

THE PHENOMENAL BRAIN:
MAKING ROOM FOR A PHENOMENAL-NEURAL TYPE IDENTITY
THEORY OF PHENOMENAL CONSCIOUSNDES

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

**THE PHENOMENAL BRAIN:
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THEORY OF PHENOMENAL CONSCIOUSNESS**

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INTRODUCTION

It is currently popular among physicalist philosophers of mind to suppose that phenomenal consciousness is essentially a representational phenomenon and that a representational theory of phenomenal consciousness will prove to be the best sort of reductive theory physicalists can offer. In this dissertation I take steps to show that this is not the case and to suggest that phenomenal-neural type identity theory should be the preferred physicalist theory of phenomenal consciousness. Specifically, I consider the prospects for Michael Tye's PANIC theory. The PANIC theory is the most fully developed, and perhaps most promising, representational theory of phenomenal consciousness to date. The main thesis of Tye's theory is the reductive claim that phenomenal character is one and same as a certain sort of representational content. Tye argues for this thesis by appealing to its explanatory power. I show, however, that the thesis in question is inessential to the relevant explanatory features of the PANIC theory and suggest that there is room to develop a version of phenomenal-neural type identity that, when supplemented with those features, enjoys all of the explanatory benefits the PANIC theory. Furthermore, I argue that by identifying phenomenal character with representational content Tye faces the principled problem of being able to tell a plausible story about how phenomenal character is causally relevant to behaviors involving phenomenally conscious sensory states. This is a problem the phenomenal-neural type identity theory can easily avoid. Though these considerations alone may not establish the superiority of the phenomenal-neural type identity theory over that of the PANIC theory, I hope to demonstrate that the phenomenal-neural type identity approach reducing phenomenal consciousness has much more going for it than is typically acknowledged.

and that the phenomenal-neural type identity theory I develop is a serious rival to the PANIC theory.

Chapter 1 is largely stage setting. In it I introduce the subject matter of phenomenal consciousness and pinpoint precisely what aspects of consciousness are under investigation. I present what I take the primary philosophical challenge of phenomenal consciousness to be generally and detail the relevant metaphysical and methodological assumptions at work in the formulation and defense of the two theories under consideration. I will be assuming that in light of where we are currently in our theorizing about the nature of phenomenal consciousness, it is wise to grant these assumptions for the purposes of meeting what I take to be the primary philosophical challenge of phenomenal consciousness.

In the first chapter I also discuss what in recent decades have been considered to be the biggest challenges that phenomenal consciousness poses for physicalism and point out that, contrary to what advocates of representationalism have suggested, the representational approach to reducing phenomenal consciousness is by no means required to meet these challenges.

In Chapter 2 I first present both the PANIC theory and the competing phenomenal-neural type identity theory I advocate explaining in some detail the main features of each. In the third and fourth sections of this chapter I consider what bearing the question of whether phenomenal character is multiply realized has on my project. The reason for doing so is that the PANIC theory can be regarded as a certain kind of psychofunctionalist view about phenomenal consciousness. A virtue of psychofunctionalism about mental phenomena generally is that it can easily

accommodate the possibility that creatures or systems that differ from humans in physical constitution and composition enjoy the same types of mental states, properties and processes as humans while neural type identity theory can't. If this virtue of psychofunctionalism about phenomenal consciousness in particular amounts to a major advantage over phenomenal-neural type identity theory, then such an advantage would count decisively against the phenomenal-neural identity theory presented in the section of this chapter regardless of whether it enjoyed all the explanatory virtues of the PANIC theory. I argue, however, that this virtue of psychofunctionalism about phenomenal consciousness does not amount to such an advantage. I demonstrate that the phenomenal-neural type identity theory is no less liberal than psychofunctionalism with regard to how widely phenomenal consciousness is distributed among organisms with carbon-based nervous systems and so can just as easily accommodate the possibility a number of different types of carbon-based organisms enjoy phenomenal consciousness. I then argue that psychofunctionalism is too liberal with regard to creatures or systems that are not carbon-based. That psychofunctionalism is too liberal with respect to such creatures or systems counterbalances the "chauvinism" of the phenomenal-neural type identity regarding such creatures or systems. Thus, my overall project of demonstrating that the phenomenal-neural type identity theory presented in this chapter is a serious rival to the PANIC theory is undermined by any legitimate concerns about the multiple realization of phenomenal character.

In Chapter 3 I consider what are arguably some of the most puzzling phenomena about phenomenal consciousness. Such puzzles include the intensionality of 'looks' discourse, as well as a number of puzzles related to the fact that certain qualitative

features of bodily sensations are felt to be located throughout the body (e.g. phantom limb pain). The PANIC theory *qua* representational theory of phenomenal consciousness does a particularly good job of explaining these puzzles. Though the PANIC theory is formulated in such a way that certain of the distinctively representational features of the theory can explain these puzzles, I demonstrate that the main reductive thesis of PANIC theory is not required to explain them. Only the hypothesis that there are representations operating at the level of phenomenal consciousness playing a certain functional / computational role does any of the explanatory work, and not the further the reductive claim that phenomenal character is one and the same as a certain sort of representational content. Thus, when it comes to explaining the puzzling phenomena considered in this chapter, the PANIC theory enjoys no explanatory advantage over any theory of phenomenal consciousness according to which there are representations operating at the level of phenomenal consciousness that play the requisite functional / computational role. Since the phenomenal-neural type identity theory presented in Chapter 2 is one such theory, then the PANIC theory enjoys no explanatory advantage over it with respect to these puzzling phenomena.

In Chapter 4 I examine Tye's argument for the claim that the PANIC theory explains the so-called "transparency" or "diaphanousness" of phenomenal consciousness, which Tye regards as particularly important in motivating his theory. Roughly, this is the idea that when one introspects one does not find that one is directly aware of phenomenally conscious states (e.g. perceptual experiences or bodily sensations) or any intrinsic aspects thereof. Rather, what one seems to discover is that one is only aware of qualities that appear as if they are qualities of items in one's immediate environment, or parts of one's

body. However, it is rather hard to get a clear grasp of what all this means exactly. This is due in part to the fact that it is extremely difficult to describe the phenomenon without having to resort to theoretically loaded terms. And this, of course, makes it difficult to assess whether Tye succeeds in making a convincing case for his claim that his theory has the resources to explain transparency. Despite Tye's most recent efforts to clarify his appeal to transparency in *Consciousness, Color and Content*, the argument he offers is quite complex and seemingly not well understood by the few commentators who have ventured to critique it. In Chapter 4 I try to clear things up a bit and argue that Tye's appeal to the transparency of visual experiences as a way of motivating the PANIC theory could only be for the benefit of those already on board with the idea that visual phenomenal character is essentially an intentional (i.e. representational) feature of visual experiences. Thus, anyone who antecedently denies this will be unmoved by Tye's argument that the PANIC theory explains the transparency of visual experiences. And anyone who already grants that visual phenomenal character is essentially an intentional feature of visual experiences doesn't need to be shown that the Content Thesis explains transparency, since to accept that visual experiences are transparent is to already grant that visual phenomenal character constitutes the representational content of visual experiences. Since, according to the view I endorse, phenomenal characters are neural properties exemplified by token neural events that represent non-essentially, I do deny that the data he cites as explananda in his appeal to transparency are of any significance.

Finally, in Chapter 5 I argue that by identifying phenomenal character with representational content Tye takes on the burden of telling a plausible story about how exactly phenomenal character is causally relevant to cognitive and sensorimotor

processes that involve phenomenal character. I take it that a reductive theory of phenomenal consciousness ought to be able to provide the resources to explain this and consider what appears to be the only two ways this might be done on the PANIC theory. One way guarantees the causal efficacy of phenomenal characters, but has the implausible consequence that all token phenomenal states are veridical (i.e. accurately represent). The other way permits misrepresentation, but requires denying that phenomenal character is causally efficacious with respect to behaviors involving phenomenally conscious states. Since the phenomenal-neural identity theory I advocate avoids this dilemma while retaining all of the relevant explanatory features of the PANIC theory, then we have good reason to prefer the phenomenal-neural type identity theory presented in Chapter 2 over the PANIC theory.

CHAPTER ONE

INTRODUCING PHENOMENAL CONSCIOUSNESS: CHALLENGES & METHODOLOGY

In this first chapter I orient the reader to the topic of phenomenal consciousness generally and put my project into context. In the first section I introduce the subject matter of phenomenal consciousness and pinpoint precisely what aspects of consciousness are under investigation in chapters to come. In the second section I briefly explain what I take physicalism about the mental to be and present what in recent decades have been considered to be the main philosophical challenges that phenomenal consciousness poses for physicalism. I point out that, contrary to what advocates of representationalism have suggested, representationalism is by no means required for the physicalist to adequately meet these challenges. In the third section I explain what I take the primary philosophical challenge of phenomenal consciousness to be. Briefly, it is one of constructing a theory of phenomenal consciousness that has *something* illuminating to say about its nature. In the course of explaining this challenge I detail the relevant metaphysical and methodological assumptions at work in the formulation and defense of the views under consideration. I will be assuming that in light of where we are currently in our theorizing about the nature of phenomenal consciousness, it is methodologically wise to grant these assumptions for the purposes of meeting what I take to be the primary philosophical challenge of phenomenal consciousness.

I. Phenomenal Consciousness & Phenomenal Character

Phenomenal character, as the term is used by philosophers of mind who find it useful, refers in the first instance to “what it is like” to undergo certain paradigmatic conscious

states or processes. For example, consider what it is like to see something green, smell a rotten egg, or hear a running lawn mower. Or consider what it is like to have a tickle in your nose, an ache in your shoulder, or to have a sensation of heat from a flame on the palm of your hand. There is also something it is like to force yourself to memorize a phone number, imagine a clear blue sky, or reason through a math problem subvocally. In fact, there is *something* it is like for you to be reading this sentence. Pick any sort of conscious state or process that you can introspect and you will discover that there is something it is like to undergo that state or process, something - perhaps a few different things - that is distinctive of undergoing that state or process. There are of course clear differences in what it is like to undergo the sorts of conscious states and processes just mentioned, but they all share the property of there being *something* it is like to undergo any one of them. How they each differ with respect to what it is like to undergo them, as well as how they are similar, depends on what the *something* in question is.

This appeal to “what it’s likeness” is probably the best way to initially get a handle on what it is about phenomenal consciousness that makes it philosophically interesting, and so the best way to get at what philosophers are talking about when using the technical term *phenomenal character*. After all, assuming you have smelled a rotten egg, seen something green, memorized a phone number, etc. you do have some idea of what is introspectively distinctive of each of these states and processes. You are not at a complete loss as to what it is you are being asked to think about when you are asked to consider “what it’s like” for you to undergo these states and processes. Subsequently, I suggest that “what it’s likeness” count as “the mark” of phenomenal consciousness. At the very least, when we are theorizing about phenomenal consciousness we are theorizing

about “what it’s like” to undergo certain conscious states and processes. Thus, I take a theory of phenomenal consciousness to be a theory of what it’s like to undergo certain conscious states and processes, and so a theory of phenomenal character first and foremost.¹

Though appealing to this notion of “what it’s likeness” to characterize phenomenal character is useful in pointing us in the general direction of what sorts of mental phenomena are under investigation we can, and should, take certain precautions against any confusion that this rather quick and dirty way of characterizing phenomenal character is likely to generate before any substantive theorizing about it gets under way. Toward this end I suggest we apprise ourselves of certain ambiguities that talk of “what it’s likeness” and “phenomenal character” admit and pinpoint exactly what sorts of conscious phenomena are at issue in chapters to come.

Let’s start with the ambiguities. There are a number of distinct senses of *phenomenal character* that we should bear in mind when theorizing about phenomenal consciousness.

First Sense: A qualitative property.

Qualitative properties include:

Color properties. For example, the blueness of the surface of a blueberry, its hue, saturation or brightness.

Sound properties. For example, the pitch, volume, or timbre of middle C played on a harpsichord.

Odor and Taste properties. For example, the bitterness of an orange peel; the sweetness of apple juice; the smell of basil; the bouquet of a red wine.

Bodily sensation properties: the itchiness of itches; the tickliness of tickles; the stinging or achiness of pains.

¹ Subsequently, in what follows I use *phenomenal character* and *what it’s like to...* to refer to the same general sort of phenomenon.

This first sense of *phenomenal character* is strictly neutral with regard to the metaphysical nature of qualitative properties, but since the views under consideration are non-dualist it will be assumed that according to this sense of *phenomenal character* qualitative properties are broadly physical properties. And, though I have just provided examples of qualitative properties using locutions of the form *Q of x* (where Q is a qualitative property and x is a non-mental item), I will also suppose that this first sense of *phenomenal character* is neutral with respect to what such qualities (i.e. phenomenal characters) are qualities of, if anything. Thus, this sense of *phenomenal character* is also neutral about whether the existence of qualitative properties depends on that of phenomenally conscious mental states and processes, as well as any particular sort of non-mental physical items.

Second Sense: What qualitative properties themselves are like.

On its face there seems to be nothing more to a qualitative property than the property itself. Look at a ripe tomato and the very red hue that appears to saturate its surface and there seems to be nothing more, and nothing less, than an instance of a certain red hue. However, there are similarity relations that hold among a given qualitative property and other properties, both qualitative and non-qualitative. Upon viewing a green pepper one can introspect and notice that what appears to be the greenness saturating the surface of the pepper is quite dissimilar to the visually experienced roundness of the pepper and differs in hue from other introspectively discernable color qualities. Subsequently, we can always ask what a given qualitative property *is like* and our answer comes in one of two varieties. We can either ignore the similarity relations the property has to other properties and tell ourselves that the property is *like that!* as we mentally ostend an

instance of the property in question, or we can invoke the similarity relations the property has to other properties to describe ways the property in question either does or does not resemble other properties, both qualitative and non-qualitative.

Third Sense: What it is like to enjoy sensory awareness of qualitative properties.

It is easy to be tempted by the Berkeleyan thought that sensory awareness of a qualitative property is somehow constitutive of the property itself; that there are no qualitative properties without sensory awareness of qualitative properties. Perhaps so, but what it is like to be sensorily aware of a given qualitative property, the qualitative property itself, and what a qualitative property is like are all conceptually distinct. If they are in fact distinct, then what it is like to be sensorily aware of a qualitative property is a property of the sort of sensory awareness in question, not the qualitative property of which one is sensorily aware (e.g. redness, itchiness), or what the qualitative property itself *is like*. Consider an example. Suppose that you are currently reading this on a sheet of paper the facing surface of which visually appears to be saturated with whiteness. Call this whiteness ‘W’, a paradigmatic qualitative property. As you read you are, in one perfectly natural way of speaking, *visually aware of W* though you are not concentrating on, focusing on, or otherwise attending to W. That is, so long as you have normal vision, your eyes are open and you are looking in the direction of the surface of the page W is “present in visual phenomenal space” regardless of whatever other sensorimotor or cognitive processes you might be engaged in while awake and alert. Now at this point it is at least coherent to ask three distinct questions: What is this visual awareness of W? What is W? What is W like? If we do not assume that your visual awareness of W is an act-object relation that holds between your visual awareness of W (act) and W

(intentional object), then your visual awareness of W and W might be regarded as being one and the same thing. If so, then the first two questions are asking the same thing and the third question is in asking about W is asking about visual awareness of W. However, if we do assume that your visual awareness of W is an act-object relation, then the first two questions are asking about two different things, namely, your visual awareness of W and W. If so, then the third question is ambiguous between asking about similarity relations between W and other properties and asking about similarity relations between your visual awareness of W and any sort of sensory awareness of any property both qualitative and non-qualitative.

Fourth Sense: What it is like to attend to a qualitative property.

Though it is difficult to provide an analysis of what it is to *attend to* something, there is a distinctive type of mental process normal cognizers are introspectively acquainted with that is typically described as “focusing one’s attention on...”, “concentrating on”, or “paying attention to...”. For example, you could stop reading for a moment and focus your attention on the following: W; the introspectively discernable sound properties that seem to come from your immediate environment; those of the faint afterimages that pervade your visual field; or those of whatever bodily sensations you are currently undergoing. When one is attending to something one is poised to perform certain cognitive tasks that, in one way or another, involves whatever it is that one is attending to. So long as *attending to* something is a mental process we can take note of introspectively, then like other mental processes (e.g. trying to remember something, conjuring up an image) it has, some would argue, its own unique sort of “feel” or “experiential quality” as distinct from what one is attending to. And, if what is being

attended to is a qualitative property, then it may also be the case that what it is like to attend to that property is distinct from what it is like to enjoy sensory awareness of it. In short, a case could be made for the claim that there is something it is like to attend to something, a “what it’s likeness” that doesn’t necessarily involve *what* one is attending to but is nonetheless introspectively distinguishable from other sorts of conscious states and processes. And just as asking what qualitative properties are like admits of two types of answers, so too does asking what it is like to attend to something. The first sort of answer is to simply say that to attend to something is *like that!* as one mentally ostends to the process in question, but without ostending to what one is attending to, assuming that’s possible. The second sort of answer is to compare what it is like to attend to something with other mental processes (e.g. remembering something, imagining something, reasoning through something).

Fifth Sense: Any introspectable aspect of human consciousness.

As I suggested in the opening paragraph there is *something* it is like to undergo many different sorts of conscious states and processes. That is, there are phenomenal characters of many different sorts. And, as I suggested above, the differences among phenomenal characters are differences in what this *something* is for any given conscious state or process. This fifth sense of *phenomenal character* refers to any introspectively discriminable feature of human consciousness, including all those features peculiar to paradigmatic sensory states and processes, cognitive states and processes, emotions and moods.

Given these different conceptions of *phenomenal character* we should ask of a theory of phenomenal consciousness what exactly the theory purports to be a theory of. In

chapters to come I will assume that the only sort of phenomenal characters at issue are those peculiar to paradigmatic sensory states and processes, which include those of the special senses (vision, audition, gustation, and olfaction), the somatic senses (tactition, thermoception, nociception) and certain bodily sensations that don't fit nicely into these divisions (e.g. hunger pangs, thirst, orgasm). Though the theories under consideration may be extended to cover phenomenal characters peculiar to all other types of conscious states and processes (e.g. higher-order cognition, moods, feelings, equilibrioception, etc.) I will not assume that they are intended to be theories of phenomenal character in the fifth sense. Thus, regarding the fourth sense of *phenomenal character*, I will assume that our explanandum does not include whatever phenomenal character, if any, might be distinctive of attention *per se*. Furthermore, our theories are about phenomenal character in the second sense only to the extent that they offer explanations as to *why* certain phenomenal characters are different from others (e.g. why a dull pain in the shoulder *feels* like a *dull pain in the shoulder* and not a *piercing pain on the surface of one's skin*), but not why certain phenomenal characters are the phenomenal characters they are (e.g. why itchiness is itchiness, or why redness is redness). Thus, I will assume that only the first and third senses of *phenomenal character* are at issue.

Allow me to now offer some tips to the reader on how to be thinking of phenomenal character as we proceed. First, it will be helpful to treat *phenomenal character* as a determinable like *color* and *shape*. Each of the conscious states and processes mentioned so far share a common property, namely, the property of there being something it is like to undergo them. Just as ordinary middle-sized objects all share the property of having color or shape, so all the conscious states and processes mentioned above all share the

property of having phenomenal character. Second, it will be helpful to have in mind the following way of taxonomizing phenomenal characters. Initially we can individuate types of phenomenal character by distinguishing types of mental states and processes that admit of further determinable-determinate relations with respect to what it is like to undergo them. For example, what it is like to undergo the following broad types of mental states and processes differ in phenomenal kind:

Sensory States and Processes

Moods and Emotions

Cognitive States and Processes

We can then spell out the relevant determinable-determinate relations within each of these broad categories. Since we will be concerned primarily with paradigmatic sensory states and processes consider, for example, the following division:

Special Senses: Vision; Audition; Olfaction; Gustation

Somatic Senses: Tactition; Thermoception; Nociception

What it is like to have a visual sensation is different in phenomenal kind from what it is like to undergo auditory sensations, olfactory sensations, gustatory sensations, etc.

Now within a given sensory modality we can use similarity relations among phenomenal characters within that modality to further individuate phenomenal characters peculiar to that modality. For example, if we take as a determinable *what it is like to have a visual sensation*, we get the following determinates: what it is like to see color; what it is like to see shape. These latter determinates function as determinables for: what it is like to see red; what it is like to see orange; what it is like to see a spherical object; what it is like to see a rectangular object, etc. Or, if we take as a determinable *what it is like*

to have a pain, we get the following determinates: what it is like to have a sharp pain; what it is like to have pain in the neck; what it is like to have a sharp pain in the neck, etc.

