as the central weak spot of standard teleosemantics. It has been argued that this historical nature makes contents epistemically opaque because the relevant history is unknown (Braddon-Mitchell and Jackson 1997; Häggqvist 2013, 80f.). Other critics complain that standard teleosemantics makes mental contents epiphenomenal properties with no causal or explanatory powers (Saidel 2001; Polger 2004, 175; Bickhard 2007, 576; Bauer 2017, 161f.). Furthermore, some authors (Martínez 2013, 2016; Hundertmark 2021) aim to show that standard teleosemantics has difficulties explaining productivity—the ability of representational systems to represent new states of affairs. The scariest threat by far, however, is the so-called “Swampman.” Swampman is an imaginary creature with no history whatsoever. By sheer luck, it resembles Donald Davidson right down to the atom (Davidson 1987, 443). Critics take issue with the fact that standard teleosemantics has to deny that Swampman and similar systems lack representational states with content because they lack history (Fodor 1994, 116ff.; Braddon-Mitchell and Jackson 1997, 488f.; Schroeder 2001, 178; Sebastián 2017; Peters 2014; Porter 2020).

Whereas most proponents of teleosemantics see these complaints just as challenges that need to be answered, others take a more radical approach. They develop ahistorical teleosemantic theories that hold on to the first claim of standard teleosemantics (that representations are grounded in biological functions) but abandon the second claim (that biological functions of traits are grounded in their selection history).

In this article, I develop a new dilemma for ahistorical teleosemantics. First, I show that theories of this kind presuppose certain dispositions of the systems that produce or use mental representations. I thus begin by clarifying the relevant sense of “disposition” in section 2. In section 3, I introduce the elaborate ahistorical teleosemantic theories by Timothy Schroeder (2001; 2004a, sec. 4; 2004b) and Bence Nanay (2011, 2014), show their reliance on dispositions, and introduce the dilemma spelled out in the upcoming sections. The dilemma consists of the fact that the required dispositions either depend on the actual body and environment, or these dispositions are partly determined by certain *ceteris paribus* conditions. In section 4, I show that the first option has the implausible implication that mental representations of organisms in unfavorable conditions or circumstances lack content. In section 5, I engage with the second horn of the dilemma and show that *ceteris paribus* conditions are plausibly determined by design and selection, so the resulting teleosemantic theories are not ahistorical in the first place. Section 6 shows how this dilemma affects other ahistorical theories and discusses possible responses, and section 7 draws a brief conclusion.

2 Dispositions

In this section, I develop an account of dispositions that will help me spell out how ahistorical teleosemantics refers to dispositions. This account can be read as a theory of dispositions or, more modestly, as a helpful approach or even as a stipulative definition.

Dispositions are properties that can be manifested under certain conditions. The classic example is fragility. A vase manifests its fragility by shattering, and it typically does so under certain stimulus conditions (e.g., when it has been struck). There is no

consensus on the question of how dispositions have to be analyzed. The simple conditional analysis (SCA; Ryle 1984; Goodman 1965; Quine 1960) maintains that something has a disposition because it would bring about a certain manifestation if the stimulus conditions were present. This analysis, however, is almost certainly false. According to an influential line of criticism, an object may have a disposition even if it fails to manifest this disposition under the relevant stimulus conditions. A water-soluble sugar cube, for example, may fail to dissolve if immersed in water because it is covered in cling film. In this case, the film acts as a so-called “mask” (Johnston 1992) or “antidote” (Bird 1998, 228) for the cube’s solubility.¹

A promising strategy to deal with masks is to add a *ceteris paribus* qualification to SCA (e.g., Bird 1998; Choi 2008). Although the cling film prevents the sugar cube from dissolving if immersed in water, it is still true that it would dissolve in water under the right conditions. This suggestion results in the following account: an object *O* has the disposition to *M* when *C* if and only if (iff) *O* would *M* if *C* under standard conditions. According to this analysis, a sugar cube covered in cling film has the disposition to dissolve when placed in water because standard conditions are such that the sugar cube is not covered in cling film. The question of what determines these standard conditions is, of course, crucial for this analysis (see sec. 5).