We can also distinguish phenomenal characters across certain modalities using the second and third way of individuating phenomenal kinds. For example, what it is like to see something round is different in kind from what it is like to feel something round.

Finally, all these ways of individuating kinds of phenomenal character can be used to pinpoint more complex phenomenal characters built out of these more basic categories to capture the “unity” of phenomenal consciousness.²

Of course, individuating phenomenal characters peculiar to the other broad categories of mental states and processes may involve appealing to different sorts of introspectable aspects of them (e.g. purely syntactic features of subvocal thought), as well as perhaps propositional content. Regardless, the basic idea should be clear however difficult it is to pinpoint the relevant introspectable aspects of these conscious states and processes that determine the identity conditions for phenomenal characters. And, since our theories concern only phenomenal characters peculiar to paradigmatic sensory states and processes, we needn’t be concerned with the difficulties involved in individuating phenomenal characters peculiar to the other two categories.

² Throughout the text I do my best to use language that respects the complex determinable-determinate relations among phenomenal kinds. I should note now that often I will refer to the “overall phenomenal character” of a given phenomenal state (e.g. a stinging, pulsating, pain on the top of the foot) as distinct from the “components” or “features” of the overall phenomenal character of a state (e.g. the stinging, the pulsating, on-top-of-the-foot), where these “components” or “features” are determinate phenomenal characters that, taken together, constitute the overall phenomenal character of the state in question, but that also stand alone as their own phenomenal characters by virtue of being their own phenomenal kinds.

II. Physicalism and the Challenges of Phenomenal Consciousness

I will take physicalism to be a purely reductive view about mental phenomena generally. Roughly, the idea is that all mental phenomena are ultimately realized by microphysical entities in the following way:

- (1) All chemical, biological and psychological entities (tokens and types) are ultimately realized by microphysical entities.
- (2) All mental phenomena (token or type) are located within this class of higher-level entities, be they chemical, biological, or psychological.

Microphysical entities include properties, object kinds and event kinds expressed by the terms featured in the laws and theories of fundamental physics. Chemical, biological and psychological entities are to be understood as those properties, object kinds and event kinds expressed by terms constructed out of the primitive predicates featured in the adequate formulation of the laws and theories of the chemical, biological and psychological sciences respectively. Such entities are *broadly* physical in that they are not themselves microphysical, but rather higher-level entities realized by microphysical entities. To say that all mental phenomena are located within this class of broadly physical entities is to say that for any mental property or event (token or type) that mental property or event just is one of the broadly physical entities (token or type) in that class. However the details are filled in, at the very least the realization relation between microphysical entities and broadly physical entities is such that the occurrence or instantiation of some composite arrangement or other of the former is sufficient for the occurrence or instantiation of the latter.

There are, of course, many different sorts of mental phenomena, but according to this general characterization of physicalism no commitment is made here as to where any

particular sort of mental phenomenon is located, nor is there any explanatory commitment as to how exactly any particular sort of mental phenomenon fits where it is located. Nonetheless, physicalism is committed to the general metaphysical thesis that in so far as all mental phenomena are broadly physical, then they occur or are instantiated ultimately *because* some composite arrangement of microphysical entities occur or are instantiated. So long as the latter obtain, then so too do the former. From this follows the general explanatory commitment that the occurrence or instantiation of the latter explains why the latter in fact occur or are instantiated, though no particular commitment as to how exactly broadly physical entities are ultimately realized by, and so ultimately supervene on, the microphysical for any particular domain of broadly physical entities.

Let's turn now to what in recent decades have been considered to be the main philosophical challenges that phenomenal consciousness has been thought to create for physicalism. Following Brian McLaughlin (2003b) we can summarize these challenges, and the most plausible physicalist responses to them, as follows:

Huxley-McGinn Challenge. “How is it that anything so remarkable as a state of consciousness comes about as a result of irritating nervous tissue, is just as unaccountable as the appearance of Djin when Aladdin rubbed his lamp.” (Huxley 1886, p.193) “How is it possible for conscious states to depend upon brain states?” (McGinn, 1989, p.349)

Response. There's no question of how broadly physical phenomena “gives rise” to phenomenal consciousness, or how it is possible for phenomenal consciousness to “depend” on broadly physical phenomena. According to physicalism, phenomenal consciousness just is a broadly physical phenomenon the instantiation of which is physically necessitated by the instantiation of microphysical properties. We can sensibly

ask how broadly physical phenomena depend on, or are necessitated by, microphysical phenomena, but it makes little sense to ask a given broadly physical phenomenon depends on, or is necessitated by, itself!

Nagel's Challenge. Phenomenal consciousness is a subjective phenomenon, while physical phenomena are objective. How could a subjective phenomenon *be* an objective phenomenon?

Response. The subjective / objective distinction is an epistemic distinction, not a metaphysical distinction. Something is “subjective” or “objective” only under a concept, or way of conceiving it. There is no *a priori* link between subjective concepts and objective concepts. Nonetheless, one and same thing can be subjective under one concept and objective under another.

Kripke's Challenge. Like other scientific identities (e.g. Water = H₂O, Temperature = Mean Molecular Kinetic Energy), phenomenal-physical identities are necessary and *a posteriori*. Nonetheless, it is very tempting to regard such identities as merely contingent since we seem to be able to intelligibly conceive of possible worlds that have, say, water but no H₂O, temperature but no mean molecular kinetic energy, or pains but none of the broadly physical properties the physicalist proposes to reduce pain to. If we're willing to put a lot of stock in our conceptual / imaginative faculties to settle metaphysical questions, then we might be tempted to think that the apparent contingency is real and so the identities false. However, regarding the first two identities we can explain away the apparent contingency by pointing out that what one is conceiving of is not water without H₂O, or heat without mean kinetic energy, but rather the contingent ‘surface features’ of water (i.e. H₂O) and temperature (i.e. mean molecular kinetic energy) that, according to

some at least, fix the referents of the folk concepts (terms) *water* and *temperature*. In the former case one is conceiving of a colorless, odorless, tasteless liquid without H₂O. But the collection of these surface features isn't what water is; rather, they are merely contingent properties of H₂O in the actual world. In the latter case one is conceiving of temperature as something that causes sensations of hot and cold without molecular mean kinetic energy. But causing sensations of hot and cold isn't essential to what temperature is; rather, it is merely a contingent property of molecular mean kinetic energy in the actual world. However, if we assume, as Kripke does, that pain and pain phenomenal character are one and the same, then this sort of explanation for why the apparent contingency of phenomenal-physical identities is in fact apparent is not forthcoming. The reason is that pain phenomenal character just is pain, and not a contingent property of anything physical. So, when one seems to be conceiving of pain without whatever physical property to which it is allegedly identical one can't be told that the apparent contingency is a result of one's really conceiving of a contingent property of something physical, and so mistaking this contingent 'surface feature' of something physical for pain itself, since one just is conceiving of pain (or what is essential to it).

Response. First, the methodological assumption that conceivability is a guide to metaphysical possibility regarding the nature of phenomenal consciousness is highly questionable. This can be, and should be, denied. See, for example, Hill (1998), Hill and McLaughlin (1999). Second, Kripke's suggestion for explaining away the apparent contingency isn't the only explanation available. See, for example, Hill (1998), Prinz (2001), Papineau (2002) and Polger (2004, Ch.2).

The Horgan-Tienson Challenge. Consider the following putative facts about introspection. As Kripke's challenge suggests, we have direct introspective access to phenomenal characters, access that is not mediated by contingent ‘surface features’ of phenomenal characters. We do not introspect phenomenal characters *as* any sort of physical, or broadly physical, phenomenon. So, how could phenomenal consciousness *be* any sort physical phenomenon?

Response. First, it doesn't follow from these putative facts that phenomenal consciousness isn't any sort of physical phenomenon. Introspection certainly doesn't reveal phenomenal consciousness as anything other than a physical phenomenon. Second, even if it is true that our introspective access to phenomenal characters is not mediated – which, again, is not obvious - this is still of no consequence. Arguably, to introspect something *as* physical involves the use of certain sorts of concepts that we can't deploy *directly* through introspection. The only sorts of concepts we can employ *directly* through introspection are phenomenal concepts and these answer to whatever broadly physical properties the physicalist proposes to reduce phenomenal characters to. For a detailed version of this sort of response see McLaughlin (2001). On the difference between phenomenal and non-phenomenal concepts see, for example, Loar (1990), Lycan (1996) Papineau (1993; 2002; 2006), Tye (2003), Perry (2001) to mention a few.

The Levine-Jackson-Chalmers Challenge. Closely related to these last two challenges is the idea that phenomenal-physical identities admit of an “explanatory gap” in that, unlike other sorts of scientific identities, they cannot be deduced *a priori* from the totality of microphysical facts, assuming that the actual world is at least a minimum physical duplicate of itself.

First Response. The phenomenal-physical identities aren't relevantly different with respect to the “explanatory gap” than other scientific identities since they too are not *a priori* deducible. Furthermore, phenomenal-physical identities do best explain phenomenal-physical correlations.

Second Response. Even if phenomenal-physical identities are the only scientific identities that aren't so deducible, this would be explained by the peculiar nature of phenomenal concepts. Such concepts don't admit of the sort of functional, or topic neutral, analyses that *a priori* deductions require; nor are there any contingent, reference-fixing ‘surface features’ for phenomenal concepts that such a deduction requires. In short, phenomenal concepts by their nature can't play the sort of functional / conceptual role required for such deductions. For detailed versions of these sorts of responses see Block and Stalnaker (1999) and Papineau (2000).

Now these are all challenges to physicalism generally regardless of where the physicalist proposes to locate phenomenal consciousness. However, proponents of the representational approach to reducing phenomenal consciousness suggest that representationalism is the best, if not only, physicalist approach that can adequately handle these challenges. For example, Lycan claims that “once representation itself is (eventually) understood, then not only consciousness...but subjectivity, qualia, ‘what it's like’, and every other aspect of the mental will be explicable in terms of representation together with the underlying functionally organized neurophysiology...” (1996, p.11) In the same spirit Dretske claims that his representational approach “is the only approach to the topic of consciousness that has much to say about the baffling problems of phenomenal consciousness.” (1995, p.xiii) And, most importantly, part of Tye's overall

strategy in arguing for the PANIC theory is that it is the only reductive approach that offers a framework for meeting these challenges.

However, none of the challenges mentioned above are ones the representational approach is any better equipped to handle than other physicalist approaches to phenomenal consciousness. A little reflection on the responses to the challenges summarized reveals that it is neither here nor there what sort of physicalist theory of phenomenal consciousness a physicalist goes in for to adequately meet them. This is certainly true for the first two challenges and, in fact, none of the responses offered by the authors cited for the remaining three rely on any particular physicalist theory of phenomenal consciousness. Thus, the representational approach to reducing phenomenal consciousness, and Tye's theory in particular, does not enjoy any explanatory advantage over any other physicalist theory of phenomenal consciousness regarding these traditional challenges.

Nonetheless, there are certain puzzling facts about phenomenal consciousness that the PANIC theory is particularly well suited to handle, puzzles that no other reductive theory currently on offer is in any position to successfully deal with. Thus, to the extent that Tye's PANIC theory provides the resources to explain these puzzles it is superior to any theory that doesn't. Let's briefly look at some puzzles related to bodily sensations.

First, consider that we pre-theoretically think and talk about what it's like to undergo bodily sensations of various sorts using spatiotemporal concepts and vocabulary that also apply to middle-sized objects, events and properties. For example, we think and say things like *I had a sharp pain in my neck all day yesterday*, or *There's was a high-pitched ringing in my left ear this morning that lasted for hours*. This manner of thinking and

talking about what it is like to undergo bodily sensations can give rise to certain logical puzzles. One example is the following inference:

There's a pain in my fingertip.
My fingertip is in my mouth.
So, I have a pain in my mouth.

If *in* means spatially inside, then the inference is valid since *being spatially inside* is transitive. However, given the ordinary meaning of *pain in my mouth*, the conclusion doesn't follow from the premises since it's the fingertip that hurts, not the mouth!

Second, consider that part of the reason why we pre-theoretically think and talk about what it is like to undergo bodily sensations using spatiotemporal concepts and vocabulary is that when we undergo bodily sensations it certainly *feels* as if certain qualitative features of what it is like to undergo bodily sensations have certain spatial and temporal dimensions. The achiness of a lower back pain is *felt* to last for a certain length of time in or around the lower lumbar. The itchiness of an itch on the scalp *feels* as if it occurs *on* the surface of the scalp. A pulled leg muscle can sometimes feel as if it is burning inside your leg. Or, after eating a large meal you may *feel* as if your gut is filled with a little too much stuff. However, as mental items that depend for their existence on neural activity located in the brain it seems that such felt qualities should be located somewhere in the CNS and not on the surface of the skin, in an appendage or anywhere else in the body. Thus, related to the fact that we use spatiotemporal concepts and vocabulary to think and talk about the phenomenal character of bodily sensations is the fact that it is part and parcel of what it is like to undergo bodily sensations that certain qualitative features are felt to have spatial and temporal dimensions. Particularly puzzling in this regard is that most amputee victims proprioceptively feel as if their missing limbs remain in tact and so

continue to interoceptively feel as if certain of the qualitative features peculiar to bodily sensations (e.g. stinging, throbbing, itchiness) are instantiated in regions of their proprioceptively felt limbs post amputation.

Tye's theory, by virtue of being a representational theory of phenomenal consciousness, provides a nice framework for explaining these puzzles. For example, on Tye's view what explains why we *feel* certain qualities as being located in or at certain parts of the body is that the location of certain physiological changes in bodily tissue is part of the representational content of sensations. Pains represent the sorts of physiological changes distinctive tissue damage. Itches represent the sorts of physiological changes distinctive of disturbed tissue. So the reason why we feel certain qualities as being instantiated in regions of the body or on the surface of our skin when we undergo bodily sensations is that the location of physiological changes in bodily tissues is part of what bodily sensations represent.³ This helps to explain why we use spatial concepts and vocabulary to think and talk about the phenomenal character of pains and itches. It is quite natural to use such concepts and vocabulary since the qualitative features distinctive of what it is like to undergo bodily sensations have a felt location.

Furthermore, the hypothesis that bodily sensations represent regions of bodily tissue permits us to treat the logical puzzle above as an intensional puzzle the source of which is the intentionality of bodily sensations. It's because pains are intentional sensory states that *in* does not have the same meaning throughout the inference. According to Tye, when we say or think something like *I have pain in my fingertip* when it feels as if there

³ I should note that Tye identifies certain felt qualities of pains and itches with physiological changes in bodily tissues. (2005b, pp.164-172) The felt stinging quality of a paper cut just is a certain kind of damage to skin tissue. The felt itchy quality of an itchy scalp just is a certain surface disturbance of skin on one's scalp. However, identifying such qualities with physiological changes to bodily tissues isn't necessary to account for the felt location of such qualities, nor is required by the PANIC theory.

is some unpleasant quality instantiated in one's fingertip we are in effect saying or thinking that a pain is representing some region of tissue as being damaged in a certain sort of way. (1995, p.112; 2005b) So, if one's fingertip is spatially inside one's mouth it doesn't follow that one also has a pain representing the inside of one's mouth as damaged.

Finally, the hypothesis that bodily sensations are mental representations explains how it is possible for amputee victims to undergo pains such that it can feel as if certain unpleasant qualities are instantiated in regions of their proprioceptively felt – though actually missing – limbs. Just as one can token the false belief that the present king of France is bald so too can amputee victims undergo phantom pains that falsely represent non-existent regions of tissue as damaged. What is phantom about an amputee victim having a phantom pain in a missing appendage isn't that the amputee is not having a pain; rather, she is undergoing a pain that (mis)represents a phantom region of tissue as being damaged.

If the sort of representationalist theory Tye espouses is the only sort of theory that can explain these and other puzzling facts about phenomenal consciousness, then perhaps the current trend towards representationalism would be warranted. However, as I suggested at the outset, part of my aim is to show that when supplemented with the relevant representationalist machinery phenomenal-neural type identity theory can just as easily explain these puzzles. If so, then the current trend toward to the representationalist approach to reducing phenomenal consciousness not be wholly warranted, at least not on the grounds that it provides a framework for explaining certain puzzling facts about phenomenal consciousness that other reductive approaches don't.

III. The Primary Challenge of Phenomenal Consciousness

In the next chapter I will present and explain the main features of both the PANIC theory and the competing phenomenal-neural type identity theory. However, before moving on I would like to first put my project into context by saying a bit about what I take the primary philosophical challenge of phenomenal consciousness to be, as well as lay bare certain of the methodological and metaphysical assumptions at work in the construction and defense of both theories. These assumptions play a crucial role in meeting the primary challenge of phenomenal consciousness. So long as they do, then I will be assuming that other philosophical doctrines regarding phenomenal consciousness that don't require the assumptions should be ignored.

As I see it the primary philosophical challenge of phenomenal consciousness is one of figuring out whether *anything* illuminating can be said about its nature. In terms of theory construction the challenge amounts to coming up with a metaphysical theory of phenomenal consciousness that not only (a) has a specific content that helps to render phenomenal character less mysterious but also (b) provides a framework for explaining certain puzzling facts about phenomenal consciousness (e.g. the felt location of bodily sensations). What is attractive about the two theories I am focusing on is that both go some way in satisfying both (a) and (b), and they do so because of certain methodological and metaphysical assumptions at work in their construction and defense. The relevant assumptions regarding (a) include the following:

(A1) All mental phenomena are broadly physical.

(A2) For any type of mental phenomenon, M, it is in principle possible for us to discover that M just is a certain type of broadly physical phenomenon, P.

(A3) For any type of mental phenomenon M, we can discover that M just is a certain type of broadly physical phenomenon P only *a posteriori*.

From (A1) through (A3) it follows that phenomenal consciousness is a certain type of broadly physical phenomenon the nature of which can only be discovered by us with the aid of the empirical sciences. Since phenomenal character is constitutive of the sort of consciousness under investigation then when we ask what sort of broadly physical phenomenon phenomenal consciousness is we are in effect asking whether phenomenal character is a chemical, biological or psychological kind. Thus, to assume that phenomenal character is broadly physical is to assume that something specific can be said about its nature, namely, that it is a certain kind of natural phenomenon belonging to the domain of entities postulated by certain of the special sciences.

A methodological corollary of these assumptions is that a metaphysical theory of any mental phenomenon ought to be informed by the special sciences that come closest to having anything substantive to say about the phenomenon in question. The special sciences that come closest to informing us about the nature of phenomenal consciousness are computational cognitive psychology and neuroscience. And it is precisely within the theoretical framework of these sciences respectively that the theories under consideration propose to locate phenomena consciousness. According to Tye's representational theory, phenomenal character is essentially a representational phenomenon. The PANIC theory locates phenomenal character within the theoretical framework of RTM (or, if you prefer, computational cognitive psychology) by treating bodily sensations, perceptual experiences and the like (i.e. phenomenal states) as representations and identifying phenomenal character with the representational content of such states. According to the

phenomenal-neural type identity theory phenomenal character is essentially a neural phenomenon. This theory locates phenomenal character within the theoretical framework of the neurosciences by treating phenomenal characters as properties and identifying these properties with neural properties. Thus, by offering specific ways of locating phenomenal character within the class of broadly physical phenomena both theories aim to say much more than that phenomenal consciousness is, or is not, some sort of physical phenomenon or other. To the extent that both theories aim to tell us what sort of natural phenomenon phenomenal character is they satisfy (a).

The relevant assumptions regarding (b) is that the following explanatory principles are legitimate guides to theory construction and adjudication:

Principle of Explanatory Resources: For any two theories T and T*, if T has the resources to explain some datum D and T* does not, then, all else being equal, there is good and sufficient reason to prefer T over T*.

Principle of Best Explanation: For any theory T, if T provides a better explanation for some datum D than any of T's relevant rivals, then, all else being equal, there is good and sufficient reason to prefer T over any of its relevant rivals.

The Ds most relevant to my project include the puzzles about bodily sensations discussed above, but there are others that I will discuss in chapters to come. That both theories provide a framework for explaining such puzzles about phenomenal consciousness makes each a candidate for being theories that best explain these puzzles. Of course, one needn't place much importance on these principles when it comes to theorizing about phenomenal consciousness, but insofar as our philosophical goal is to understand the nature of phenomenal consciousness I take it for granted that it is methodologically wise to do so.