The *ceteris paribus* analysis is a promising way to deal with masked dispositions and is well equipped to account for intrinsic dispositions. However, it does not work well for extrinsic dispositions. The analysis says that the dispositions of an object depend on the behavior this object would show if it were placed in standard conditions and exposed to the stimulus. However, some dispositions (e.g., weight, vulnerability, and visibility) depend not only on the intrinsic features of the object but also on external factors (McKittrick 2003; 2018, chap. 8). Knights, for example, lack vulnerability (the disposition to be harmed when attacked) not only because of their inner constitution but mainly because of the armor they wear. Please note that the armor does not simply mask the knight’s vulnerability—as the cling film does with the sugar cube’s water solubility—but that the presence of the armor *prevents* the knight from being vulnerable. Of course, one might be skeptical with regard to this particular example. Nevertheless, McKittrick (2003; 2018, chap. 8) convincingly argues that at least some dispositions are not necessarily shared by perfect duplicates. This fact complicates the previously mentioned approach because the truth of disposition ascriptions does not simply depend on the behavior that an object would show if exposed to certain stimuli under standard conditions.

The lesson to draw from the possibility of extrinsic dispositions is that some dispositions require us to keep intrinsic and *relevant extrinsic properties* fixed in the antecedent of the counterfactual conditional. We might say that a knight in armor does not have the disposition to be vulnerable because a person with the same

¹ Other counterexamples to SCA are mimics (Smith 1977, 441; Lewis 1997, 153f.) and finkish dispositions (Martin 1994). Mimics make it the case that the required counterfactual conditional comes out true, although the object lacks the disposition in question. Finkish dispositions are such that an object is altered by the occurrence of the relevant stimulus conditions in such a way that it loses the disposition and consequently fails to manifest it. The account of dispositions developed in this article can cope with mimics (because of its reference to *ceteris paribus* conditions) and requires only minor modification (along the lines of Lewis [1997]) to deal with finks. For this article, however, mimics and finks are of no importance.

disposition-relevant properties (the intrinsic properties of the knight as well as those of the armor) would not be harmed if attacked under standard conditions. Consequently, we can say that an object *O* has the disposition to *M* when *C* iff an object with the same disposition-relevant properties as *O* would *M* when exposed to *C* under standard conditions.

Given a specification of manifestation *M*, stimulus conditions *C*, disposition-relevant properties, and standard conditions, this definition gives us clear-cut truth conditions for disposition ascriptions. Its reference to standard conditions enables it to deal with masks, and its reference to disposition-relevant properties accounts for extrinsic dispositions.

3 The dilemma of ahistorical teleosemantics

In this section, I point out a dilemma of ahistorical teleosemantics based on the fact that such a theory presupposes certain dispositions. I illustrate this dilemma using the two most elaborate ahistorical teleosemantic theories of Timothy Schroeder (2001; 2004a, sec. 4; 2004b) and Bence Nanay (2011, 2014).² However, I assume that the dilemma is a problem for any theory of this kind.

First, I examine Timothy Schroeder's theory (2001; 2004a, sec. 4; 2004b). Schroeder combines teleosemantics with an ahistorical theory of functions to ascribe mental representations to Swampman and similar systems. According to Schroeder, regulatory processes bestow functions on physical objects. Examples of natural regulatory processes are the regulation of DNA replication and the regulation of the human body temperature (Schroeder 2004a, 120). In general, natural regulation involves regulatory systems. Based on the work of Fred Adams (1979), Schroeder (2004b, 95f.) holds that such systems require the following:

1. A capacity to carry the information that the goal state has been attained;
2. A feedback system by which information about the system's state variables and its output values are fed back into the system as input values; and
3. A causal dependence between the information that is fed back into the system and the system's performance of successive operations, which minimize the difference between the present state of the system and its goal state.

The details of this theory are not critical to this article. What is crucial, however, is that according to Schroeder's theory, regulatory systems must have the disposition to change a state as long as it does not coincide with the goal state. According to Schroeder, regulatory systems confer functions to objects. More precisely, some object has the function to φ , by virtue of being regulated toward φ -ing (Schroeder, 2004a, sec. 2). In this article, I leave aside whether natural regulation bestows functions on traits; for a critical perspective on similar theories of biological functions, see Garson (2016, chap. 2).