So long as the two theories under consideration go some way in satisfying both (a) and (b) they both succeed in saying something illuminating about the nature of phenomenal consciousness and so should be preferred to theories of phenomenal consciousness that don't. So, for example, we should reject all versions of dualism and eliminativism about phenomenal consciousness since all versions of each fail to meet (a). No version of either has anything specific to say about what phenomenal character is beyond saying what it isn't, or that it simply doesn't exist. In contrast, both the PANIC theory and the phenomenal-neural type identity theory locate phenomenal character among the domain of entities postulated by the cognitive sciences and neurosciences respectively. Furthermore, dualist and eliminativist views fail to satisfy (b). That this is the case with eliminativism is obvious. And, regarding dualist views, a purely negative thesis about what phenomenal character is not can't offer a framework for solving any puzzling facts about phenomenal consciousness. Of course, one possible exception is that dualist views can explain why it is so difficult to figure out how phenomenal consciousness could possibly fit into a physicalist ontology. But, as we saw with some of the responses to the traditional challenges that phenomenal consciousness has been thought to pose for physicalism, there are perfectly good ways of explaining this fact that are consistent with physicalism and don't require the ontological extravagance of dualism.

Though there is much more to say about the merits of other non-physicalist views about phenomenal consciousness my interest lies elsewhere; namely, in what exactly the nature of phenomenal character consists assuming that it is some sort of broadly physical phenomenon. The theories under consideration provide philosophically interesting answers to this question insofar as each does say something illuminating about the nature

of phenomenal consciousness. For this reason alone an assessment of their merits to the neglect of views that have very little, if anything, illuminating to say about the nature of phenomenal consciousness is perfectly legitimate.

CHAPTER TWO

TWO THEORIES OF PHENOMENAL CONSCIOUSNESS AND THE QUESTION OF WHETHER PHENOMENAL CHARACTER IS MULTILPLY REALIZED

Tye's PANIC theory has received much attention since Tye's initial presentation of it in his *Ten Problems*. The theory has been duly scrutinized over the years and Tye has subsequently fine-tuned some of the details of the theory, but hasn't abandoned the general framework. In the first section I present the PANIC theory as it has developed since the publication of *Ten Problems*. In the second section I present the phenomenal-neural type identity theory that I argue is a serious rival to the PANIC theory.

In the third and fourth sections I consider what bearing the question of whether phenomenal character is multiply realized has on my project. The reason for doing so is that the PANIC theory can be regarded as a certain kind of psychofunctionalist view about phenomenal consciousness. A virtue of psychofunctionalism about mental phenomena generally is that it can easily accommodate the possibility that creatures or systems that differ from humans in physical constitution and composition enjoy the same types of mental states, properties and processes as humans while neural type identity theory can't. If this virtue of psychofunctionalism about phenomenal consciousness in particular amounts to a major advantage over phenomenal-neural type identity theory, then such an advantage would count decisively against the phenomenal-neural identity theory presented in the second section of this chapter regardless of whether it enjoyed all the explanatory virtues of the PANIC theory. I argue, however, that this virtue of psychofunctionalism about phenomenal consciousness enjoys no such advantage. I demonstrate that the phenomenal-neural type identity theory is no less liberal than

psychofunctionalism with regard to how widely phenomenal consciousness is distributed among organisms with carbon-based nervous systems, and that psychofunctionalism is too liberal with regard to creatures or systems that are not carbon-based. That psychofunctionalism is too liberal with respect to such creatures or systems counterbalances the chauvinism of the phenomenal-neural type identity regarding such creatures or systems. Thus, my overall project of demonstrating that the phenomenal-neural type identity theory presented in this chapter is a serious rival to the PANIC theory is not undermined by any legitimate concerns about the multiple realization of phenomenal character.

I. The PANIC Theory

For expository purposes it's best to formulate the PANIC theory in terms of two main theses:

Representation Thesis: Phenomenal states are mental representations.

Content Thesis: Phenomenal character is one and the same as representational content that meets certain further conditions.

The class of mental states that Tye regards as being phenomenal states are paradigmatic sensory states for which there is something it is like to undergo them, including those of the special senses (vision, audition, gustation, and olfaction), the somatic senses (tactition, thermoception, nociception) and certain bodily sensations that don't fit neatly into these divisions (e.g. hunger pangs, thirst, orgasm). (1995, p.4) As the Representation Thesis suggests, these sensory states are representations in the sense that they represent either parts of an organism's body, or items in an organism's immediate environment, as

having certain properties.⁴ Accordingly, such mental states have representational content. However, as stated, the Representation Thesis says nothing about the metaphysical nature of phenomenal characters; nor does it say anything about the relationship phenomenal characters stand in to the sensory states that have them. So, for all the Representation Thesis claims, it could be the case that phenomenal characters are non-physical, and that the sensory states that have phenomenal characters have them only contingently.

But Tye denies both of these. Tye maintains that token phenomenal states are *constituted* by (possibly a number of discrete, but simultaneously occurring) neural events which themselves are ultimately *realized* by microphysical types.⁵ (1995, p.38-43; 64; 84-92; 2003, p.25-35) Furthermore Tye maintains that phenomenal characters are essential features of the sensory states that have them, and that this is one way in which they are distinguished from propositional attitudes, as well as from other mental states

⁴ For ease of exposition I will occasionally follow Tye in using “quality” terminology to refer to the sorts of properties he claims phenomenal states represent items in one’s immediate environment as having. For example, Tye claims that visual experiences represent not only colors, but ridges, angles and size. I will also use the term “items” as a catch-all category for things represented – volumes, objects, surfaces, films, etc.

⁵ On Tye’s view one undergoes a number distinct phenomenal states (also referred to as “experiences”) that overlap through time forming a “unity of phenomenal consciousness” (also referred to as the “unity of experience”) by undergoing a number of discrete neural events that constitute token phenomenal states. That is, a number discrete phenomenal states - which Tye characterizes as events having beginnings and endings, are sudden and stand in causal relations (1995, p.84-85) - are continuously tokened by being constituted by a number of discrete neural events being simultaneously tokened. Token neural events constitute token phenomenal states and so are not numerically identical to those states. Though constituted by token neural events, the latter are individuated in terms of their content (i.e. what they represent).

Though Tye isn’t explicit about this, it seems that on his view token event, property or object kinds are broadly physical just in case they are either ultimately realized by microphysical types, or constituted by tokens of higher-level types the tokens of which are ultimately realized by microphysical types. The difference between tokens that are realized and tokens that are constituted is that the former can ultimately be explained by the basic laws of microphysics, whereas the latter must be explained by appeal to laws of higher-level sciences quantifying over event, property and object kinds the tokens of which are ultimately explicable by the basic laws of microphysics. So, for example, token neural events that constitute token phenomenal states can ultimately be explained by the basic laws of microphysics, but the tokens of phenomenal state types cannot be so explained (presumably because they are individuated in terms of their content) and so are subject to only to the psychological laws of computational cognitive psychology.

and processes. (1995, p. 4; p.55; pp.162-167) So in Tye's view a theory of phenomenal consciousness is not a theory of phenomenal character *per se*, but rather a theory of a certain class of sensory states, namely, the class of mental states whose members have the phenomenal characters they do essentially. Tye cites the following as examples of mental stats that are members of this class:

(1) Perceptual experiences, for example, experiences of the sort involved in seeing green, hearing loud trumpets, tasting licorice, smelling the sea air, running one's fingers over sandpaper. (2) Bodily sensations, for example, feeling a twinge of pain, feeling an itch, feeling hungry, having a stomachache, feeling hot, feeling dizzy. Think here also of experiences like those present during orgasm or while running flat-out. (3) Felt reactions or passions or emotions, for example, feeling delight, lust, fear, love, grief, jealousy, regret. (4) Felt moods, for example, feeling happy, depressed, calm, bored, tense, miserable. (1995, p. 4)

For Tye these states are pre-theoretically *defined* in terms of having their own unique phenomenal characters regardless of what other functional, physiological or behavioral properties they have, or what such states reduce to. This is brought out most clearly in Tye's discussion of the gustatory sensation associated with eating fudge, a sensation he calls *fudgefeel*:

Fudgefeel is an experience defined, I am supposing, by reference to its phenomenal or subjective character. So there is something it is like to undergo fudgefeel. Moreover, by hypothesis, any (actual or possible) particular experience that feels just the way fudgefeel feels will be an instance of fudgefeel. So there is something it is *essentially* like to undergo fudgefeel. That is to say, there is some felt quality such that it is simply incoherent to suppose that fudgefeel is present without it. The state or experience I am calling fudgefeel has this felt quality whenever and wherever it is, or could be, found. (1995, p.55)

According to this passage fudgefeel isn't itself a felt quality; rather, it is a mental state (i.e. experience) that has a certain phenomenal character (i.e. the fudgefeel quality)

essentially. No mental state can have the quality peculiar to fudgefeel and fail to be the sensory *state* fudgefeel regardless of whatever other behavioral, physiological or functional properties fudgefeel has. And this is so for all putative phenomenal states and their uniquely identifying phenomenal characters.

Let's turn now to the Content Thesis. The Content Thesis entails the Representation Thesis and so is the primary thesis of Tye's view. The "further conditions" mentioned in the Content Thesis are that the content in question be, as Tye puts it, *poised*, *abstract*, and *nonconceptual*. We can think of the first condition as a condition on how to functionally characterize the contents of phenomenal states, a characterization that, in the first instance, applies to the phenomenal states *qua* representations and so applies to the contents of those states. And we can think of the other two conditions as conditions on how to spell out the correctness conditions of phenomenal states given that they are representations that have a certain sort of structural format (i.e. grouped arrays) and play the poisedness role. Let's have a closer look at these conditions.

Poised. As previously mentioned, poisedness is, in the first instance, a functional property of phenomenal states *qua* representations. According to Tye, sensory states are poised just in case they play the functional role of "standing ready" to make a "direct impact" on the cognitive system. So, derivatively, the content of such states "stand ready" to make a "direct impact" on the cognitive system. The poisedness condition assumes that our brains implement two distinct types of systems, one perceptual and the other cognitive. The basic idea is that the former takes inputs from sensory transducers to generate data structures, or representations, something akin to David Marr's 2 ½ D sketches. The cognitive system (or "belief / desire system", as Tye puts it), which

operates on different types of representations (e.g. LOT symbols), then “recruits” these latter representations to perform higher-level cognitive operations. It is at the interface between the perceptual and cognitive systems that poised representations, and thereby poised contents, are found.⁶

Abstract & Nonconceptual. According to Tye, the correctness conditions for phenomenal states are specified in terms of structured, existential states of affairs “involving properties and relations (and plausibly the subject of the experience).” (2005a)

We can think of these simply as possible states of affairs (e.g. something’s being brown and round). These are purely semantic constructs akin to Russellian propositions in that they are, as Tye puts it, built out of “real world entities.” (2005a, p.223-225)⁷ As such, I

⁶ The basic computational story is as follows: Poised states are representations that have the structural format of grouped, symbol-filled arrays that are mechanically built out of the inputs of sensory transducers (e.g. photoreceptors of the visual system, the chemoreceptors of gustatory and olfactory systems, the hair cells of the auditory system, as well as the nociceptors, the thermoreceptors, and the proprioceptors of the somatic sensory system). These arrays represent in a map-like manner in that cells within the array are dedicated to discrete spatial regions (e.g. in the body or in one’s visual field) to which descriptions are attached (e.g. “tissue damage” or “red, bright”). There are successive stages at which certain computations are performed on the cells in arrays that are initially constructed out of the inputs of sensory transducers. These routines yield further descriptive labels that are appended to the initial array over which further computations can be performed by the cognitive system. The functional / computational role of poised states consists in “offering up” information (i.e. information contained in the cells from each successive computational stage) about what is going on in one’s body (e.g. that one’s stomach walls are contracting in the case of hunger pangs) and immediate environment (i.e. that a certain object has a particular shape in the case of visual experiences) as they “wait around” for a time to be recruited for use by the cognitive system. Recruitment occurs when one’s attention is properly focused on the content of poised states, where to be “properly focused” amounts being aware *that* the state is being tokened by virtue of being aware *of* the content carried by the state. The basic idea is that in so far as these states / contents are poised, then they are available as inputs to cognitive processes whose function is to generate beliefs and/or desires using those states / contents. (2000, p. 62, 70-76; 1995, p.114, 121-123, 138, 140; 1996, p. 295-302)

So pains, for example, are to be thought of in the following way: Initially, topographically structured, three-dimensional arrays are generated once nociceptors respond to certain changes in tissue (typically, when damaged). Each cell in the array is dedicated to a certain portion of the body. Adjacent cells correspond to adjacent bodily regions. Activity of a cell consists in its being “filled” with a descriptive label like “tissue damage”. Computations are performed over the filled cells of these initial arrays to generate more descriptive labels specifying more generally where the tissue damage is taking place (e.g. “left leg”, or “mid-torso”), as well as certain other bodily changes.

⁷ I’m presenting here Tye’s most recent account of nonconceptual content for perceptual experiences and bodily sensations. I take it that this account of nonconceptual content is an elaboration of Tye’s view as presented in *Ten Problems and Consciousness, Color and Content*. Most commentators initially took Tye’s nonconceptual contents to be propositions of some sort or other (e.g. Byrne, 2003; Dietrich and Adams,

will refer to these as the *semantic contents* of phenomenal states. I won't elaborate on these conditions except to note two things. First, these semantic contents are abstract in the sense that they do not include concrete objects with the exception of perhaps the subject undergoing the phenomenal state; that is, no individuals or objects are mentioned in the correctness conditions for the state. (1995, p.138; 2000, p.62) So, a phenomenal state "says" of some x , but without naming a particular x , that it has certain properties. For example, suppose a normal subject S is looking at ripe tomato in natural lighting. S's visual experience represents *some thing* as having certain qualities. That is, among other qualities, S's visual experience represents something as being spherical and being red, where the thing in question happens to be the ripe tomato before S. S's visual experience has the content $\exists x (x \text{ is spherical and } x \text{ is red})$. The experience is accurate only if there is something before Sid that is spherical and red. Or, suppose S reaches for the tomato and, as she does, a sharp debilitating pain suddenly shoots through her lower back. Perhaps she has just pulled a muscle, torn a ligament or has a herniated disc. As in the case of her visual experience, S's pain represents *some thing* (or, more precisely, *some region of tissue* in S's body) as damaged. So, S's pain has the content $\exists x (x \text{ is damaged})$. The pain is accurate only if there is an x such that x is damaged.

Finally, according to Tye, the semantic contents of phenomenal state are nonconceptual in the sense that (a) subjects needn't possess the concepts theorists use to specify the correctness conditions for phenomenal states, and (b) they are contents of mental symbols whose structural format is *not* language-like.

2004). In light of Tye's (2005a) I follow Pautz (2007) in interpreting Tye to be claiming that perceptual experiences and bodily sensations represent possible states of affairs.

On Tye's view the poisedness, abstractness and nonconceptuality of the content of the sensory states in question are each individually necessary and jointly sufficient for those state being *phenomenal* states. That is, it's because the sensory states in question meet these conditions that they are representations with phenomenal character rather than (e.g.) propositional attitudes with no phenomenal character.

Before considering the phenomenal-neural type identity theory I should note two things about Tye's view. The first is that the Content Thesis admits of at least two interpretations. The first is that phenomenal character generally is one and the same as semantic content; that is, what phenomenal states represent.⁸ On this interpretation the phenomenal character of a given phenomenal state just is a certain structured, existential states of affairs represented as obtaining by the state. The second interpretation is that phenomenal character generally is a certain kind of representing. On this interpretation the phenomenal character of a given phenomenal state is one and the same as a certain type of *representing event*, namely, a state's representing nonconceptually a certain existential state of affairs as obtaining. Call the former the *semantic interpretation* and the latter the *state interpretation*. Which interpretation is correct will be of little significance in chapters to come, though one should bear in mind the that there is this ambiguity and that Tye comes closest to explicitly endorsing the state interpretation in Chapter 6 of *Ten Problems*.

The second is that the poisedness, abstractness and nonconceptuality conditions on the contents of sensory states are jointly sufficient for their being phenomenally conscious only if it is also the case that a creature or system that tokens such states stands in the

⁸ Following more or less Anscombe (1965), Hintikka (1965), Kraut (1982) and Harman (1990) this is the sort of view endorsed by Dretske (1996) and Lycan (1987; 1995) insofar as the sense of *phenomenal character* at issue is that of a qualitative property (see Ch.1)

right sort of content determining relation to the properties PANIC states represent. Tye is an externalist about mental content and, following Stampe (1977) and Stalnaker (1984), initially endorsed a co-variation account of content determination for phenomenal states in *Ten Problems*, though he might have opted for a psychosemantics closer to an indicator view (e.g. Dretske 1988; 1994) or a strict asymmetric view (e.g. Fodor 1987; 1990; 1994). And, in fact, Tye does seem to shift to an asymmetric dependence view in *Color, Consciousness, and Content* in to handle Swampman cases. (p. 139) Regardless, it should be noted that the PANIC theory, as well as any externalist representational theory of phenomenal consciousness that identifies phenomenal character with representational content (e.g. Dretske, 1994 and Lycan, 1996), must be supplemented with a psychosemantics for phenomenal states.

II. Phenomenal-Neural Type Identity Theory

Turning now to a neural type identity competitor to the PANIC theory, the version of phenomenal-neural type identity theory I'm interested in exploring consists of the following two theses:

Identity Thesis: For any phenomenal character Q there is a neural property N that is identical to Q.

Contingent Representation Thesis: For any neural property N identical to some phenomenal character Q, N represents p for some value of p.

I suggest following Christopher Hill in our interpretation of the Identity Thesis.⁹ According to Hill, phenomenal states are concrete events that exemplify phenomenal characters. Phenomenal characters are properties that, in so far as they are expressible by

⁹ See Hill, 1984; 1991, Ch.1

terms used in law-like psychological generalizations, determine membership in phenomenal kinds. (1984, p. 295-297; 1991, p.3) So, for example, phenomenal characters like the felt stinging quality on the palm of the hand (e.g. after suffering a paper cut), or the phenomenal character associated with tasting, say, a mixture of toothpaste, scotch and orange juice just are the following properties respectively: *a stinging pain on the palm and a toothpasty-scotchy-orange juicy gustatory sensation.*

Neural properties, according to Hill, are those properties expressed by terms constructed out of the primitive predicates used in the formulation of neuroscientific laws. In so far as the neural properties in question are the semantic values of such terms used in law-like, neuroscientific generalizations, they determine membership in neural kinds. (1984, p.295-297) Somewhat crude examples of such properties might include the following: *parvocellular stimulation in the left LGN* or *40-hertz rhythmic activity in the thalamocortical system*. And, of course, the identity between the relevant phenomenal characters and their neural correlates is necessary. It is not possible for there to be in instance of phenomenal character Q without there being an instance of its neural correlate N since, according to the Identity Thesis, they are one and same property.

Before considering the Contingent Representation Thesis a brief word about Hill's metaphysical framework is in order. According to Hill, the account of properties appropriate for the Identity Thesis are Lewisian "natural properties" (Lewis, 1983 343-47), or what has more recently come to be known as "sparse properties". By being the referents of terms that can be featured in law-like generalizations, properties are to be treated as universals in the sense that they are responsible for the objective resemblances and causal powers of particulars. For Hill, phenomenal states and neural states are

concrete events and phenomenal characters are simply properties. So, token phenomenal states (events) exemplify (or instantiate) phenomenal characters (properties) and token neural states (events) exemplify (or instantiate) neural properties. Phenomenal states are typed in terms of the phenomenal characters they exemplify and neural states are type-identified in terms of the neural properties they exemplify. Since, according to the Identity Thesis, phenomenal characters just are neural properties, then it follows that for any given phenomenal state (i.e. an event exemplifying a given set of Qs) that state just is a neural state (i.e. an event exemplifying a given set of Ns).

Note too that Hill is officially neutral with respect to whether the particulars in question (i.e. the token events exemplifying properties) are structured events constituted by objects, properties and times (e.g. Kim, 1993) or *basic* concrete events (e.g. Davidson, 1980), since on Hill's view events exemplify properties.

Turning now to the Contingent Representation Thesis we should first note that whatever *p* is that a given *N* represents *p* is a contingent fact about *N*. So, though it is not possible for a given *N* to be instantiated without the *Q* with which it is identical, or vice versa (since *N* = *Q*), it is possible that *N* not have the representational content it in fact does. Whatever it is that makes it the case that a given *N* represents a given *p* (i.e. whatever the content determining relationship is that must hold between a given *N* and *p* such that *N* has the content that *p*) is not metaphysically necessary; rather, it is only circumstantially, or historically, necessary *given* (a) the conditions that obtained when creatures with the relevant neurobiology evolved on Earth and (b) the natural laws that in fact obtain in the actual world. As a consequence it is logically possible that (e.g.) the

stingingness typically associated with certain sorts of cutaneous pain should represent what the tickliness of tickles do and vice versa.

Finally, I propose that the semantic contents of the Ns in question be, as Tye suggests, abstract possible states of affairs. However, I see no principled reason for treating such contents as states of affairs (as opposed to, say, structured propositions or property complexes)¹⁰ or calling such contents “nonconceptual”. One exception regarding the latter is that we shouldn’t require that a given creature *must* possess the concepts theorists use to spell out the correctness conditions for the relevant Ns.¹¹ This, of course, all turns on the question of what concepts are, as well as what concept possession amounts to, for a given type of creature, which in turn depends on what sort of perceptual / cognitive architecture that creature has. These are empirical questions that, for most, if not all minded creatures, are far from being answered.

III. Phenomenal Character & Multiple Realizability

Since the PANIC theory is formulated in such a way that phenomenal character is to be located within the theoretical framework of RTM (or computational cognitive psychology generally) we can regard it as a particular brand of psychofunctionalist view about phenomenal consciousness. According to psychofunctionalism mental states, properties and processes are higher-order functional kinds that are in principle discoverable by empirical psychology. On this view mental kinds are realized by lower-order, non-mental properties (e.g. neural properties in humans) by virtue of playing certain causal or computational roles specified by empirically established computational

¹⁰ See Pautz (2007) for a discussion of some of the options representationalists have endorsed.

¹¹ See Speaks (2005) for a nice discussion of this issue.

cognitive psychological theories of mental phenomena generally. Thus, according to psychofunctionalism, mental states, properties and processes are to be identified with something's having some lower-order property or other that plays a certain causal or computational role.

The primary advantage psychofunctionalism has over the neural type identity approach to reducing mental phenomena generally is that by treating mental states, properties and processes as higher-order functional kinds psychofunctionalism can easily accommodate the possibility that creatures or systems that differ from humans in physical constitution and composition enjoy the same types of mental states, processes and properties as humans while neural type identity theory can't. Traditionally, the thought has been that it is in fact likely that creatures or systems that are significantly different from humans in physical constitution and composition do enjoy some of the same types of mental states, processes and properties as humans. (Block and Fodor, 1972; Putnam, 1975) If so, then of course the psychofunctionalist approach to reducing mental phenomena generally should be preferred to the neural type identity approach. So, it is natural to wonder if the fact that the PANIC theory in particular permits the multiple realization of phenomenal states, and so the multiple realization of phenomenal characters, amounts to a decisive advantage over the phenomenal-neural type identity theory outlined above.¹²

¹² A related advantage is that a psychofunctionalist view wouldn't require identifying a single phenomenal character with a disjunctive neural property to accommodate the possibility that tokens of one and same phenomenal character in the same individual, or members of the same species, is accompanied by tokens of distinct neural properties on different occasions. I will assume, however, that for any phenomenal character Q there is only one non-disjunctive neural property N that is a candidate for identification with Q. If the empirical evidence suggests otherwise, then either the relevant non-disjunctive neural property hasn't been discovered, or Q is not a neural property.

Recently there has been a renewed interest in whether the possibility that mental kinds of various sorts are multiplied realized renders the neural type identity approach to reducing mental phenomena generally methodologically unsound. Some have argued that the extent to which mental kinds are multiply realized is negligible, and so not a threat to neural type identity approach generally. (Polger, 2000, 2004) Others have argued that multiple realizability poses no principled obstacles to inter-theoretic reduction. (Clapp, 2001) Still others have sought to undermine the idea that there is sufficient empirical evidence for the claim that it is likely that mental kinds are multiply realized. (Bechtel and Mundale, 1999; Bechtel and McCauley, 1999; Shapiro, 2000, 2004)

Unfortunately, I have no new strategy for handling multiple realizability objections to neural identity theses about mental phenomena generally, or for phenomenally conscious sensory states in particular. For the best lines of response to such objections to neural type identity theses about mental states, processes and properties generally see Shapiro (2000; 2004) and Polger (2002; 2004). For the best responses to such objections regarding phenomenally conscious sensory states in particular see Hill (1984; 1991) and McLaughlin (2003b; 2007).

Furthermore, I am not aware of any multiple realizability objections to the Identity Thesis *per se*. However, like multiple realizability objections to neural identity theses generally, such objections would have to come in one of two varieties. Since the Identity Thesis entails strict phenomenal-neural correlations, the first kind of objection would be to argue that for a given phenomenal character Q there is sufficient empirical evidence demonstrating that there is likely no unique neural property N such that Q and N are strict

correlates. If not, then it is implausible to suppose that any neural property is even a candidate for identification with Q. Thus, if there is a dependence relation holding between Q and nervous systems at all, it must be that the latter realize the former. So, for example, one might point to the neuroplasticity of neural structures to suggest that it is unlikely that there is a unique N the instantiation of which correlates with instantiations of a given Q. Or, one might point to evolutionary facts about naturally occurring nervous systems to argue that a given Q is a homoplasy among phylogenetically remote species. If so, then perhaps there might be two members of phylogenetically remote species that share the same Q but not a unique N such that the latter is instantiated when and only when the former is.

The response to these sorts of empirical considerations is to point out that neuroscientists have at their disposal a wide variety ways to carve out neural kinds given that they use the tools, methods and theoretical frameworks of many sub-disciplines within the biological sciences, as well non-biological disciplines such as systems theory, information theory and computer science. Thus, regarding plasticity, it could very well be that the extent to which neural structures are plastic is irrelevant with respect to what the neural correlate of a given Q would be. And regarding the question of whether a certain Q is a homoplasy, there would be little reason to suppose that it is given the taxonomic practices of neuroscientists in mapping brains. See Bechtel and Mundale (1999) for a discussion of such practices, and below for a discussion of non-mammals relevant to this issue.

The other kind of objection is *a priori* in nature. The strategy here is to argue that since it is at least conceivable (or imaginable) that for any given phenomenal character Q,

Q couldn't be a particular N or any N at all, then we have sufficient reason to think that if there is a dependence relation holding between Q and nervous systems at all, it must be that the latter realize the former.

The response to this kind of objection is to simply deny that conceivability (imaginability) is a reliable guide to not only determining the nature of the relationship between Qs and Ns, but between Qs and any sort of physical phenomenon. One reason for denying this is that conceivability (imaginability) alone provides no non-arbitrary way to demarcate what sort of physical phenomena could stand in some sort of dependence relation to phenomenal characters.

The upshot of is that, like multiple realizability objections to neural identity theses regarding mental states, properties and processes generally, it is by no means obvious that there is a decisive case to be made that phenomenal characters are not neural properties. Despite this it is legitimate ask whether we are warranted in adopting the Identity Thesis prior to assessing the merits of any particular psychofunctional or type identity theory of phenomenal consciousness. This question is relevant for a few different reasons. First, one of the main motivations for the phenomenal-neural type identity approach to reducing phenomenal consciousness is that phenomenal-neural identities explain why it is that in organisms with a certain neurobiology (namely, human beings and other primates) the presence of phenomenal characters is correlated with the presence of electrochemical activities in certain neural structures. However, this wouldn't necessarily be an advantage over psychofunctionalism since a psychofunctional theory of phenomenal consciousness could just as easily account for the correlations. For it could be that the electrochemical activities of the neural structures in question only contingently play some

role in realizing phenomenal characters. So, it could be metaphysically possible – indeed, nomologically possible – that there are no such correlations but that there exist phenomenal characters all the same.

Second, as concerns the scientific study of phenomenal consciousness to date there is little to suggest favoring the Identity Thesis over psychofunctionalism. For there is some dispute as to whether scientists attempting to study consciousness (or certain aspects thereof) even have the phenomenal character of sensory states as their target.¹³ If not, then this would give us reason to be suspicious that a putative neural correlate of a given phenomenal character really is a correlate. Furthermore, of the more popular proposals that have been offered as to what the neural correlates of consciousness (or certain aspects thereof) might be many cite computational processes performed over electrochemical states of neural structures as being correlates, and not the electrochemical states of specific neural structures *per se*.¹⁴ Though in both cases the correlates are defined in terms of what neuroscientists take actual carbon-based neural mechanisms to be doing it is simply unknown to what extent either sort of correlate might be multiply realized.¹⁵

¹³ For example, Block (1995) has argued that for the most part they don't, though see Kriegel (2006) for a response. See Atkinson et al. (2000) for a sample of which theories are purported to have phenomenal character as their target and which theories don't.

¹⁴ The former correlates are functional properties defined in terms of what the electrochemical states of certain neural structures do with respect to processing information. These correlates are computational processes in which electrochemical states of certain neural structures are engaged. The latter correlates are electrochemical states of specific neural structures that play certain information-processing roles. We can think of the latter correlates as neurally realized representational vehicles, and the former correlates as computational processes that operate on neurally realized vehicles. Again, see Atkinson et al. (2000) for a sampling of both the "vehicle" and "process" theories.

¹⁵ However, regarding the latter sort of correlates, McLaughlin suggests that although neuro-computational states are characterized as states involved in computing functions for the purposes filling a certain information-processing role the states themselves needn't be construed as second-order role states. (2003, p.186)

Finally, and most importantly, since psychofunctionalism permits the possibility that phenomenal characters are multiply realized psychofunctionalism safely avoids chauvinism with respect to how widely phenomenal consciousness is distributed among different types of creatures. That is, psychofunctionalism doesn't run the risk of denying that creatures or systems lacking a certain neurobiology are phenomenally conscious when for all we currently know such creatures or systems are phenomenally conscious. That psychofunctionalism doesn't risk chauvinism could be viewed as a virtue that amounts to a major advantage over the phenomenal-neural type identity theory presented above.

In the next section I consider the last of these reasons for asking whether we're warranted in adopting the Identity Thesis prior to assessing the merits of any particular phenomenal-neural type identity or psychofunctionalist theory of phenomenal consciousness. The reason for doing so should be clear. If the risk of chauvinism is a legitimate concern about the Identity Thesis, then the fact that the PANIC theory safely avoids chauvinism would count decisively against the phenomenal-neural identity theory presented above regardless of whether it enjoyed all the explanatory virtues of the PANIC theory. I argue, however, that chauvinism is not a legitimate concern. Insofar our topic concerns the phenomenal characters of sensory states first and foremost we are no less warranted in adopting the Identity Thesis than taking a psychofunctionalist stance about phenomenal consciousness prior to assessing the merits of any particular neural type identity or psychofunctionalist proposal. First I argue that a psychofunctionalist approach to reducing phenomenal consciousness has no advantage over the phenomenal-neural type identity approach with regard to how widely phenomenal characters are

distributed among different kinds of organisms with carbon-based nervous systems. If not, then the mere fact that psychofunctionalism can accommodate the possibility that non-human organisms with carbon-based nervous systems does not give us sufficient reason to rule out the Identity Thesis in favor of psychofunctionalism. In short, the Identity Thesis is sufficiently liberal enough to allow for the possibility that not only other higher mammals, but also lower mammals and even non-mammals are phenomenally conscious. That is, the Identity Thesis is no more chauvinistic than psychofunctionalism when it comes creatures with carbon-based nervous systems.

This leaves us with the question of whether the Identity Thesis is chauvinistic with respect to creatures or systems that are not carbon-based, but are behaviorally and functionally / computationally isomorphic to organisms that are. I argue that both the psychofunctionalist and the identity theorist ought to regard the mere fact that the latter have a certain neurobiology that the former lack as a possible relevant difference between the two regarding their status as phenomenally conscious beings. So long as this fact should be regarded as a relevant difference, then psychofunctionalism runs the risk of being too liberal with respect to creatures or systems that are not carbon-based, but are behaviorally and functionally / computationally isomorphic to organisms that are. That it does counterbalances the risk of chauvinism on the part of phenomenal-neural type identity theory.

IV. How Widely is Phenomenal Consciousness Distributed?

Consider first what we do know about the relationship between phenomenal consciousness and carbon-based nervous systems. Barring skepticism about other minds

we know that in organisms with a certain neurobiology (namely, human beings and probably certain other higher mammals) the presence of phenomenal consciousness is strongly correlated with the presence of certain functioning neural structures. Even dualists of various stripes will grant this, and only skeptics about other minds would be compelled to deny it. Furthermore, we have learned quite a bit about those neural structures over the past century thanks not only to major advances in the many scientific disciplines that inform the study of those structures, but also to advances in the technologies used to study them. As a result of these advances we have a number of well-established working theories about what these neural structures do and how they do it. Among them are neuro-computational theories of each of the major sensory systems and their component sub-systems, theories that have in part been constructed to account for certain facts about the sort of phenomenal consciousness humans enjoy.¹⁶ What is important about such theories with regard to what we do know about the relationship between the fact that we enjoy the sort of phenomenal consciousness we do and the fact that we have a certain neurobiology is that we wouldn't have even hit upon them were there not some sort of interesting metaphysical relationship between the two. In light of this, it is certainly not unreasonable to conclude that there is something about *our* neurobiology that plays a crucial role in our being phenomenally conscious in the manner that we are. That is, there is something about our neurobiology that suffices for the sort of phenomenal consciousness we enjoy. Both the phenomenal-neural type identity theorist and the psychofunctionalist agree to this.

¹⁶ Notable among them is the opponent processing theory of color vision (Hurvich, 1980) and the gate control theory of pain (Melzack and Wall, 1967; 1988). Though see Hardcastle (1997) for a critique of the latter.

Of course despite what we know about the neural structures correlated with various aspects of phenomenal consciousness in humans we don't know what it is exactly about those structures that makes for phenomenal character, and so we don't know what it is exactly about our neurobiology generally that suffices for our being phenomenally conscious in the manner that we are. Given our relatively impoverished scientific understanding of phenomenal consciousness it is epistemically possible that having the sort of carbon-based nervous systems we do is not necessary for our being phenomenally conscious. And this, of course, is where the phenomenal-neural type identity theorist and the psychofunctionalist disagree. The psychofunctionalist thinks that having a certain neurobiology is sufficient, but not necessary phenomenal consciousness. The phenomenal-neural type identity theorist thinks that having a certain neurobiology is sufficient and necessary for phenomenal consciousness. Since it has yet to be determined scientifically what it is about our neurobiology that makes for phenomenal consciousness in humans the question of how widely phenomenal consciousness is distributed takes on philosophical significance.

The Identity Thesis places no restrictions on how neural properties that might be candidates for identification with phenomenal characters are to be individuated neuroscientifically. The examples of neural properties cited above are electrochemical states of "mid-sized" neural structures in humans. However, neural properties that are candidates for identification with phenomenal characters might include electrochemical states of single cells or large-scale cell assemblies. Furthermore, candidate neural properties can be individuated in terms of a number of different organizational, functional and computational properties of neural structures along with whatever other sub-cellular,

cellular or super-cellular properties that are essential to the generation of nerve impulses and synaptic transmission. As I previously mentioned, a proper understanding of the nature of the neural structures that comprise carbon-based nervous systems requires the tools, methods and theoretical framework of many sub-disciplines within the biological sciences, as well non-biological disciplines such as systems theory, information theory and computer science, neuroscientists have at their disposal a wide variety of ways to carve out neural kinds. Thus, the Identity Thesis is quite liberal with respect to what sorts of creatures with carbon-based nervous systems might enjoy some sort of phenomenal consciousness. That is, since any given phenomenal character Q just is a certain neural property N, Q (=N) might be shared across individuals within the same species, or across individuals that are members of different species. So long as the individuals in question have the relevant neurobiology it is possible for them to instantiate Q (=N).

Furthermore, the Identity Thesis doesn't rule out the possibility that there are some phenomenal characters that humans don't enjoy, but other organisms do by virtue of having a neurobiology that makes for phenomenal characters (=neural properties) humans don't experience (=instantiate). The extent to which other non-human organisms with carbon-based nervous systems share the very same sort of phenomenal consciousness humans do depends on the extent to which their neurobiology is similar to that of humans. It may very well be that the phenomenal characters (=neural properties) humans experience (=instantiate) aren't the only ones that exist.

The only restriction the Identity Thesis places on the possibility of a given creature or system enjoying some sort of phenomenal consciousness or other is that it have a certain

sort of neurobiology. What sort of neurobiology? This is an empirical question, one that we may not actually answer but in principle could. And though we don't currently know all the details about what the requisite neurobiology is we are nonetheless warranted in thinking that certain mammalian species enjoy phenomenally conscious sensory states of some sort or other. Given the many anatomical, physiological and functional similarities between human nervous systems and those of certain other mammals it is very likely that certain other primates are phenomenally conscious, and perhaps even rats, cats and bats. So, if it is a virtue of psychofunctionalism that it can accommodate the possibility that certain other higher mammals are phenomenally conscious it is not one that amounts to an advantage over the phenomenal-neural type identity approach to reducing phenomenal consciousness.

But what about organisms whose nervous systems are significantly different from those of human beings and other higher mammals in terms of neuroanatomy, neurophysiology or function? For example, do pigeons, turtles or honeybees have the relevant sort of neurobiology? One reason for thinking they do is that they are all organisms whose nervous systems play an essential role in sensorimotor behaviors. And they may well experience some of the very same types of phenomenal character humans and other higher mammals do. However, for all we currently know about the relationship between carbon-based nervous systems and phenomenal consciousness, there may be nothing it is like for any of these organisms to undergo the sorts of sensory states they do. We know in our own case that certain sensorimotor behaviors are not accompanied by phenomenally conscious sensory states – or at least not ones we are aware of undergoing. For example, saccadic eye movements and certain complex grasping movements of the

hand and limb require the processing of visual information, but are not accompanied by phenomenally conscious visual experiences.¹⁷ (Goodale and Milnar, 1992, 1995; Goodale, 2007) So, it could very well be that the sensorimotor behaviors of pigeons, turtles and honeybees are not accompanied by sensory states with any sort of phenomenal character.¹⁸ Or, since the Identity Thesis doesn't rule out the possibility that there are some phenomenal characters that humans don't experience, then if there is something it is like for pigeons, turtles or honeybees to detect visual stimuli, to be hungry, or suffer various sorts of pain, the phenomenal characters they do experience may be ones that we don't.

Whether a given organism has the sort of neurobiology that makes for any sort of phenomenal character is an empirical question. We know that humans do and we are certainly warranted in thinking that certain higher mammals do. The phenomenal-neural type identity theorist and the psychfunctionalist accept both of these claims, and they can do so without begging the question against one another. Ultimately they may disagree about organisms whose nervous systems differ significantly from those of humans and other higher mammals, but at this stage of our scientific investigations into the relationship between carbon-based nervous systems and phenomenal consciousness it would be premature for either to insist that any such organism either does or does not enjoy some sort of phenomenal consciousness. Thus, the mere fact that psychofunctionalism doesn't risk chauvinism when it comes to organisms with carbon-based nervous systems is no advantage over phenomenal-neural type identity theory for

¹⁷ At least they're not accompanied by phenomenally conscious visual experiences that we can be aware of undergoing.

¹⁸ This same point is made by McLaughlin (2007, p.441).

the phenomenal-neural type identity theory is no less chauvinistic than psychofunctionalism in that regard.

This brings us to the question of whether phenomenal-neural type identity theory is inferior to psychofunctionalism because according to the former only creatures with carbon-based nervous systems can be phenomenally conscious. To focus this question consider, for example, android creatures that (a) have the exact same kinds of behavioral propensities as humans, both verbal and non-verbal; (b) have an internal, non-carbon based device that collects, processes and transmits information in a way that is functionally / computationally isomorphic to that of the human nervous system; and (c) have no internal states that can properly be said to instantiate neural properties. Are we any less warranted in thinking that these androids enjoy the sort of phenomenal consciousness humans do merely because they lack the sort of neurobiology humans possess? If, as I will argue, the answer is ‘yes’, then the possibility that the Identity Thesis is chauvinistic with regard to whether such creatures are phenomenally conscious is counterbalanced by the possibility that psychofunctionalism is too liberal in that regard. Psychofunctionalism predicts that such androids would enjoy the exact same sort of phenomenal consciousness humans do. However, a possible relevant difference between the androids and humans regarding their status as phenomenally conscious beings is that the latter have a certain neurobiology and the former don’t. So long as both the type identity theorist and psychofunctionalist grant this, then psychofunctionalism is no worse off than phenomenal-neural type identity theory in being wrong about how widely phenomenal consciousness is distributed. Just like type identity theorists,

psychofunctionalists should grant this given their commitment to the physicalist assumptions discussed in Chapter 1.