² Mark Bauer (2017) explicitly uses the classic theory of functions by Robert Cummins (1975) for his ahistorical teleosemantic theory. Because this theory is less well worked out than Schroeder and Nanay's alternatives, and I suspect the same problems to arise, I do not focus my article on this account. Paul Griffiths's (2016) ahistorical teleosemantic theory of biological information is beyond the scope of this article, which is solely concerned with theories of mental content.

How does Schroeder combine his theory with teleosemantics? According to him, a mental representation is a structure whose features have the function of corresponding to, covarying with, or indicating some particular state of affairs (Schroeder 2001, 180f.). To take the classic example, some neural activation in a toad represents the presence of prey just in the case that it has the function to covary with the presence of prey. Schroeder's theory of function requires systems with regulatory dispositions. Consequently, his teleosemantic theory requires that a producer of a mental representation of p has the disposition to change the representation when it does not correspond with p . As we will see in the following sections, this aspect of Schroeder's theory is highly problematic.

Next, I discuss Bence Nanay's teleosemantic theory (Nanay 2011, 2014). Nanay's main reason for rejecting standard teleosemantics is based on his doubts concerning the coherence of the underlying historical theory of functions. In several articles (Nanay 2010, 2011, 2013b, 2014), he argues that historical theories of function have to individuate trait types and that there is no noncircular way to do so. Consequently, Nanay's alternative theory bases functions on trait tokens rather than types. The main idea is that a trait of an organism has its function to φ iff the trait's φ -ing would contribute to the organism's inclusive fitness (Nanay 2010, 421f.). According to Nanay, even a malfunctioning token heart has the function of pumping blood because doing so would contribute to fitness (Nanay 2010, 427). Again, I leave aside the question of whether this theory works as a theory of functions; for a critical assessment, see Neander and Rosenberg (2012, sec. 1), Artiga (2014), Garson (2016, sec. 6.3; 2019a, 86:1154f.), Bauer (2017, sec. 2), and Leahy and Huber (2017, sec. 3).³

Nanay restricts his teleosemantic theory to so-called "pragmatic representations." These representations are supposed to be the immediate mental antecedents of action, and they represent the objects in the world as having certain properties relevant for action (Nanay 2014, 805f.): "Suppose that you want to pick up a cup. In order to perform this action, you need to represent the cup as having a certain spatial location; otherwise, you would have no idea which direction to reach out toward. You also need to represent it as having a certain size; otherwise, you could not approach it with the appropriate grip size. And you also need to represent it as having a certain weight; otherwise, you would not know what force you need to exert when lifting it" (Nanay 2014, 806).

Nanay subscribes to the claim that "pragmatic representations represent action-properties if and only if they have the function to carry information about these action-properties" (Nanay 2014, 806). A particular neural activity in a toad, for example, represents prey in a specific location, just in the case that it has the function

³ Besides the problems already mentioned in the literature, it is also questionable whether Nanay's theory is ahistorical and naturalistic at all. First, one might think his theory is not ahistorical because it refers to inclusive fitness. Inclusive fitness is partly a historical concept because it includes the fitness of kins, where "kinship" depends on lineages. (Thanks to Javier Suarez Diaz for pointing this out.) Second, it is questionable whether Nanay's theory of functions is naturalistic enough for the purposes of teleosemantics. In response to Neander and Rosenberg (2012), Nanay (2013b) says that the truth of the φ -ing of the trait would contribute to the organism's inclusive fitness, and thus, the correctness of function ascriptions depends in part on our explanatory interests. Prima facie, this feature of his account does not sit well with the teleosemantic project of explaining intentionality (and thus explanatory interests) in terms of functions. (Thanks to one of the reviewers for pointing this out.)

to carry information about prey at this location. The resulting ahistorical teleosemantic theory says that “a pragmatic representation represents action-properties if and only if its carrying information about these action-properties would contribute to the organism’s fitness” (Nanay 2014, 807).