The first thing to note about such androids is that whether they are nomologically possible remains an open empirical question. For it may be that, as a matter of nomological necessity, the conjunction of conditions (a) and (b) can be met only in creatures whose information-processing devices are composed of carbon-based neurons and other nerve cells. A point often made in response to multiple realizability objections to neural type identity theories generally is that there are not only structural and organizational constraints on the sorts of mechanisms that can give rise to behavioral propensities distinctive of human beings, but there are constraints on the sorts of materials that can implement certain types of information collection, processing and transmission.¹⁹ So, it may well be that depending on how fine-grained the behavioral propensities are defined nature simply doesn't allow for the possibility that there exist creatures that meet both (a) and (b) but whose information-processing devices aren't composed of carbon-based neurons and other nerve cells. The nomological possibility of such androids remains an empirical hypothesis. As such, we should proceed with great caution in allowing the mere conceivability of such creatures to pull our intuitions one way or another.

More importantly, however, is that even if the androids are nomologically possible the question as to whether they would enjoy the sort of phenomenal consciousness humans

¹⁹ Indeed, some psychofunctionalists take this point to heart. For example, Jesse Prinz constructs what he calls his “neurofunctionalist” theory of visual consciousness based what we know about the processing of visual information in visual perception. (2000, 2001, 2003) Prinz claims that his theory is to be understood as one in which “consciousness is identified with a functional role that is implemented by mechanisms specifiable in the language of computational neuroscience.” And, according to Prinz, “Computational neuroscience is a functional theory; it describes those functions at a level of architectural specificity that can be investigated using the tools of neuroscience. Such functions might be realizable by materials other than those found in the nervous system, but they cannot be realized by everything under the sun. The computations that our brains perform, with their specific temporal profiles, place structural and organization constraints on things that can perform them.” (2003, p.6)

do wouldn't thereby be settled. That the androids are behaviorally and functionally / computationally isomorphic to humans most certainly provides *prima facie* reasons for thinking that they enjoy the sort of phenomenal consciousness that humans do. Both the identity theorist and the psychofunctionalist agree to this. However, the psychofunctionalist must also agree with the identity theorist that the behavioral and functional isomorphism between humans and the androids provide only *prima facie* reasons for thinking that the androids and humans enjoy the same kind of phenomenal consciousness. Why? Because both subscribe to metaphysical assumptions (A1) through (A3) discussed in the first chapter.²⁰ Just as the phenomenal-neural type identity theorist is betting on a completed neuroscientific account of phenomenal character to be able to tell us what is about the neurobiology of human nervous systems that makes for phenomenal consciousness in humans but not the androids, so the psychofunctionalist is betting on a completed psychological account of mental phenomena generally (e.g. perceptual processes, attention, working memory and the like) to tell us what it is about the functional organization of the human nervous system and the android information-processing device that makes for the same sort of phenomenal consciousness in both humans and androids.²¹ Remember though that a methodological corollary of

²⁰ Again, these assumptions are as follows:

- (A1) All mental phenomena are broadly physical.
- (A2) For any type of mental phenomenon, M, it is in principle possible for us to discover that M just is a certain type of broadly physical phenomenon, P.
- (A3) For any type of mental phenomenon M, we can discover that M just is a certain type of broadly physical phenomenon P only *a posteriori*.

²¹ Even for Tye simply meeting conditions (a) and (b) isn't enough. First, it must be the case that the information-processing device utilizes poised representations with abstract and nonconceptual contents, which is an empirical hypothesis. And, second, the poised representations realized by the internal

assumptions (A1) through (A3) is that a metaphysical account of any mental phenomenon ought to be informed by the empirical sciences that come closest to having anything substantive to say about the phenomenon in question. If, as both the type identity theorist and psychofunctionalist do, we accept this corollary as a guiding methodological principle, then the most reasonable way to proceed in discovering what sort of broadly physical phenomenon phenomenal consciousness is is to determine scientifically what it is about human neurobiology that makes for phenomenal character. And this is precisely what scientists (including neuroscientists and cognitive psychologists) who aim to understand the sort of phenomenal consciousness enjoyed by humans have done. However, given the present state of our scientific understanding of what it is about our neurobiology that makes for phenomenal consciousness in humans neither the phenomenal-neural type identity theorist nor the psychofunctionalist is currently in a position to demonstrate that the androids either are or are not phenomenally conscious without begging the question against the other.

Consider that our target explanandum is the phenomenal characters of paradigmatic sensory states that humans and perhaps other mammals enjoy, and not the states themselves - at least, not insofar as they are defined in terms of the functional roles of folk psychology or the information-processing roles of computational cognitive psychology. The only sorts of creatures we know to be phenomenally conscious sensory states characteristic of human beings are, of course, humans beings and perhaps certain other mammals with a neurobiology similar to that of humans. To start out supposing that creatures with no neurobiology at all enjoy the sort of phenomenal consciousness

information-processing device must stand in the right content-determining relations to instantiations of the properties they represent.

human beings do solely on the grounds that they meet conditions (a) and (b) is to jump the gun. Why? Because we are currently in no position to know whether meeting conditions (a) and (b) is sufficient for being phenomenally conscious since we have yet to establish empirically what it is exactly about the neurobiology of humans that explains why humans sort phenomenal consciousness enjoyed by humans. For all we currently know about the nature of the sort phenomenal consciousness we enjoy having the neurobiology we do is necessary for our being phenomenally conscious in the manner that we are.

Of course, the psychofunctionalist wouldn't be jumping the gun if our target explanandum were limited to just those folk psychological or information-processing roles the androids share with humans. But that is not our explanandum. Our explanandum is the phenomenal characters associated with those roles in humans and perhaps certain other mammals. That humans have the sort of neurobiology we know to be strongly correlated with the sort of phenomenal consciousness we enjoy and the androids lack this neurobiology is a possible relevant difference between us and them with respect to whether they experience the sort of phenomenal characters we do. Whether this is in fact a relevant difference can be determined only once we know what it is about our neurobiology that explains the correlation. However, that it is a possible relevant difference renders the fact that psychofunctionalism doesn't risk chauvinism regarding the androids negligible. The reason is that psychofunctionalism does run the risk of being too liberal with regard to whether the androids are phenomenally conscious, which is something the phenomenal-neural identity theory does not do. That psychofunctionalism runs the risk of being too liberal regarding their status as

phenomenally conscious beings counterbalances the risk of chauvinism the Identity Thesis runs. So long as it is a virtue of the phenomenal-neural type identity theory that it doesn't risk being too liberal regarding the androids, then the mere fact that psychofunctionalism doesn't risk chauvinism is not a virtue that amounts to a decisive advantage over phenomenal-neural type identity theory.

This brings me to the last issue concerning the multiple realizability of phenomenal character, and so one reason for relying so heavily on the explanatory principles mentioned in the first chapter. One obvious way to go about settling the issue as to whether phenomenal character is essentially a neural phenomenon rather than a higher-order psychological phenomenon (e.g. representational content of the sort Tye suggests) would be to run some sort of experiment in which the relevant information-processing properties of the human nervous system thought to make for phenomenal consciousness in humans were held constant while the neural structures thought to realize those properties were replaced with something else. Suppose, for example, that the androids described above are nomologically possible and we could produce one by surgically replacing a human nervous system (or the relevant parts thereof) with the relevant kind of non-carbon based information-processing device (or the relevant parts thereof), perhaps one composed of silicon chips. Presumably the resulting android (or partial android) would know whether it was phenomenally conscious. If so, then it would know that the Identity Thesis is false if it were in fact phenomenally conscious.

There is some dispute about whether such an experiment could even in principle yield the sort of evidence necessary to determine whether the resulting android (or partial

android) was phenomenally conscious.²² However, even if the androids are nomologically possible, and there is no principled barrier to determining whether an android (or partial android) we created was phenomenally conscious, such an experiment won't be happening anytime in the foreseeable future, and for two reasons. First, we would have to know all the relevant information-processing details about human nervous systems to be able to replace one (or the relevant parts thereof) with the right sort of information-processing device. Second, we would have to not only have technological means to be able to safely perform such a surgery, but the engineering know-how to be able to do so. Currently we are very far from having such knowledge or the technological means.

Thus, so long as we're considering competing theories of phenomenal consciousness neither of which is going to be falsified by running the necessary experimental studies any time soon, then the only resources we currently have for determining how the theories measure up to each other is to invoke the sorts of explanatory principles mentioned in Chapter 1. If it is the case that a phenomenal-neural type identity presented above enjoys all the explanatory virtues as the PANIC theory, then this gives us reason to not only take seriously the phenomenal-neural type identity approach to reducing phenomenal consciousness, but to also take seriously the idea that the scientific study of what is distinctive of phenomenal consciousness (i.e. phenomenal character) ought to be pursued by neuroscientists.

²² For example, Chalmers (1995) suggests that we could. Block (2002) makes claims to suggest that we couldn't, and Prinz (2003) explicitly argues that we couldn't. Prinz claims that there would be no way to rule out the possibility that the resulting android (partial android) wasn't systematically mistaken in thinking it was phenomenally conscious when in fact it wasn't. If not, then it would be impossible to determine whether the newly created android (partial android) was in fact phenomenally conscious – even for the android! I disagree, but I won't pursue the issue here. Suffice it to say that the issue turns on substantive assumptions about the nature of phenomenal consciousness and the reliability of introspection, assumptions he and I don't share.

CHAPTER THREE

SOME PUZZLING FACTS ABOUT PHENOMENAL CONSCIOUSNESS AND WHAT'S NOT NEEDED TO EXPLAIN THEM

In the first chapter I pointed out that contrary to what proponents of representationalism have suggested the representational approach to reducing phenomenal consciousness has no special advantage over other reductive approaches when it comes to meeting the traditional challenges phenomenal consciousness poses for physicalism. However, I also noted that as a representational theory of phenomenal consciousness the PANIC theory is particularly well suited to explain certain puzzling phenomena. It provides a framework for explaining certain failures of inference about bodily sensation, as well as why certain qualities peculiar to bodily sensations have a felt location in some region of the body despite the fact that token sensations, if they have a spatiotemporal location at all, are located in the CNS.²³ That the PANIC theory provides a framework for explaining such puzzles is in my view an important virtue of the theory since, as I stated in the first chapter, I take the main philosophical challenge of phenomenal consciousness to be that of being able to say anything illuminating about its nature. Thus, to the extent that a representational theory of phenomenal consciousness

²³ These are just two puzzles among a number of other excludanda Tye initially considered in his *Ten Problems*. Aside from blindsight and the transparency of phenomenal states the other excludanda Tye argues the PANIC theory can explain either just are, or are variations of, the traditional challenges that phenomenal consciousness poses for physicalism discussed in Chapter 1. Transparency is covered in Chapter 4. Since there is disagreement as to whether the perceptual blindness blindsighted subjects suffer is merely an attentional deficit, and not a matter of there being an absence of normal visual phenomenal character, I do not address Tye's claim that the PANIC theory can explain how blindsighted subjects can accurately answer questions about visual stimuli presented to portions of their blind field in forced-response situations. Suffice it to say, however, that to whatever extent normal visual phenomenal character is wholly absent in blindsighted subjects the explanation the phenomenal-neural type identity theory is that (a) the relevant neural properties are no longer tokened due to damage in the striate cortex, and that (b) the performance of blindsighted subjects in forced-response situations is due to extrastriate visual processing pathways.

has the resources to explain these phenomena it is superior to other reductive approaches that don't.

In this chapter and the next I continue with the theme that representationalism is not superior to the phenomenal-neural type identity approach to reducing phenomenal consciousness so long as the explanatory principles mentioned in Chapter 1 are taken as guides to theory construction and adjudication.²⁴ In this chapter I argue that the PANIC theory has no advantage over the phenomenal-neural type identity theory presented in Chapter 2 with regard to explaining the intensionality of ‘looks’ discourse, as well as the puzzles about bodily sensations already mentioned. I demonstrate that the main reductive thesis of the PANIC theory (i.e. the Content Thesis) is not required to explain any of these phenomena. As should become apparent in what follows, all the explanatory work is done by the hypothesis that there are poised representations operating at the level of phenomenal consciousness that abstractly and nonconceptually represent parts of one's body, as well as items in one's immediate environment, as instantiating certain qualities. The further reductive claim that phenomenal character is one and the same as the representational content of such representations does no explanatory work in accounting for these phenomena. Thus, the PANIC theory enjoys no explanatory advantage over any theory of phenomenal consciousness according to which phenomenally conscious sensory states are poised representations that abstractly and nonconceptually represent

²⁴ *Principle of Explanatory Resources*: For any two theories T and T*, if T has the resources to explain some datum D and T* does not, then, all else being equal, there is good and sufficient reason to prefer T over T*.

Principle of Best Explanation: For any theory T, if T provides a better explanation for some datum D than any of T's relevant rivals, then, all else being equal, there is good and sufficient reason to prefer T over any of its relevant rivals.

parts of one's body, as well as items in one's immediate environment, as instantiating certain qualities. Since the phenomenal-neural identity theory presented the last chapter is one such theory, then it is not explanatorily inferior to the PANIC theory with respect to puzzling phenomena considered below.

I. Explaining the Intensionality of ‘Looks’ Discourse

Following Chisholm (1957) and Jackson (1977), let's assume along with Tye that there are three distinct uses of ‘looks’ in ordinary English: the phenomenal use, the epistemic use and the comparative use. The phenomenal use of ‘looks’ occurs in locutions of the form ‘X looks F’ and ‘X looks F to S’ where ‘F’ expresses a paradigmatic shape or color property. Examples of the phenomenal use of ‘looks’ include:

That cue ball looks oval.

The pool stick looks orange to Ruthie.

The epistemic use of ‘looks’ occurs in locutions of the form ‘X looks as if it is F’, and the comparative use of ‘looks’ occurs in locutions of the form ‘X looks like a F’ though both can also occur in ‘X looks F’. Obvious cases of these two uses of ‘looks’ are ones in which ‘F’ does *not* express a paradigmatic shape or color property. Here examples might include:

Those chickens look confused.

The liquor store looks closed.

It looks to Ruthie as if that dog is wearing a dress.

The dog looks like a warthog to Ruthie.

Let's call the epistemic and comparative uses of 'looks' *conceptual* uses of 'looks' to distinguish them from the phenomenal use of 'looks'. Why? Typically, when 'looks' is used epistemically or comparatively there is an implication that the subject in question *sees* something *as F*, which suggests that the subject thinks or believes that something is F. And to think or believe that something is F presumably requires that the subject possess the concept *F*. However, there is no such implication when 'looks' is used phenomenally. Though it is ultimately an empirical question, one very plausible explanation for why the phenomenal use of 'looks' does not imply concept possession is that the phenomenal use of 'looks' tracks how items visually appear to subjects at the level of visual phenomenal consciousness (namely, as having certain shape and color properties), and not what subjects might think or believe on the basis of how items appear visually. But, arguably, both conceptual uses of 'looks' track the latter. For example, it does not seem entirely appropriate to say of Ruthie that the dog looks to her *as if* it is wearing a dress unless there is good reason to think that she can think or believe *that* the dog is wearing a dress. And for Ruthie to come to think or believe this based on how the dog visually appears to her (i.e. as having certain shape and color properties) presumably requires that she possess the concept *WEARING A DRESS*. But the question of whether she possesses the concepts *OVAL* or *ORANGE* in order that the cue ball visually appear oval to her, or that the pool stick appear orange to her, is of little consequence when using 'looks' to describe how these objects visually appear to her.

Furthermore, usually 'looks' is used comparatively only in contexts where it is certain that the subject in question possesses concepts of the items in question. It would make little sense to say of Ruthie that the dog she is viewing looks to her *like* a warthog if she

doesn't know what warthogs are, which presumably requires possession of the concept *WARTHOG*. But, again, it is quite plausible to suppose that something can visually appear to Ruthie to be a certain color or shape regardless of whether she can think thoughts about such properties.

Note too that 'looks' is usually not used in contexts where the subject to whom something looks F is a non-human animal or a pre-linguistic child, and F is not a paradigmatic color or shape. For example, it is certainly not obvious that relatively sophisticated concepts like *CONFUSED CHICKENS* and *CLOSED LIQUOR STORE* are the sorts of concepts that non-human animals and pre-linguistic children possess. Though we do ascribe mental states that involve such concepts to such creatures we are not entirely comfortable thinking that they actually think thoughts using such concepts in the relatively sophisticated way psychologically normal adults do. However, we are quite comfortable saying of such creatures that something can look to them to have a certain shape or color regardless of whether we think they possess the relevant shape and color concept. Why? Because whether such a creature possesses concepts of paradigmatic shape and color properties is typically regarded as irrelevant to whether something can visually appear to such a creature to have such properties.

Now Tye points out that the phenomenal use of 'looks' can be intensional in at least two ways.²⁵ (2000, p. 54-55) Call the first way in which the phenomenal use of 'looks' is intensional the *coextension* intensionality of 'looks', and the second way in which the phenomenal use of 'looks' is intensional the *existential* intensionality of 'looks'.

Consider first the coextension intensionality of 'looks'. Where F is a paradigmatic color

²⁵ Let us assume also that uses of other phenomenal verbs (e.g. feels, tastes, smells, etc.) are intensional in the same manner that uses of 'looks' is intensional. So, whatever explanation is offered for why the phenomenal use of 'looks' is intensional applies to other phenomenal verbs as well.

or shape and G is not, something can look F to a subject S without it looking G to S even though F and G are coextensive. Suppose for the sake of illustration that, as a matter of nomic necessity, everything that is orange is dangerous and vice versa. Regardless of whether Ruthie is a small child or a psychologically normal adult, would it follow from ‘The pool stick looks orange to Ruthie’ that the pool stick looks dangerous to Ruthie? No. It can be true that the pool stick visually appears orange to Ruthie while false that it visually appears dangerous. There is no question of the pool stick visually appearing dangerous to Ruthie though it appears orange to her since, arguably, danger isn’t the sort of property that visually appears to normally sighted humans.²⁶ Thus, regardless of whether Ruthie possesses the concept *ORANGE* or *DANGEROUS* it doesn’t follow that the pool stick she is viewing looks dangerous to her even though it looks orange to her.

How is this explained by the PANIC theory? As we saw in the first chapter, the PANIC theory has it that there are representations at the level of visual phenomenal consciousness, so-called visual experiences. Visual experiences are distinct in kind from propositional attitudes both in terms of what sort of functional role they play and the sort of representational contents they have. They are poised in the sense that they “stand ready” to be used by one’s belief / desire system and have contents that include only certain geometric and color properties, properties for which subjects needn’t possess corresponding concepts to sense visually. Such representations are tokened at the level of visual phenomenal consciousness and so at the level of visual appearances. This explains why something can visually appear to have a certain color or shape property and, at the same time, not visually appear to have a non-color or non-shape property even if the

²⁶ Just ask anyone who learned the hard way that glowing, hot coals do in fact burn!

properties in question are coextensive. Thus, supposing that the property of being dangerous and the property of being orange are coextensive, the PANIC theory explains why the pool stick can look orange to Ruthie yet not also look dangerous to her.

Consider now the existential intensionality of the phenomenal use of ‘looks’. When ‘looks’ is used phenomenally it can be true that something looks F to S even though it is false that there exists something within S’s line of sight that is F. For example, suppose you are hallucinating a yellow object. As you do you might utter or think the following:

There looks to be something that’s yellow.

Of course, you are hallucinating, so it is false that there is in fact something before you that is yellow. Nonetheless, it is true that it looks to you as if something is yellow because an apparent object appears to be yellow at the level visual phenomenal consciousness. However, just as it doesn’t follow from the fact that someone believes that the present king of France is bald that there currently exists a king of France who is in fact bald, so it also doesn’t follow from the fact that when one hallucinates a yellow object that there exists an object before one that instantiates yellowness.

So, again, how does the PANIC theory explain this? Well, according to Tye, visual hallucinations are visual experiences. As such they represent unnamed items in one’s immediate environment as having certain geometric and color properties and are poised to be used by one’s belief / desire system.²⁷ In our example your hallucination represents that there is something before you that is yellow. The apparent object appears to you as such. But suppose there is nothing before you that is yellow. Given that the poised hallucination represents that there is something before you that is yellow, you may form

²⁷ What is said here about visual hallucinations applies equally to afterimages, phosphenes and whatever other sorts of non-veridical visual experiences there are.

the belief that it looks to you as if something before you is yellow, and your belief would be true despite the fact that there isn't anything before you that is in fact yellow.

II. Explaining Felt Location & Failures of Inference about Bodily Sensations

The phenomenal character peculiar to bodily sensations such as pains, itches, tingles and tickles typically, if not always, includes five introspectively distinguishable components: quality, intensity, duration, dimension and location. Consider an example, say, a paper cut on the palm of your hand. If you have ever had a paper cut you can easily imagine what it would be like to undergo the sort of sensation typically caused by such a cut. Perhaps the most salient feature of what it is like to undergo such a sensation is a qualitative one, namely, the *stinging*. The quality that is *the stinging* is the phenomenal character crucial to the sensation in question being a certain sort of cutaneous *pain*. But this feature isn't the only component of what it is like to undergo the sensation. The stinging admits of varying degrees of intensity. Like changes in color illumination, or sound volume, the stinging can be stronger or weaker. Initially it is strong enough to demand your focused attention. Perhaps it becomes more intense as you attend to it introspectively and then weakens as you try to ignore it, or maybe not. But eventually it weakens to the point of disappearing entirely. Thus, the stinging lasts for a certain measurable length of time. Finally, the stinging is felt to have certain dimensions and so is felt to be located either on or near the surface of the palm. It might feel as if it covers a portion of the surface of the skin, or as if it has a certain volume within the hand.