Of course, pragmatic representations do not directly contribute to fitness by carrying information about action properties. Instead, they enable the organism to carry out successful action (Nanay 2014, 806f.). However, they must be used in a fitness-conductive way to do this. Consequently, Nanay’s theory requires that for every pragmatic representation, there is at least one system with the disposition to increase the organism’s fitness if the representation carries information about the represented states of affairs.⁴ As I will argue, however, this requirement is problematic.

As we have seen, Schroeder’s and Nanay’s ahistorical teleosemantic theories demand the producers or consumers of mental representation to have dispositions with certain manifestations and stimulus conditions. Schroeder’s theory requires the producers of mental representations to have a disposition with the manifestation that *the representation is changed* when the stimulus condition *the representation does not correspond to the represented state of affairs* occurs. Nanay’s theory implies that there are systems with a disposition that manifests by *contributing to the inclusive fitness of the organism* if the stimulus condition *the representation carries information about the represented states of affairs* occurs.

As we have seen in section 2, an object has a disposition iff an object with the same disposition-relevant properties would show the manifestation when exposed to stimulus conditions under *ceteris paribus* conditions. Whether producers and consumers of mental representations fulfill these conditions for the stimulus conditions and manifestations specified by Schroeder’s and Nanay’s teleosemantic theories depends on the question of whether the body and environment in the antecedent are specified by the *actual* body and environment (because these are disposition-relevant properties) or whether they are specified by *ceteris paribus* conditions. As I show in the following sections, this creates a dilemma for ahistorical teleosemantics.

If Nanay and Schroeder take the actual body of the organism or its actual environment to be relevant for functions and contents, the resulting contents will be too volatile, as I show in the next section. Consequently, ahistorical teleosemantics should draw the boundaries of representation producers or consumers and the corresponding disposition-relevant properties narrowly. However, this would imply that the state of the body and environment in the antecedent of the counterfactual will be determined by *ceteris paribus* conditions. Section 5 argues that this option undermines the whole project of ahistorical teleosemantics because the most plausible interpretation of these conditions will refer to historical properties or even past processes of selection.

⁴ Strictly speaking, Nanay’s theory not only requires consumers to have this disposition according to my flexible account from section 2 but also according to SCA. This fact, however, makes my argument even simpler: As we have seen in section 2, SCA implies that some system loses its disposition as soon as it is masked. So, section 4 can be read as showing that the disposition required by Nanay can easily be masked even though the pragmatic representation does not lose its content.

4 Disposition-relevant properties and content loss

Ahistorical teleosemantic requires representation producers and consumers to have certain dispositions. As we have seen, dispositions come with sets of disposition-relevant properties. Whereas an object's fragility depends on its intrinsic properties (e.g., having a particular microstructure), a person's vulnerability also depends on external properties (e.g., wearing armor). So, in order to judge whether producers and consumers possess certain dispositions, we need to know which properties are relevant for these dispositions.

Disposition-relevant properties always include the intrinsic properties of the disposition bearer. Because ahistorical teleosemantics requires the producers and consumers to have certain dispositions, it is crucial to identify the boundaries of these systems. Under the assumption that mental representations are brain states, it is plausible that their producers and consumers at least have to consist of information-processing parts of the brain.⁵ The intrinsic properties of these brain parts are certainly disposition relevant. There are two ways to treat properties of the organism's brain, body, or environment as relevant for whether representation producers or consumers have the dispositions required by ahistorical teleosemantics. One can either draw wider boundaries for representation producers and consumers or say that the embeddedness in this brain, body, or environment is an extrinsic disposition-relevant property. Because both options treat properties of the brain, body, and environment as disposition relevant in the same way, I do not have to consider both options separately but treat them as equivalent for my purposes.

In this section, I argue that ahistorical teleosemantics implies that mental contents can be too easily lost. This is on the condition that those accounts treat properties of the actual environment or body as disposition-relevant for representation producers and consumers. Ahistorical teleosemantic theories imply that an organism loses its representational capacities when the representation producers or consumers lose the required disposition. If properties of the actual environment or body are relevant for these dispositions, some changes in these properties will result in such fateful disposition loss.

I will begin by showing that this yields problematic consequences for Schroeder's theory. Schroeder requires that mental representations are brought about by systems with the disposition to change the representation when it does not correspond with the represented state of affairs. If the actual environment, body, and all parts of the brain are relevant, this disposition requires the truth of the following counterfactual conditional: if the representation did not correspond to the represented state of affairs, it would be changed. Under ideal conditions, this is unproblematic. A healthy visual system, connected to healthy eyes and in a suitable environment, certainly would change brain states to correspond to various features of objects (e.g., colors, shapes, distances). In nonideal conditions, however, the counterfactual conditional will become false. The environment may lack light, lack a suitable medium to transmit light, or contain barriers such as blindfolds. The body may be unsuitable when the eyes or optical nerves are severed or the visual system has a lesion. So, these external

⁵ I will restrict my argument to internal mental representations. The argument would be more difficult but not fundamentally different for mental representations not realized by brain states (Clark and Chalmers 1998).

circumstances will prevent visual-perceptual representations from having contents by making the previously described counterfactual conditional false.

Furthermore, it is not even evident that an intact visual system is required for visual representations. For example, Chatterjee and Southwood (1995) show that even patients suffering from a damaged occipital cortex can have visual imagery. However, severed optic nerves, eyes, or a pitch-black environment certainly do not prevent organisms from having perceptual representations (e.g., visual hallucinations or imagery). Similar considerations hold *mutatis mutandis* for most mental contents ascribed by Schroeder's theory because the correspondence between representation and the represented states of affairs almost always depends on the brain, body, and environment. So, it should not treat the actual body or environment as relevant for the disposition to regulate.

Let us take a look at Nanay's theory. It implies that every pragmatic representation requires a brain subsystem with the disposition to increase the organism's inclusive fitness if the representation carries information about the represented states of affairs. Whether a subsystem of the brain increases inclusive fitness also depends on other parts of the brain, the body, and the environment. Suppose the actual state of all of these factors is relevant for the disposition required by Nanay's theory. In that case, this disposition requires the truth of the following counterfactual conditional: if the representation carries information about the represented state of affairs, some system will increase the organism's inclusive fitness. Again, this conditional depends not only on a healthy brain but also on a functioning body and a certain kind of environment. On the one hand, the environment may be bad. There may be no conspecifics, so sexual reproduction is impossible, or the animal's movement may be somehow limited. On the other hand, an animal may be under species protection in a highly sheltered environment and subject to artificial breeding. In these environments, no possible behavior would contribute to fitness. But not only the environment but also the body may falsify the previously described counterfactual conditional. For example, the body may not function properly because of broken bones, severed muscles, or a severe disease that weakens it. Furthermore, the brain may prevent a correct pragmatic representation from benefiting the organism's fitness. Think of total locked-in syndrome: "This condition consists of virtually total immobility, including all eye movements combined with preserved consciousness, i.e., existing inner monologue and awareness of external and internal stimuli as far as the corresponding pathways for sensory perception are spared by the lesion" (Bauer et al. 1979, 84, my emphasis).

All of these conditions prevent pragmatic representations from playing a role in fitness contribution. For Nanay, however, this prevents them from having content. Because having contents is arguably a necessary condition for being a representation, these states would not be pragmatic representations in the first place.

We cannot simply refer to our intuitions when it comes to whether these consequences are acceptable. After all, *pragmatic representation* is a technical term introduced by Nanay for particular theoretical purposes. Consequently, the evaluation of consequences depends on the theoretical roles pragmatic representations are supposed to play. According to Nanay, the essential theoretical role of these representations is to distinguish actions from mere bodily movements. Whereas actions are triggered by pragmatic representations, mere bodily movements are not

(Nanay 2013a, sec. 2.2). So, we can say that an organism that loses its pragmatic representations is incapable of acting.

Of course, we may accept that a person suffering from total locked-in syndrome cannot perform actions. After all, such a person also cannot perform bodily movements. However, organisms suffering from a significant injury or disease or animals in an unfriendly environment or under species protection certainly perform actions. Consequently, Nanay should not treat the actual body or environment as relevant for the disposition required by his theory.