Now there is much to be said about the phenomenal character of different types of bodily sensations, but what is perhaps most significant with respect to what the PANIC theory explains is that the qualitative components of such sensations feel as if they are instantiated in regions of the body or on the surface of the skin. The achiness of a lower back pain is felt to be in or around the lower lumbar. The itchiness of an itch on the scalp is felt to be *on* the surface of the scalp. Hunger pangs are felt to be *inside* the stomach. And this is so despite the fact that token bodily sensations, if they are located anywhere, are located in the CNS.

As I noted in Chapter 1, on Tye's view the explanation for why we *feel* the qualitative feature of what it is like to undergo a bodily sensation as occurring in a certain region of the body is that the location of certain physiological events is part of the representational content of sensations. For example, Tye claims that pains represent certain sorts of (typically) harmful physiological changes to bodily tissues, namely, damaged tissue.²⁸ Since bodily tissues do in fact have a bodily location pains represent where these harmful changes to tissues occur. And Tye extends this basic idea to other types of bodily sensations. (1995, pp.116-119) Itches are sensory representations of disturbances *on* the surface of the skin. Hunger pangs represent contractions as occurring *inside* the stomach walls. The qualitative components of the overall phenomenal character of bodily sensations feel as if they are located in certain regions of the body because the bodily sensations represent *where* certain sorts of physiological changes to bodily tissues occur.

²⁸ As I noted in Chapter 1 on Tye's view the qualitative component (e.g. the stinging) of what it is like to undergo a bodily sensation just is a certain sort of physiological change in bodily tissue; namely, the property of being damaged. (2005b, pp.164-172) However, the quality in question needn't be identified with such a physiological change (i.e. damaged tissue) in order that the sensation represent such a change.

Note too that the hypothesis that bodily sensations are representations explains how (e.g.) referred pains and phantom limb pains are possible. Referred pain is a phenomenon in which an unpleasant quality is felt to be instantiated in one region of the body, but the proximate cause of feeling the quality in that region is actually located in some other region of the body. Common examples include pains produced by heart attacks, gallbladder attacks, and herniated discs. The unpleasant qualitative feature of what it is like to undergo a pain caused by a heart attack may be felt to be in the neck, jaw, or abdomen. In the case of a gallbladder attack the quality may be felt in the back of the shoulder. In the case of a herniated disc the quality may be felt to be in the leg. In each case the proximate cause of the pain is not where the quality is felt to be.

Or, consider phantom limb pains. It is common among amputee victims to retain a proprioceptive sense of their missing limbs for some time post amputation. Subsequently, some such amputees continue to have bodily sensations (usually pains) in which the qualitative feature of what it is like to undergo them is felt to be in their missing limbs.

How are referred pains and phantom limb pains possible? The answer the PANIC theory provides is that the sensations in question are token sensations that inaccurately represent regions of bodily tissue as damaged. In the case of referred pains the pains inaccurately represent where the relevant tissue damage is occurring. And, in the case of phantom limb pain, what is phantom about an amputee victim having a phantom pain in a missing appendage isn't that the amputee victim is not having a pain; rather, she is undergoing a pain that (mis)represents a phantom region of tissue as damaged.

This discussion of bodily location brings us to the last sort of puzzle the PANIC theory has the resources to explain. Suppose that as a result of having just accidentally slammed the tip of your pinky with a hammer you feel a persistent achiness in the tip of your pinky finger. Suppose further that for some reason you stick the tip of your left pinky in your left ear. Finally, let's pretend that while you have your pinky in your ear you think or utter the following:

I have a pain in the tip of my pinky.
The tip of my pinky is in my ear.
So, I have a pain in my ear.

If ‘in’ means spatially inside, then, given that *being spatially inside* is transitive, this inference should be valid. But, given the ordinary meaning of *pain in the ear*, it certainly is not the case that you now have a pain in your ear simply because you have your achy pinky stuck in it. On the assumption that ‘in’ means spatially inside throughout the inference, and assuming that the intensional context here isn’t a result of the logical quirks of the spatial term ‘in’, then Tye’s theory offers a nice explanation of why the inference is invalid.²⁹ As noted above, the phenomenal character of a token pain has at least two distinct components: the quality and the bodily location thereof. Since, on Tye’s view, the pain in question is a token representation that, if it is tokened anywhere, is tokened somewhere in your CNS, then it is not literally true that there is a pain in the tip of your pinky. Rather, the pain represents tissue in the upper portion of your pinky as damaged. Thus, since the pain is an intentional state representing only the tip of your pinky as suffering tissue damage, it doesn’t follow that the pain in question also

²⁹ For the latest discussion on whether the intensional context here is due solely to the logical quirks of the term ‘in’ see Noordhof (2005) and Tye (2005). I assume here that Tye’s arguments against this idea are decisive.

represents either the same tissue damage, or some distinct instance of tissue damage, as occurring *in your ear* when you put your achy pinky in it. Nor does it follow that an *additional* pain is tokened representing a region of your ear as suffering tissue damage when the location of your achy pinky goes from being outside your ear to inside it, which is what would have to be the case to make true the conclusion of the inference above. In short, what explains the intensional (or non-extensional) context in the inference above is that pains are intentional states. What Tye calls the “hidden intensionality” involved in the inference above is a result of the phenomenal state in question (i.e. your pinky pain) being an intentional state, specifically, a representation with the content that there is some region of tissue that instantiates a certain quality, namely, damage. Though debatable, if it’s true that bodily sensations such as pains are intentional states, it is quite plausible that the intensional context here has nothing to do with certain uses of the term ‘in’ generating intensional contexts in ordinary discourse about ordinary middle-sized objects.

IV. The Explanatory Irrelevance of the Content Thesis

As I noted in the first chapter, the main reductive thesis of the PANIC theory, what I am calling the Content Thesis, admits of two interpretations, the semantic interpretation and the state interpretation. According to the semantic interpretation, to say that phenomenal character is one and the same as PANIC is to say that phenomenal character generally is the semantic content of poised representations, where the content is abstract and nonconceptual. Since, according to Tye, these contents are structured, existential states of affairs, then on the semantic interpretation the overall phenomenal character of a given phenomenal state just is a certain structured, existential states of affairs abstractly

and nonconceptually represented as obtaining by a poised state. According to the state interpretation, to say that phenomenal character is one and the same as PANIC is to say that phenomenal character generally just is a certain kind of representing just as, given RTM about propositional attitudes, we might think of believing that *p* as a certain kind of representing. So, on the state interpretation the overall phenomenal character of a given phenomenal state is one and the same as a certain type of *representing event*, namely, a poised state's representing abstractly and nonconceptually a certain structured, existential state of affairs as obtaining.

However, regardless of which interpretation of the Content Thesis is correct, the Content Thesis is not required to explain any of the puzzles discussed above. As we have seen, in each case all the explanatory work is done by either the hypothesis that there are poised representations at the level of phenomenal consciousness represented paradigmatic sensory qualities, or that such poised representations represent abstractly and nonconceptually.³⁰ No explanatory work is done by the further reductive claim that the phenomenal character of sensory states is one and the same as the semantic content of these states, or the reductive claim that the phenomenal character of these states is one and the same as the states themselves.

By way of illustration, consider again the example of Ruthie to whom something looks orange but not dangerous even though (we're imagining) orangeness and danger are nomologically coextensive. According to the PANIC theory, as Ruthie points her eyes in the direction of the pool stick a poised representation is tokened that abstractly and nonconceptually represents a certain state of affairs, namely, something's being

³⁰ And, in fact, that the representations are nonconceptual is relevant only to explaining the coextension intensionality of 'looks' discourse. However, all of the remaining explanations require that the contents be abstract and include only sensory properties.

orange. The representation doesn't also represent something's being dangerous; nor is an additional poised representation tokened representing anything as dangerous. Poised representations of the visual sort represent items in one's immediate environment only as having certain geometric and color properties. So although orangeness and danger are coextensive the pool stick can look orange to Ruthie without it also looking dangerous.

Now imagine what it is like visually for Ruthie to have her eyes pointed in the direction of the pool stick. Specifically, imagine the very color quality that appears to her to saturate the surface of the pool stick, the quality that she might introspectively discriminate as being phenomenally distinct from other qualitative and non-qualitative properties as her eyes are pointed in the direction of the pool stick. Call this quality 'O'. On the state interpretation of the Content Thesis the very visual phenomenal character O that Ruthie experiences as she looks in the direction of the pool stick is one and the same thing as the tokening of a poised representation abstractly and nonconceptually representing something's being orange. On the semantic interpretation of the Content Thesis O is one and the same as a certain color property a token representation represents the pool stick as instantiating, namely, orangeness.³¹ Need O be one and the same as either of these things in order that it be true that the pool stick look orange to her but not dangerous? No. The only part of the PANIC theory that explains how it is possible for the pool stick to look orange to Ruthie without it also looking dangerous is that there be a poised representation tokened at the interface of her visual system and her cognitive system that nonconceptually represents something as being orange and no such representation representing the same thing as dangerous. However, this feature of the

³¹ For a discussion of these interpretations of the Content Thesis see the second section of Chapter 5.

PANIC theory is consistent with a number of different metaphysical stories about what O is. For example, property dualists might insist that O is some sort of fundamental non-physical property, perhaps a quale. Physicalists of a non-representational variety might want to claim that O is some sort of higher-order functional property realized in Ruthie's brain, or indeed a neural property instantiated in Ruthie's brain. Granted, no alternatives to the Content Thesis about the nature of O will come without its own metaphysical baggage. Property dualists will likely treat O as epiphenomenal. Physicalists of a non-representational variety will have to either opt for some sort of color irrealism, construe colors as dispositions to look colored, or treat colors as the categorical bases of such dispositions. None of these latter metaphysical theses are wholly devoid of serious problems.³²

Regardless, the point to stress is that whatever sort of metaphysical story one wants to tell about O the idea that O just is a certain sort of representational content isn't a necessary part of what it is about the PANIC theory that explains the coextensive intensionality of 'looks' discourse. And the same is true regarding the existential intensionality of 'looks' discourse, as well as all of the other puzzles mentioned above regarding bodily sensations. Regarding the latter, none of the explanations for these puzzles require that the phenomenal character peculiar to bodily sensations be one and the same as what poised representations represent at the level of phenomenal consciousness, or that the phenomenal character peculiar to bodily sensations be one and the same as a certain kind of representing that occurs at the interface between interoceptive sensory systems and the cognitive system. All that is required is that there

³² Though some (e.g. epiphenomenalism) are certainly more serious than others (e.g. colors are categorical bases disposing items to look colored), or so I would argue.

be poised representations that abstractly and nonconceptually represent regions of tissue throughout the body as undergoing certain physiological changes. Thus, the only part of the PANIC theory that gains support from the fact that it has the resources to explain the puzzling phenomena discussed above is the hypothesis that sensory states with phenomenal character are in fact poised representations operating at the level of phenomenal consciousness that represent what they do abstractly and nonconceptually, and not the further reductive thesis that the phenomenal character of such states is one and the same as PANIC. So long as other reductive options can accommodate this hypothesis to explain the puzzles above, then they are not inferior to the PANIC theory in this respect. On the phenomenal-neural type identity view outlined in Chapter 2 phenomenal characters are neural properties that abstractly and nonconceptually represent items in an organism's immediate environment, as well as parts of an organism's body, as instantiating certain properties. When tokened they play the relevant information-processing role set forth in the PANIC theory, namely, the poisedness role. So, to the extent that the phenomenal-neural type identity theory also has the resources to explain the above-mentioned puzzles, it is not inferior to the PANIC theory in that regard.

CHAPTER FOUR

THE APPEAL TO TRANSPARENCY: A RATHER WEAK CASE FOR PANIC

One explanandum Tye considers to be of utmost importance in motivating his theory is the so-called “transparency” or “diaphanousness” of phenomenal consciousness. Roughly, this is the idea that when one introspects one does not find that one is directly aware of phenomenally conscious states (e.g. perceptual experiences or bodily sensations) or any intrinsic aspects thereof. Rather, what one seems to discover is that one is only aware of qualities that appear as if they are qualities of items in one’s immediate environment, or parts of one’s body.³³ However, it is rather hard to get a clear grasp of what all this means exactly. This is due, in part, to the fact that it is extremely difficult to describe the phenomenon without having to resort to theoretically loaded terms. And this, of course, makes it difficult to assess whether Tye succeeds in making a convincing case for his claim that his theory has the resources to explain transparency. Despite Tye’s most recent efforts to clarify his appeal to transparency in *Consciousness, Color and Content*, the argument he offers is quite complex and seemingly not well understood by the few commentators that have ventured to critique it.

In this chapter I try to clear things up a bit and argue that Tye’s appeal to the transparency of visual experiences as a way of motivating the PANIC theory is ultimately unconvincing. It turns out that the data Tye claims the PANIC theory explains regarding transparency are *bona fide* explananda only if the thesis that the color qualities (i.e.

³³ Transparency is what G. E. Moore (1903) attempts to describe in his refutation of idealism and what Harman (1990, p. 667) is referring to in his attempt to defend functionalist theories of mind. However, it is not entirely clear whether these authors are describing a purely psychological phenomenon or making substantive metaphysical claims about the nature of visual experience, awareness and visual qualities. The same is true for Tye in the passages I consider in the text.

certain visual phenomenal characters) normal subjects are directly aware of upon introspecting visual experiences are somehow qualities of visual experiences is false. However, Tye's argument for the falsity of this thesis assumes the truth of two essential components of the PANIC theory, namely, the Representation Thesis and the poisedness condition. Thus, his appeal to transparency could only be for the benefit of those already on board with the idea that visual phenomenal character is essentially an intentional (i.e. representational) feature of visual experiences. Anyone who antecedently denies this will be unmoved by Tye's argument that the color qualities (i.e. certain visual phenomenal characters) normal subjects are directly aware of upon introspecting visual experiences are not somehow qualities of visual experiences. And anyone who already grants that visual phenomenal character is essentially an intentional feature of visual experiences doesn't need to be shown that the PANIC theory explains transparency, since to accept that visual experiences are transparent is to already grant that visual phenomenal character is essentially an intentional feature of poised representations.

I then look at Tye's defense of "common sense" color realism, according to which the color qualities that appear to be qualities of items external to one's mind / brain as one introspects visual experiences are in fact properties of items external to one's mind / brain, if they are qualities of anything. This view of introspectively discernable color qualities entails the falsity of the thesis that such qualities are somehow qualities of visual experiences. I show, however, that Tye's defense of color realism amount to little more than pointing out its intuitive plausibility when considering only certain aspects of visual phenomenal character. In doing this Tye ignores certain other aspects of visual phenomenal character that at the level of "common sense" is directly at odds with the

color realism he espouses, as well as certain other features of his overall view. To do this arbitrary, and so an unacceptable way of denying that the color qualities normal subjects are directly aware of upon introspecting visual experiences are somehow qualities of such experiences.

Thus, for all Tye claims about the alleged transparency of phenomenal consciousness, it is open to anyone who maintains that phenomenal characters are properties of phenomenal states to deny that the PANIC theory best explains what Tye claims it does regarding transparency. Since, according to the view I endorse, phenomenal characters are neural properties exemplified by token neural events that represent non-essentially, I do deny that the data he cites as explananda in his appeal to transparency are of any significance.

I. Two Types of Transparency, Psychological & Metaphysical

What, according to Tye, is transparency? It will be helpful to look at a couple of passages to give us some idea, but before doing so a few preparatory remarks are in order. First, these passages discuss the transparency of so-called “visual experiences.” Unfortunately, the term *experience* is often used ambiguously in discussions about phenomenal consciousness. Sometimes it used as a synonym for phenomenally conscious mental states. Other times it is used to refer to various sorts of phenomenal character with no implied reference to mental states or processes (e.g. the apparent color of the surface of this page); and, as we saw in the first chapter, the term *phenomenal character* is by no means univocal. Thus, it is sometimes difficult to figure out exactly what sort of thing philosophers are referring to when using the term *experience*. In an

effort to remain as theoretically neutral as possible, while exploiting the usefulness of employing the notion, I suggest we think of visual experiences as token events similar to, say, token bodily sensations (e.g. having a headache or a tickle in the nose) and other token perceptual experiences (e.g. hearing the hum of an AC unit or catching a whiff of brandy). Such events can be characterized in terms of different sorts of visual phenomenal character, which may include anything from a single color “quale” that lasts for a split second to a “phenomenally well-organized” visual scene that persists for hours. We can suppose then that there are as many different types of visual experience as there are distinguishable phenomenal characters peculiar to visual phenomenal consciousness.³⁴ Furthermore, we shall be considering only those aspects of phenomenal consciousness generally that are distinctive of *visual* phenomenal character as opposed to, say, the phenomenal character distinctive of other sensory modalities (i.e. tactition or audition) or other mental states and processes (e.g. what it is like to think about or have a memory of visual phenomenal character).³⁵

³⁴ Consult the first chapter for a discussion how to distinguish different sorts of phenomenal character using both cross modal and intramodal discriminable differences among qualitative features.

As far as thinking of visual experiences as events goes consider, for example, the bit of visual phenomenal consciousness you are currently enjoying. Like the qualitative features associated with token bodily sensations and token sensory experiences in other modalities a certain collection of qualitative features - namely, color qualities and shapes - simply occur or happen, and this is so irrespective of what they might appear to be qualitative features of. Close your eyelids shut and the very collection of visual qualitative features disappears. It is replaced with a discriminably different collection of qualitative features, namely, variously shaped afterimages amidst a brain gray background. Open your eyelids and the original collection of qualitative features reappear.

I take it that, at the very least, this purely qualitative conception of visual experiences construed as token phenomenal events is what most philosophers have in mind when using the notion *visual experience*. Tye at least construes them as events. (1995, Ch.3) Whatever else might be intended in the use of this notion varies, but for our purposes we need only use this purely qualitative conception of *visual experience*.

³⁵ It is perhaps helpful here to try to imagine what it would be like if vision were your only working sense modality such that visual phenomenal consciousness, plus some sort of higher-order awareness of visual phenomenal character, are the only sorts of consciousness you enjoy. When audition, olfaction, tactition, proprioception, etc. are “turned off” the result would presumably be something similar to viewing a movie screen that takes up one’s entire visual field. The only qualities that are peculiar to *visual* phenomenal character here are color qualities, though they are arranged in a way to indicate spatial properties and shapes.

Second, visual experiences are sometimes thought of as mental states, so it is easy to think of them as perceptual beliefs or introspective judgments about visual phenomenal character. However, visual experiences should not be confused with perceptual beliefs, introspective judgments about occurrent visual experiences or any other sort of doxastic state. In fact, at this point we should not assume that these time slices of visual phenomenal consciousness are representational in any sense. This is perhaps difficult to do since vision by definition is a sensory phenomenon. Such phenomena are functionally characterized in terms of picking up information about items in an organism's immediate environment as a result of certain stimulus energies affecting sensory receptors. It is a short step from such talk to talk about representing items in one's immediate environment as being a certain way. Furthermore, it is very natural to pre-theoretically construe vision as a process the function of which is to depict items in our immediate environment in the manner of iconic representations such as photographs and paintings. But, conceptually speaking at least, vision so characterized is one thing; phenomenal character, whether it be of the sort associated with vision, gustation, bodily sensations or audition, is quite another.³⁶ When we are talking about time slices of visual phenomenal consciousness we are talking about instances of any sort of visual phenomenal character. Whether visual phenomenal character is representational in nature is precisely the question at issue.

³⁶ This point goes largely underappreciated in much of the philosophical literature about visual phenomenal consciousness. *Of course* it makes sense to think of visual phenomenal character as essentially representational in some way or other. After all, we pre-theoretically treat visual experiences as the mental counterparts to paintings, photographs and movie screens. Such things are iconic representations. They are representational vehicles that represent by *resembling* the way we visually sense items in our immediate environment at the level of visual phenomenal consciousness. However, representation by resemblance is not the sort of functionally / computationally characterized representation at issue. Symbol filled arrays, 2 ½ - D sketches and various other data structure don't represent by resembling or depicting things in the world in the manner that paintings, photographs and films do. Subsequently, visual phenomenal character should not be treated as an essentially representational phenomenon any more than that of the phenomenal character peculiar to other sensory processes like audition, olfaction, thermoception or nociception.