This first horn of the dilemma has some parallels with an influential objection to causal-role theories of functions (e.g., Neander 1991, 181ff.; Garson 2019b, sec. 4). According to this criticism, a theory of proper functions should not demand that traits with the function to φ need to have the disposition to φ because this would prevent dysfunctionality. Schroeder and Nanay's theories can indeed provide an explanation of how systems can be dysfunctional. However, just like causal-role theories, they fail because functions and contents are more stable than the dispositions of complex systems.

5 *Ceteris paribus* conditions and design

In the last section, I showed that Schroeder's and Nanay's theories should not treat organisms' actual bodies and environments as disposition relevant and thereby relevant to representational content. However, this does not have to be a problem for these theories. After all, Schroeder and Nanay may say that unsuitable bodily and environmental conditions do not *remove* but only *mask* the content-relevant dispositions. In this section, I argue that the most plausible reading of this suggestion makes implicit reference to design and selection. Such reference would introduce a historical element inconsistent with the aspirations of ahistorical teleosemantics.

Let us take another look at a sugar cube covered in cling film. The sugar cube has the disposition to dissolve in water even though the cling film, acting as a mask, would prevent this disposition from manifesting. My account from section 2 gives the correct verdict regarding the sugar cube covered in cling film. After all, an object with the same intrinsic properties as the sugar cube would dissolve when exposed to water under standard or *ceteris paribus* conditions. This solution crucially depends on the plausible assumption that *ceteris paribus* conditions for the water solubility of sugar cubes do not include cling film.

How are the standard conditions for the dispositions of objects determined? Sungho Choi (2008, 814) argues that the standard conditions depend on the disposition in question. He points to the fact that the superconductivity of a material depends on its behavior at very low temperatures, whereas the fragility of some materials depends on the actual temperature. A piece of aluminum, for example, is superconductive because it would manifest this superconductivity at -271.95°C . In contrast, a portion of water is not fragile even though it would break when struck at -271.95°C . Consequently, standard conditions are determined by the disposition in question.

Let us come back to ahistorical teleosemantics. Nanay and Schroeder may say that standard conditions for content-relevant dispositions of brain parts are such that these dispositions are maintained even if these brain parts are contingently located in an unsuitable body or environment. This strategy is quite promising. I agree that healthy perceptual systems have the disposition to regulate mental representations

to correspond with environmental conditions. Similarly, healthy systems using pragmatic representations have the disposition to increase the organism's inclusive fitness if the pragmatic representations carry information about the environment.

Although both disposition ascriptions are plausible, I maintain that the standard conditions for both dispositions are intimately tied to the notion of design and that design is an inherently historical notion, plausibly referring to selection processes. Let me unpack these claims. As shown in the last section, perceptual systems will not regulate mental representations, and systems using pragmatic representations will not contribute to fitness, if they are not embedded in a *normal system*—a system of organs and a suitable environment that is carefully fine-tuned and free from pathology and disturbing factors. Perceptual systems will not regulate mental representations in the required way if they are not adequately connected to the eyes. Also, regulation will not occur if the eyes are not correctly connected to muscles, if these muscles are not adequately regulated by the brain, if it is dark, and so on. Furthermore, each of these systems has to work properly, and the environment has to be appropriate. Blindfolds and diseases of the eye, for example, will keep perceptual systems from regulating mental representations. Similarly, systems using pragmatic representations cannot contribute to fitness if they are not properly connected to muscles. Also, the muscles and the bones of the organism need to work properly, and the environment has to be such that fitness-relevant interaction is possible in the first place. So, plausibly, the producers and users of mental representations have the dispositions required by ahistorical teleosemantics only under specific standard conditions. These standard conditions for the dispositions in question must be such that the relevant system is embedded in a fine-tuned, normal system that is free of pathology and disturbing factors.

Normal systems of this kind, however, are plausibly determined by design. According to Karen Neander, “a normal system is in the first instance one [...] that is disposed to function ‘as designed’” (Neander 2017b, 61). So, if we ascribe the dispositions ahistorical teleosemantics requires to producers and consumers of mental representations, we would implicitly think of them as being embedded in a system where everything works *as designed*. This reference to design makes the dispositions required by Schroeder's and Nanay's teleosemantic theories dependent on history. After all, the notion of design is historical. This historicity is incompatible with the basic idea of ahistorical teleosemantics. What is more, the notion of design applied to biological systems is tightly connected with natural selection and other selection processes (Neander 2017b; Mitchell 1995; Millikan 1984). This connection, however, makes the teleosemantic theories of Schroeder and Nanay dependent on selection and thereby only a variation of classical teleosemantics with all of its alleged problems, such as epistemic opacity, epiphenomenalism, and of course, the dreaded Swampman.