Arguments for the claim that it is shouldn't presuppose that it is, and the appeal to transparency on the part of representationalists is no exception.

Third, the passages to be considered mention “focusing on”, and “attending to”, how items located before one look while one is awake, alert and with eyelids open. I take this to simply be a matter of introspecting visual phenomenal character under normal viewing conditions and will refer to the mental process Tye has in mind as “introspecting a visual experience.”³⁷

Finally, the passages contain the expression “directly aware of” to refer (presumably) to some sort of perceptual relation one stands in to items in one’s immediate environment and their properties. Insofar as Tye purports to be referring to a *bona fide* act-object relation with this expression the awareness in question here is *de re* and intentional.

Consider the first passage:³⁸

³⁷ Note that Tye uses the expressions *attending to*, *aware of*, *focusing on* and *introspect* rather loosely. As far as I am aware Tye has no detailed analysis of any of these notions.

³⁸ The two passages considered in the main text aren’t the only passages in which Tye describes visual transparency. I choose these passages because they appear as part of Tye’s most recent attempt to better articulate the significance of transparency. Other passages include the following:

Focus your attention on a square that has been painted blue. Intuitively, you are directly aware of blueness and squareness as out there in the world away from you, as features of an external surface. Now shift your gaze inward and try to become aware of your experience itself, inside you, apart from its objects. Try to focus your attention on some intrinsic feature of the experience that distinguishes it from other experiences, something other than what it is an experience *of*. The task seems impossible: one’s awareness seems always to slip through the experience to blueness and squareness, as instantiated together in an external object. (1995, p.30)

Suppose you have a visual experience of a shiny, blood-soaked dagger. Whether, like MacBeth, you are hallucinating or whether you are seeing a real dagger, you experience redness and shininess as outside you, as covering the surface of the dagger. Now try to become aware of the experience itself, inside you, apart from its objects. Try to focus your attention on some intrinsic feature of the experience that distinguishes it from other experiences, something other than what it is an experience *of*. The task seems impossible: one’s awareness seems always to slip through the experience to the redness and shininess, *as instantiated together externally*. (1995, p. 136)

Suppose you are facing a white wall, on which you see a bright red, round patch of paint. Suppose you are attending closely to the color and shape of the patch as well as the background.

Focus your attention on the scene before your eyes and on how things *look* to you. You see various objects; and you see these objects by seeing their facing surfaces...In seeing these surfaces, you are immediately and directly aware of a whole host of qualities. You may not be able to name or describe these qualities but they look to you to qualify the surfaces; you experience them as being qualities of the surfaces. None of the qualities of which you are directly aware in seeing the various surfaces look to you to be qualities of your experience. For example, if blueness is one of the qualities and roundness another, you do not experience your experience as blue or round. (2000, pp.45-46)

I suggest we interpret this passage as describing a purely psychological phenomenon normal cognizers can undergo as they introspect a visual experience, a phenomenon I will call *psychological transparency*. A more formal description of psychological transparency can be formulated as follows.

For any normal human subject S undergoing a token visual experience V, V is psychologically transparent to S just in case the following occurs as S introspects V:

- (1) S is directly aware of certain qualities,
- (2) the qualities S is directly aware of appear to S as if they are qualities of items before S, and not as if they are qualities of V, and
- (3) it seems to S that S is not aware of V, or any qualities thereof.

Call this the Psychological Transparency Thesis (henceforth, PT). So long as PT is merely a description of a purely psychological phenomenon, we can suppose that no

Now turn your attention from what you see out there in the world before you to your visual experience. Focus upon your *awareness of* the patch as opposed to *the patch* of which you are aware. Do you find yourself suddenly acquainted with new qualities, qualities that are intrinsic to your visual experience in the way that redness and roundness are intrinsic to the patch of paint? According to some philosophers, the answer to this question is a resounding ‘No’. As you look at the patch, you are aware of certain features out there in the world. When you turn your attention inwards to your experience of those features, you are aware *that* you are having an experience of a certain sort, but you are aware *of* the very same features; no new features of your experience are revealed. In this way, your visual experience is transparent or diaphanous. When you try to examine it, you see right through it, as it were, to the qualities you were experiencing all along in being a subject of the experience, qualities your experience is *of*. (SEP Entry “Qualia” p.12)

claim is being made about the ontological status of the qualities in question, their metaphysical nature, or what these qualities are qualities of, if anything. The qualities themselves, as well as the manner in which they appear, are simply features of the overall phenomenal character of V.³⁹ At most we should assume only that there is some subject enjoying a certain sort of visual phenomenal consciousness. With this in mind let's consider each of the clauses of PT in turn.

Clause (1): S is directly aware of certain qualities. The mental state in question here is one in which you might think of yourself as currently being directly aware of various color qualities as you read this even though you are not selectively attending to, or focusing on, such qualities as you read.⁴⁰ That is, as you read you are not selectively attending to, or focusing on, the color qualities appearing to you just as you are not currently selectively attending to the qualities of whatever bodily aches and pains you might currently have, or to the qualities the sounds and odors in your immediate environment have, or to how your clothes feel against your skin.⁴¹ Nonetheless, the color qualities in question, whatever sorts of things they are, are “present in phenomenal space”

³⁹ As I suggested in the first chapter we can simply treat these qualities as determinates of visual phenomenal character, and so as phenomenal characters themselves. To do so is not at odds with Tye's manner of describing things. For example, he claims that “phenomenal character involves the surface qualities of which the subject of the visual experience is directly aware”; that “these qualities partially *constitute* phenomenal character”; and that “visual phenomenal character is representational content...into which certain external qualities enter” (2000, p.48-51)

⁴⁰ Being directly aware of visual qualities is not the same as attending to how items before one appear visually, though one is certainly aware *of* such qualities when one introspects a visual experience. I take it that direct *visual awareness of*, whatever it amounts to exactly, is not the same as *cognitive awareness that* or the mental act of selectively *attending to*. In discussing Armstrong's example of a long-distance truck driver who is on “automatic pilot” (1980), Lycan (1996, pp.76-77) refers to the sort of awareness I have in mind as “registering” the qualities in question. For now we can think of the sort of awareness in question as an apparent relation between one's mind / brain and certain qualities that is non-inferential and immediate. This is not, as Lycan points out, a higher order awareness *of* being perceptually aware of the qualities in question; nor is it a higher-order awareness *that* one is perceptually aware of the qualities in question.

⁴¹ For ease of exposition I follow Tye in using “quality” terminology to refer to particular phenomenal characters, but unlike Tye my use is strictly neutral as to what sorts of things metaphysically qualities are, as well as what they are qualities of. I will also use the term “items” as a catch-all category for things represented – volumes, objects, surfaces, etc.

to varying degrees depending on what sorts of conscious mental activities you are engaged in. In fact, so as not to be assuming too much about the nature of visual awareness, we should not assume an act-object analysis of awareness and so set aside the question of whether there is real relation being referred to here.

Clause (2): As one introspects a visual experience, the qualities one is directly aware of *appear* to one in a certain way, namely, as if they are qualities of items located before one and not as if they are qualities of the visual experience itself. The qualities appear to one in this way independently of whether one is selectively attending to the qualities, as well as what one thinks about how they appear, or what one judges to be the case based on the how they appear. For example, suppose you are currently reading black print on a white piece of paper. Whiteness and blackness appear as if they are qualities of the surface of the page. Rectangular appears as if it is the shape of the page. These qualities do not appear to you as if they are qualities of your visual experience or anything else in your mind / brain.⁴² This is so whether you are selectively attending to any of the qualities in question, and regardless of what you might think about how the qualities appear, or what you judge to be the case based on how they appear.

Clause (3): As one undergoes a visual experience and tries to attend to the visual experience itself, or any quality thereof, it seems to one that one is not aware of the visual experience itself or any of its qualities; rather, it seems to one that one is only aware of items located before one (i.e. external to one's mind / brain) and the qualities that appear

⁴² Or, if you insist on conceiving of your current visual experience in such a way that you want to say that the qualities do appear as if they are qualities of your experience, then, at the very least, they don't appear to you as qualities of your visual experience *in the same way* that they appear to you as qualities of items located before you. Even if you insist on conceiving of your visual experience as some sort of "subjective visual field" or "internal mental picture" the qualities in question still appear to you as if they are qualities of items "depicted" in this mental picture, and this is so regardless of how they may also "appear" to be qualities of your visual experience.

as if they are qualities of those items. This is how, as Tye puts it, one “experiences” the items before one and their apparent qualities. Thus, not only do the qualities one is directly aware of appear to one as if they are qualities of external items located before one, but it also seems to one that one is not aware of one’s visual experience, or any qualities thereof, as one introspects the visual experience.⁴³ This seeming is a judgment about what sorts of things one is aware of as one introspects.

Now PT should not be confused with the related *metaphysical* thesis mentioned in the following passage.

If you are attending to how things *look* to you, as opposed to how they are independent of how they look, you are bringing to bear your faculty of introspection. But in doing so, you are not aware of any inner object or thing. The only objects of which you are aware are the external ones making up the scene before your eyes. Nor, to repeat, are you directly aware of any qualities of your experience. Your experience is thus transparent to you. (2000, pp. 46-47)

According to this passage, as one introspects a visual experience one is not (directly) aware of *any* object or event in one’s skull; nor is one directly aware of *any* qualities of one’s visual experience. Though “aware of” in this passage is used intentionally, the passage is nonetheless a substantive metaphysical claim about *what* one is *not* aware of via introspection, and this has certain implications about what one *is* aware of via introspection. Thus, I will call the sort of transparency referred to in this passage *metaphysical transparency*. We can formulate what I will call the metaphysical transparency thesis (or MT) as follows:

For any normal subject S introspecting a token visual experience V, V is metaphysically transparent just in case:

⁴³ Of course, this is false if you insist on conceiving of visual experiences in such a way (e.g. as “subjective visual fields” or “internal mental pictures”) that the qualities in question do “appear” as if they are qualities of visual experiences.

- (1) S is directly aware of certain qualities,
- (2) the qualities S is directly aware of are not qualities of V, and
- (3) V is not something S is directly aware of.

Note the relevant differences between MT and PT. Clause (2) of PT is a claim about how the qualities one is directly aware of *appear* to S. And clause (3) of PT is a claim about what *seems* to be the case to S based on how the qualities in question appear. These describe putative psychological facts about S as S introspects V. These are not claims about what the qualities in question are, or are not, qualities of; nor are they claims about what are, or are not, intentional objects of S's direct awareness. However, according to clause (2) of MT, whatever the qualities in question are qualities of, if anything, they are not qualities of V. And, according to clause (3) of MT, V itself is not an intentional object of S's direct awareness.⁴⁴

II. Explaining Psychological Transparency or Metaphysical Transparency?

One problem we face in assessing the merits of Tye's appeal to transparency to motivate the PANIC theory is keeping straight the difference between psychological transparency and metaphysical transparency. A related problem is discerning which aspect of the PANIC theory the appeal to transparency is in the service of establishing. In this section I address both problems.

It is tempting to think that Tye is arguing that his theory best explains psychological transparency. And this is what Tye seems to have in mind in *Ten Problems*. Though it is clear in *Consciousness, Color and Content* that psychological transparency is not what is

⁴⁴ Tye does think, however, that one can have a higher-order belief, or cognitive awareness *de dicto*, that one is undergoing a visual experience. (2000, pp.51-54)

at issue, it is nonetheless worth considering whether the PANIC theory goes some way in explaining it. Certainly a metaphysical theory of phenomenal consciousness that provides insight as to why certain psychological phenomena occur is, all else being equal, preferable to one that doesn't.

Now a fully satisfying explanation of *why* normal subjects experience psychological transparency will be a *psychological* explanation that provides an account of the relevant mechanisms and structures that underwrite our ability to visually perceive items in our immediate environment, as well as an account of the mechanisms and structures that underwrite our ability to introspect visual experiences. Presumably there is something about how these mechanisms and structures work together that gives rise to psychological transparency. Does the PANIC theory provide insight into what such mechanisms might be? The hypothesis that there are poised representations operating at the level of visual phenomenal consciousness that have the sort of contents Tye claims they have does shed some light on why normal subjects can undergo psychological transparency. Consider clause (1) of PT, that subjects are directly aware of certain qualities. It might be suggested that this direct awareness simply consists in there being poised representations at the interface between the visual system and the cognitive system that nonconceptually represent items in one's immediate environment as having certain geometric and color properties. That such representations are operative at the level of visual phenomenal consciousness explains this direct awareness because their being tokened just is direct awareness.

Regarding clauses (2) and (3) of PT, it might be suggested that the qualities one is directly aware of appear as if they are qualities of items located before one, and not as

qualities of visual experiences themselves, because visual experiences carry information only about items external to one's mind / brain. This explains why the qualities don't appear to one as if they are qualities of anything "inside" one's head, but rather as qualities of items "outside" one's head. Consequently, the reason why it seems to one that one is not directly aware of one's own visual experience, or any qualities thereof, as one introspects a visual experience is that the appearances mirror the contents of such experiences.⁴⁵

This all speaks in favor of the PANIC theory. But it speaks in favor of only the hypothesis that there are poised representations operating at the level of visual phenomenal consciousness that nonconceptually represent external items as having certain geometric and color properties, which is merely part of the PANIC theory. This hypothesis could be tacked on to a number of different views about the nature of visual phenomenal character. Essential to Tye's view is that the color qualities we enjoy direct awareness of via introspection are observer-independent qualities of external items represented by visual experiences. As we saw in Chapter 1, Tye claims that such qualities are constituents of possible states of affairs – real, observer-independent properties. However, the appeal to psychological transparency does little, if anything, to motivate this latter part of the theory. Almost any metaphysical account of such qualities could be tacked on to the hypothesis that there are poised representations of the sort Tye suggests. This latter aspect of the PANIC theory is inessential to explaining PT. Granted, via introspection it can certainly seem that the qualities we are directly aware of are objective qualities of external items, and so perhaps it is more natural to suppose that

⁴⁵ Again, this explanation is of little significance if you insist on conceiving of visual experiences in such a way (e.g. as "subjective visual fields" or "internal mental pictures") that the qualities in question do "appear" as if they are qualities of visual experiences.

they are. But it by no means follows from this seeming that the qualities we enjoy direct awareness of via introspection are such things. So, at best, the appeal to PT helps to establish only part of the PANIC theory, namely, that there are poised representations that nonconceptually represent items in one's immediate environment as having geometric and color properties.

However, as I mentioned above, it is clear from Tye's most recent argument (henceforth, the Transparency Argument) for the claim that the PANIC theory explains transparency that psychological transparency is not what is at issue. (2000, pp. 47-50; 2003) Though he presents the argument in a number of steps, there are basically two parts. Tye first offers an argument for clause (2) of MT - that the qualities normal subjects are aware of upon introspecting visual experience are not qualities of those experiences. He then dismisses sense datum theory as implausible and points out that the PANIC theory explains certain putative data on the assumption that clause (2) of MT is true. According to Tye, the PANIC theory explains why...

- (a) visual phenomenal characters are not qualities of experiences to which we have direct access (representational content is not a quality of representational vehicles)...
- (b) visual phenomenal characters necessarily change with a change in the qualities of which one is directly aware upon introspecting visual experiences (changing the qualities changes the content)...
- (c) visual experiences have visual phenomenal characters that are common to distinct token visual experiences (distinct token representations can have the same content)...
- (d) visual experiences have phenomenal characters even if nothing really has the qualities of which one is directly aware upon introspecting visual experiences (representational contents are not qualities of representations). (2000, p. 49)

The upshot of the second part of the Transparency Argument is that the PANIC theory is the only plausible theory of phenomenal consciousness that explains (a) through (d) given clause (2) of MT.

Now so long as Tye is citing (a) through (d) as what the PANIC theory best explains Tye is not arguing that the PANIC theory best explains psychological transparency, or even metaphysical transparency. Rather, it explains certain putative data about visual experiences that are quite puzzling if it is true that the qualities normal subjects are directly aware of upon introspecting visual experiences are not qualities of those experiences. However, such data count as relevant explananda only if clause (2) of MT is true. Consider that (a) is a datum at all only if the qualities one is directly aware of as one introspects a visual experience are not qualities of the experience. If they aren't, then (b), (c) and (d) are certainly surprising facts that need explaining. However, if the qualities in question are qualities of visual experiences, then (b) and (c) are hardly interesting and (d) is simply false. Of course a change in the phenomenal character of a visual experience is going to change if it just is a changing quality of the experience that one is directly aware of. And of course distinct tokens of a certain type of visual experience are going to have the same phenomenal character if the phenomenal character in question just is a quality both tokens share. Furthermore, it can't be true that *nothing* has the qualities in question if those qualities just are the phenomenal characters of visual experiences – visual experiences would have them! Thus, if clause (2) of MT is false, then not only are (b) and (c) simply uninteresting, but (a) and (d) aren't even candidates for explananda.

Why is this significant? Well, that the PANIC theory explains (a) through (d) counts in favor of the theory only if clause (2) of MT is true. However, as evidenced by (continued) widespread disagreement among philosophers about whether the phenomenal characters of visual experiences are somehow or other qualities of such experiences, clause (2) of MT is hardly a truism. So, what is needed is a *very* compelling argument for clause (2) of MT, otherwise the Transparency Argument takes us no further than the idea that the PANIC theory explains psychological transparency did. In fact it takes us nowhere since if clause (2) of MT isn't true, and the only alternative is that the qualities are properties of visual experiences, then either the putative explananda are uninteresting or false.

In the next section I examine Tye's argument for clause (2) of MT. A key premise in that argument is plausible only if we already grant that visual phenomenal character is essentially representational and that there are poised representations operative at the level of phenomenal consciousness. So, Tye's target...

III. What are Introspectable Color Qualities Supposed to be Qualities of?

What is Tye's argument for clause (2) of MT? First we grant that when normal subjects introspect visual experiences they are directly aware of certain qualities. Again, at this point we are not to assume anything about what sorts of things these qualities are metaphysically speaking, or what they are qualities of, if anything. This is just a datum as described in clause (1) of PT. Tye then claims that

To suppose that the qualities of which perceivers are directly aware in undergoing ordinary, everyday visual experience are really qualities of the experiences would be to *convict such experiences of massive error*. That is just not credible. It seems totally implausible to hold that visual

experience is systematically misleading in this way. Accordingly, the qualities of which you are directly aware in focusing on the scene before your eyes and how things look are not qualities of your visual experience. (2000, p. 46, my italics)

Allow me to state this more formally. First, we have to grant the following assumptions:

Assumption 1: When normal subjects introspect visual experiences they are directly aware of certain qualities (i.e. clause (1) of PT is true).

Assumption 2: The qualities normal subjects are directly aware of upon introspecting visual experiences are either qualities of those experiences or they are qualities of items in the immediate surrounds of introspecting subjects , if they are qualities of anything.

Next we reason as follows:

- (1) If the qualities normal subjects are directly aware of upon introspecting visual experiences are qualities of those visual experiences, then visual experiences are in massive error and so systematically misleading.
- (2) However, it is implausible to suppose that visual experiences are in massive error, and so systematically misleading. (2000, p. 46)
- (3) So, the qualities normal subjects are directly aware of upon introspecting visual experiences are not qualities of those visual experiences.

Consider the second premise. If we suppose that the qualities normal subjects are directly aware of upon introspecting visual experiences are somehow qualities of those visual experiences, then in what sense are visual experiences, as distinct from ordinary workaday perceptual beliefs or introspective judgments about such experiences, in massive error and thereby systematically misleading? Presumably the idea is that visual experiences represent - in the sense of *presenting to the subject* - that the qualities in question are qualities of external items when in fact they are somehow qualities of visual experiences. As we saw with psychological transparency, the qualities in question appear to one as if they are qualities of external items. Thus, if they are somehow qualities of visual experience, then they provide the cognitive system with inaccurate information as

to what the qualities in question are qualities of in virtue of having the phenomenal character they do. However, visual experiences can misrepresent in this way (i.e. fail to *present* accurately) only if they are representations that are distinct in kind from perceptual beliefs and introspective judgments. Such representations would be the outputs of the visual system to be utilized by the cognitive system. They are, in effect, poised representations that systematically misrepresent what the color qualities in question are qualities of.⁴⁶ But the idea that visual experiences are poised representations is precisely what Tye's Transparency Argument is suppose to help establish, not assume. Thus, Tye's argument for clause (2) of MT, which is used as a premise to argue that his theory best explains putative data (a) through (d), presupposes the truth of two essential component of the PANIC theory, namely, the Representation Thesis and the poisedness condition.