6 The scope of the dilemma and possible responses

As we have seen, Schroeder and Nanay's teleosemantic theories are subject to the dilemma of ahistorical teleosemantics. Either the resulting representational contents are too ephemeral, or the theories implicitly refer to historically determined normal conditions. In this section, I show to what extent this dilemma affects other ahistorical theories and consider possible replies.

The dilemma of ahistorical teleosemantics arises for Schroeder's and Nanay's theories because (1) they presuppose that token representations, representation producers, or representation consumers have certain dispositions, and (2) the manifestation of these dispositions in the presence of stimulus conditions depends causally on the broader environment.

To be sure, neither Schroeder nor Nanay explicitly mentions dispositions. However, as I showed in section 3, their theories *de facto* require that representation producers or representation consumers have certain dispositions. Thus, condition 1 is satisfied. Furthermore, Schroeder's theory requires that producers of mental representations have the disposition to change the representation if it does not correspond to the represented state of affairs. In contrast, Nanay's theory requires that consumers of representations have the disposition to contribute to the organism's inclusive fitness if the representation carries information about the represented states of affairs. The manifestation of both dispositions is causally dependent on larger parts of the organism's brain, body, and environment. Consequently, both theories also satisfy condition 2.

I claim that any theory of mental content that satisfies conditions (1) and (2) is subject to the dilemma of ahistorical teleosemantics. Let us consider the theory of Mark Bauer (2017), who bases his ahistorical teleosemantic theory on a systemic theory of functions (Cummins 1975). In effect, Bauer requires that for a mental representation to have content p , there must be a producer with the disposition to produce that representation when p and a consumer with the disposition to produce adaptive behavior in response to the mental representation. Bauer requires dispositions on the part of producers and consumers of mental representations (and thus satisfies condition 1). Furthermore, manifesting these dispositions in the presence of stimulus conditions certainly depends causally on the broader environment (and thus satisfies condition 2). Consequently, the dilemma of ahistorical teleosemantics also arises for Bauer's theory.

There are several ways in which proponents of ahistorical teleosemantics can respond. The least promising response is undoubtedly to bite the bullet and accept that the content of mental representations is highly volatile. As we saw in section 4, this strategy fits neither our intuition nor the explanatory roles that mental representations are supposed to play. A more promising strategy might invoke standard conditions, as was done in section 5, but deny that these conditions are historical. Suppose proponents of ahistorical teleosemantics take this route. In that case, however, they owe us an account of standard conditions that endows Swampman with mental representations, avoids worries about the individuation of trait types, and ensures that representational content is neither opaque nor epiphenomenal.

However, the most promising way to escape the dilemma of ahistorical teleosemantics is to abandon the claim that the contents of mental representations are ultimately determined by the dispositions of token representations, producers, or consumers and to admit that functions and contents depend on the dispositions or activities of types (see, e.g., Piccinini 2020a, chap. 12; 2020b). Although these kinds of theories may be technically ahistorical, they are subject to Nanay's concerns about the individuation of trait types, and it is also hard to see how they avoid epiphenomenalism, opacity, and Swampman-like counterexamples.

7 Conclusion

The fact that standard teleosemantics makes explicit reference to history is fraught with criticism. These problems led some teleosemanticists to develop ahistorical theories of mental representation. As I have shown in this article, these alternatives require producers and consumers of mental representations to have dispositions whose manifestation causally depends on the broader environment. This condition, however, opens up a dilemma for ahistorical teleosemantics. If the actual body or environment of the organism is relevant for the required dispositions, mental contents are unacceptably dependent on actual circumstances. This consequence can be avoided by appealing to standard conditions. This strategy, however, plausibly introduces design and selection as historical elements, which is diametrically opposed to the aspirations of ahistorical teleosemantics.

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