But suppose we grant that there are poised representations at the level of visual phenomenal consciousness. Couldn't the Transparency Argument be used to convince those who grant that there are such representations, but who insist that visual phenomenal characters are in some sense or other qualities of visual experiences that one can be directly aware of via introspection and *not* objective qualities of items external to minds / brains represented by visual experiences? Unfortunately the answer is no. For it is precisely clause (2) of MT that someone who grants that there are poised representations at the level of visual phenomenal consciousness, but who also thinks phenomenal

⁴⁶ An error theoretic version of representationalism about color qualities is formulated and defended by Wayne Wright (2003). Presumably Tye has this sort of representationalism in mind in asserting premise (2), though he never explicitly indicates as much. Regardless, for anyone who doesn't already grant that visual experiences (or the phenomenal character thereof) are essentially representational items isn't going to be moved by the alleged erroneousness of visual experiences.

characters are in some sense qualities of visual experiences, is going to deny. Think here of Block (1995; 2003) and Siewart (2003), or perhaps anyone who insists on conceiving of visual experiences as subjective visual scenes (e.g. Boghossian and Velleman, 1989; 1991). Independent reasons must be given for why we should accept the second premise even if we grant that there are poised representations at the level visual phenomenal consciousness.

In the next section I examine Tye's defense of the view that the color qualities normal subjects are directly aware of via introspection are observer-independent qualities of surfaces, volumes and films external to introspecting subjects. If it can be shown that we have sufficient reason to accept this "common sense" color realism, then clause (2) of MT comes for free and we can grant that the putative data (a) through (d) mentioned above are legitimate explananda that the PANIC theory does explain. However, I argue that Tye's appeal to our common sense conception about what color qualities are qualities of is arbitrary, and so an inappropriate way of establishing clause (2) of MT.

IV. The Status of Common Sense about Color

In Chapter 7 of *Consciousness, Color and Content* Tye's defends "commonsense" color realism (henceforth, CCR). According to CCR, the color qualities we are directly aware of via introspection are observer-independent and illumination-independent properties of surfaces, volumes and films external to minds / brains – at least in cases where the visual experiences in question are veridical.⁴⁷ Tye's defense of CCR comes in

⁴⁷ In what follows I use *colors* and *color qualities* to refer to the qualities that, according to PT, we are directly aware of upon introspecting visual experiences. Tye includes these qualities as constitutive of the phenomenal character of visual experiences, so the qualities themselves are to be understood as phenomenal characters. (2000, p.48)

three stages. First, he motivates the view by drawing our attention to certain facts about our everyday experience of color qualities. One is that “we take for granted that objects typically retain their colors when they are not seen, thereby helping us to reidentify them.” (2000, p. 147) Another is that colors can appear to remain unchanged across different illumination conditions. For example, objects do not “typically appear to change their colors during the day as the sunlight changes” and “wearing sunglasses has little effect on the colors objects appear to have.” (Ibid., p.147)

The second stage of Tye’s defense is to object to arguments against the conjunction of CCR and the reductive claim that colors are physical properties (e.g. surface reflectance properties) based on empirical findings about color matching and discrimination. One such finding is that it is possible for physically distinct spectral arrays to appear to have the same color across changes in illumination. Another is that it is possible for physically identical objects or spectral arrays to appear as if they have different colors due to (e.g.) contrast effects under varying background conditions. Interpreted one way the findings suggest that CCR is simply false. But Tye rightly points out that such a conclusion needn’t follow from such findings and offers alternative interpretations of the findings consistent with CCR.⁴⁸

Finally, Tye criticizes theories of color at odds with CCR on the grounds that they are simply unintelligible. For example, in response to the suggestion made by Cosmides and Tooby (1995) and Hardin (1988) that colors belong to visual experiences Tye claims “*I* can attach no sense to the claim that the redness *I* experience as covering the surface of a ripe tomato is really a property of my experience.” (2000, p.166) And regarding the

⁴⁸ I should note too that Tye’s view requires not only CCR, but color absolutism as well. For objections to color absolutism as a way of undermining representationalism see McLaughlin (2003).

suggestion of Boghossian and Velleman (1989) that the color qualities one is directly aware of as qualities of external surfaces, volumes and films are actually qualities of subjective, visual fields Tye claims is “no easier to grasp.” Without argument Tye goes so far as to suggest that to claim that colors are somehow qualities of visual experiences is a category mistake, on a par with claiming that properties of numbers (e.g. being prime) are properties of physical objects.

I will not address here the second part of Tye’s strategy since CCR does not include the claim that colors are physical properties. Also, I have nothing to add to debates about which metaphysical accounts of color are part of the overall best explanation of findings about color matching and discrimination.⁴⁹ Rather, I will focus on the first and second stages of Tye’s defense of CCR. I argue that Tye’s appeal to commonsense is arbitrary. As such it is an inappropriate way of as a defending CCR, and thus establishing clause (2) of MT.

To focus the discussion, let’s consider three central claims Tye makes in his defense of CCR:

- (1) We take for granted that items retain their apparent colors when we are not viewing them.
- (2) Colors can appear constant across changes in illumination.
- (3) The claim that colors are properties of experiences is unintelligible.

Consider the first two claims. Claims (1) and (2) are compatible with theories of color that entail the falsity of CCR. Both projectivist accounts of color perception and dispositionalist accounts of color are consistent with these facts. Cartesian skepticism

⁴⁹ For thorough discussions of this and related issues see Hilbert (1998), Byrne and Hilbert (1997; 2007), and McLaughlin (2003). For an updated version of the second part of Tye’s strategy see (Bradley and Tye, 2003).

aside, we are warranted in believing that there are observer-independent and illumination-independent properties (e.g. spectral reflectance profiles of incident light or even microphysical properties of surface molecules) involved in our ordinary, everyday experiences of color qualities. This, along with the fact that our visual systems organize incoming sensory data, helps to explain how we are able to reidentify objects by sight alone, as well as the overall coherence visual phenomenal character involving colors. But whatever those observer-independent and illumination-independent properties are they needn't be the colors qualities themselves. That this is so, of course, is not decisive against CCR, but it should remind us that claims (1) and (2) are merely intuition pumps in favor of CCR. The intuitiveness of CCR is philosophically relevant only to the extent that our commonsense judgments about the nature of color qualities are reliable. Perhaps they are, but whether they are is not obvious and needs to be argued given the unruly nature of visual phenomenal character generally.

It is important to keep in mind that CCR is a theory of color properties shaped largely, if not entirely, by the sort of visual phenomenal character creatures of our ilk are acquainted with. It is only by virtue of our being visually phenomenally conscious in the manner that we are that we have any sort of conception of color qualities at all (remember, we're talking here about the qualities we are acquainted with via direct, introspective awareness). And, as we saw with clause (2) of PT above, it is part and parcel of visual phenomenal character generally that colors qualities often appear as if they could only be qualities of items spatially located outside our bodies (or parts thereof). However, clause (2) of PT is only *one* aspect of visual phenomenal character generally upon which we base our commonsense judgments about the nature of color

qualities. There are other bits of common sense based on other aspects of visual phenomenal character that, if not directly at odds with CCR, certainly generates a great deal of puzzlement at the level of common sense. These judgments are contrary to aspects of Tye's overall view and in fact support the idea that color qualities are qualities of visual experiences. For example, Tye denies that phenomenal objects such as afterimages and phosphenes exist in the manner they appear to when we undergo visual experiences of the sort that involve them. (1995, Ch.3) However, our ordinary, everyday experience of visual phenomenal character is such that not only do we take for granted that such objects exist, but that they exist in the manner they appear to, namely, as objects with dimensions and color qualities *somewhat* located *somewhere* in and around our eye sockets (or, at least, somewhere between us and items we experience as external to our bodies). This is how such things, whatever they are, appear to us via introspection, and so how we pre-theoretically think of them as existing at the level of common sense. The same is true of the visual images involved in what we know are hallucinatory experiences and dreams. Of course, I don't mean to suggest that we take afterimages and the like to exist *in the same way* we take items we experience as being external to our bodies to exist. The latter are experienced as spatially outside our bodies (or parts thereof) while the former are experienced as somehow inside our heads, or at least as having no depth beyond the surface of our eyeballs.⁵⁰ At the level of common sense we are utterly puzzled about how afterimages, phosphenes and like could possibly be located *in* us for we know that we won't see such things – at least not as the sorts of things that we introspect them as being – if we were able to crack open our skulls and view parts of our

⁵⁰ In both cases the overall sense of items and qualities either being inside or outside relative to one's body (or parts thereof) is due presumably to the complex cross-modal and intra-modal relations between various exteroceptive and interoceptive sensory systems.

own brains as we undergo them. Nonetheless, in our ordinary, everyday experience of visual phenomenal character we take for granted that such things *do* exist and that they exist in the manner they appear to upon introspection.⁵¹ Common sense demands that we do, and no less so than that it demands that we judge certain color qualities to be observer-independent and illumination-independent qualities of external items when we attend to the sort of visual phenomenal character involved with PT. That we undergo visual experiences involving afterimages, phosphenes and the like is part of the intuitive appeal to sense datum theory, as well as the view that visual experiences are subjective visual fields that somehow instantiate color qualities. Thus, contrary to claim (3) above, the idea that visual experiences instantiate color qualities is not unintelligible if we allow common sense to have its way in favor of a certain sort of visual phenomenal character, namely, the sort that involves afterimages and phosphenes, as well as the visual phenomenal character involved in visual experiences we know to be illusory (e.g. hallucinations and dreams). Only someone who insists on common sense having its way in favor of visual phenomenal character of the “external” sort would think it unintelligible that color qualities are somehow qualities of visual experiences. However, common sense with respect to visual phenomenal character generally certainly doesn’t demand this. If anything, common sense is confused. The problem is that visual phenomenal character itself leads common sense down conflicting paths with respect to the status of both CCR and clause (2) of MT. There is nothing about visual phenomenal character itself that helps to adjudicate between CCR, or clause (2) of MT. So long as all common sense has to go on with respect to nature of color qualities is visual phenomenal

⁵¹ Of course, we take them to exist *as* illusory relative to visual experiences that we take to be non-illusory, but pre-theoretically the former are taken to exist all the same.

character, it too is no help. Thus, to invoke common sense in favor of one sort of view over the other is arbitrary. As such, it is an unacceptable way of defending CCR, and so an unacceptable way of establishing clause (2) of MT. This leaves proponents of the view that visual phenomenal characters (including the color qualities we are directly aware via introspection) are somehow properties of visual experiences left to remain unmoved by Tye's appeal to transparency since the alleged transparency data (a) through (d) are legitimate explananda only if clause (2) of MT is true.

CHAPTER FIVE

ACCOUNTING FOR THE CAUSAL RELEVANCE OF PHENOMENAL CHARACTER

In this final chapter I explore how, according to the PANIC theory, phenomenal character *qua* representational content is causally relevant to the behavior of phenomenally conscious subjects. I argue that the only plausible way of accounting for the causal relevance of phenomenal character on the PANIC theory requires denying that phenomenal characters *qua* represented properties are causally efficacious with respect to behaviors involving phenomenally conscious sensory states. Such behaviors include any number of sensorimotor and cognitive processes, from scratching an itch, chewing gum or smelling flowers, to relatively sophisticated behaviors like lining up the winning shot in a game of pool, playing a musical instrument or even reading this very sentence.⁵² That the only plausible way of accounting for the causal relevance of phenomenal character on the PANIC theory entails that phenomenal characters are causally inert does not undermine the theory entirely, but it does raise a question about what we can and should expect from a reductive theory of phenomenal consciousness given that one of the main motivations for physicalism about the mental is that it is supposed to be able to account for the causal efficacy of mental phenomena generally. Insofar as the phenomenal-neural type identity theory outlined in Chapter 2 enjoys all the relevant explanatory virtues as the PANIC theory and guarantees the causal efficacy of phenomenal character then there is good reason to regard it as a superior reductive account of phenomenal consciousness.

⁵² Note that I'm using the term "behavior" quite broadly here to include all and any sensorimotor and cognitive processes that in one way or another involve phenomenal characters where *phenomenal character* should be understood as being used in the first sense of that term discussed in Chapter 1.

In the first section I try to provide a pre-theoretical (though physicalist-friendly) characterization of phenomenal character. The point of doing this is make as concrete as possible the idea that a theory of phenomenal consciousness ought to be able to provide the resources to explain in what sense exactly phenomenal characters are causally relevant to cognitive and sensorimotor processes that involve them. In the second section I detail how this might be accomplished on the PANIC theory. Here I take it that there are only two ways one might try to account for the causal relevance of phenomenal characters in the relevant sense, what I will call the *sensory account* and the *intentional account*. The sensory account guarantees the causal efficacy of phenomenal character with respect to cognitive and sensorimotor processes involving them, but has the implausible consequence that all actual phenomenal state tokens are veridical (i.e. accurately represent). The intentional account not only doesn't guarantee the causal efficacy of phenomenal character, but requires denying that phenomenal characters could be causally efficacious. In the final section I suggest that the only compelling reason to deny the causal efficacy of phenomenal character for the physicalist would be if the best reductive theory of phenomenal requires that we do. But I point out that in light what I have argued in previous chapters there is good reason to think that the PANIC theory is not that theory.

I. The Causal Relevance of Phenomenal Character

Suppose again that you are currently reading this on a white sheet of paper. Assuming you have normal vision, and are in fact phenomenally conscious, as you read you are currently undergoing state of visual phenomenal consciousness that we might

characterize as follows: a collection of all and only those phenomenal features or qualities peculiar to vision (as distinct from, say, those peculiar to olfaction, audition, etc.) that you could currently introspectively discern as you are looking toward the facing surface of this page regardless of whatever mental activities you are engaged in as you look toward the page.⁵³ Now take a moment to introspect and notice the multitude of color qualities you can discern. Again, assuming you have normal vision and are in fact phenomenally conscious, one such quality is the apparent whiteness that appears to (more or less) uniformly saturate the surface of the page before you; that is, the very color quality you would “introspectively ostend” or subvocally caption as “that whiteness!” were you to ask yourself “What whiteness?” as you look toward the facing surface of this page. Call this whiteness ‘W’.⁵⁴

As you continue to read you are not selectively attending to W, or any other introspectively discernable phenomenal feature of your overall state of visual phenomenal consciousness. That is, just as you are not currently selectively attending to the qualities of whatever bodily aches you might currently suffer, or to the apparent qualities the sounds and odors in your immediate environment have, or to how your clothes feel against your skin, so too you are not selectively attending to W *as you read*. Nonetheless, such qualities are “present in phenomenal space” to varying degrees depending on what sorts of conscious mental activities you are engaged, and where your attention is focused.

⁵³ Again, the only qualities that are peculiar to *visual* phenomenal character here are various sorts of color qualities, though they are arranged in a way to indicate the presence of spatial properties and shapes.

⁵⁴ The points made below about W can be made about any of the introspectively discernable phenomenal features in this collection. For simplicity I will focus only on W. Again, I shall assume that the sense of *phenomenal character* at issue regarding W is just that of a qualitative property as defined in Chapter 1.

Finally, put aside the question of *what* sort of physicalist-friendly item W is metaphysically speaking, including the question of what sort of relation you stand in to W. Thus, set aside the question of whether W is essentially an intentional (i.e. representational) phenomenon, as well as whether W is a surface reflectance property, a property of your brain, a second order functional property, or whatever. At this point, so long as we're attempting to provide a pre-theoretical characterization of our explanandum consistent with physicalism all of these are candidates.

Now W, whatever sort of broadly physical thing *it* is metaphysically speaking, is part and parcel of your being visually phenomenally conscious in the very manner that you are as you read. As I choose to put things you are currently phenomenally conscious with respect to W, or simply W-conscious. Whatever else we might want to include within the scope of *phenomenal character* things like W are paradigm instances of it.⁵⁵ And although it is currently merely part of the your overall state of visual phenomenal consciousness, W is its own unique phenomenal character as distinct from, say, the blurry regions in your periphery, the non-white color qualities that permeate your visual field, as well as a whole host other introspectively distinguishable phenomenal features peculiar to other sensory modalities both exteroceptive and interoceptive.

Consider some facts about W. First, were W not in “present in phenomenal space” for you currently, you would not be able to introspectively attend to *it*, or otherwise take notice of it through introspection. Second, W plays a role in making it possible for you to

⁵⁵ In saying that you are W-conscious I do not mean to suggest W is somehow a property of your mind / brain, or in fact a property of anything at all. To describe you as currently “W-conscious” as you read is simply another way of referring to what ‘W’ refers to, namely, a particular phenomenal character regardless of what sort of physicalist-friendly item W is metaphysically speaking, and regardless of what relation you stand in to W. However, I do assume that you do stand in some relation or other to W. The “W-conscious” locution is introduced here merely as a way of making my exposition in what follows as fluid as possible.

read this sentence under the very conditions that you are now doing so. Third, W is something you can mentally compare to other introspectively discernable phenomenal characters as you look toward the surface of the page. And finally, the presence of W in visual “phenomenal space” makes it possible for you to form memories that in one way or another involve W. These are just a few cognitive processes among others that you either are, or could be, engaged in as you look towards the facing surface of the page, not to mention whatever sensorimotor behaviors you are, or could be, engaged in that in one way or another involve W as you read. Thus, whatever sort of broadly physical thing W is, and whatever the nature of the relationship you stand in to W, there is surely some sense in which W is causally relevant to certain of your behaviors; namely, particular behaviors involving W, or simply W-conscious behaviors.⁵⁶ And this is so for any phenomenal character in any sensory modality. One need only consider occasions when there are dramatic changes in phenomenal character to recognize this: staring at the sun for too long; smelling rotting vegetables; hearing an ambulance siren pass close by; contracting poison ivy; receiving general or local anesthetic. However slight or extreme, where there is a phenomenal difference there is a behavioral difference of some sort or other, and there is no behavioral difference involving phenomenal character without phenomenal character somehow being causally relevant to the behaviors that transpire. Indeed, insofar as neuroscientists and cognitive scientists aim to understand the nature of behaviors that involve phenomenal character – and so aim to understand the nature of phenomenal consciousness - we can, and should, suppose that there is some sense in which phenomenal character is causally relevant to those behaviors. In light of this, a

⁵⁶ Again, I use the term “behavior” quite broadly here to include all and any sensorimotor and cognitive processes that in one way or another involve W.

criteria of adequacy for a reductive theory of phenomenal consciousness is that it be able to provide a framework for explaining in what sense exactly phenomenal character is causally relevant to the behavior of phenomenally conscious subjects.⁵⁷ Let's turn now to how this is to be accomplished on the PANIC theory regarding W.

II. The Causal Relevance of Phenomenal Character According to PANIC

Consider again the main reductive thesis of the PANIC theory, the Content Thesis:

Phenomenal character is one and the same as representational content that meets certain further conditions.

The further conditions on the contents are that they be *poised*, *abstract*, and *nonconceptual*.⁵⁸ As I noted in previous chapters this thesis admits of two interpretations, the *semantic interpretation* and the *state interpretation*. According to the semantic interpretation phenomenal character generally is one and the same as semantic content; that is, phenomenal character is that which phenomenal states represent. On this interpretation the phenomenal character of a given phenomenal state just is a certain structured, existential states of affairs represented as obtaining by the state. According to the state interpretation phenomenal character generally is a certain kind of representing. On this interpretation the phenomenal character of a given phenomenal state is one and the same as a certain type of *representing event*, namely, a poised state's representing nonconceptually a certain existential state of affairs as obtaining. To see the ambiguity consider that insofar as the PANIC theory is formulated within the theoretical framework

⁵⁷ I don't assume here that an explanation of how phenomenal characters are causally relevant to behaviours that involve them must be constrained by any particular view about the nature of causation generally, or the nature of mental causation in particular. So, for example, an explanation according to which phenomenal characters are supervenient causes may well suffice for accounting for the causal relevance of phenomenal characters.

⁵⁸ I assume here that the reader is familiar these conditions as presented in Chapter 1.

of RTM the PANIC theory yields the following account of the nature of phenomenal states:

For any subject S, S undergoes a phenomenal state type E just in case there is some mental symbol M, a type of functional / computational role R, and a structured, existential a state of affairs A such that (a) M is tokened in S, (b) M plays R in S, and (c) M has the semantic content A.

Token Ms are representational vehicles (e.g. token neural properties in humans). R is the poisedness role that token Ms play, so a token of E counts as poised because a token M plays the poisedness role in S. And, according to Tye (2005a), A includes the conditions under which tokens of E are supposed to be tokened in S and distinguishes E from other phenomenal state types. In short, A is what E represents and so counts as (at least part of) the accuracy conditions for a token of E by virtue of being the conditions under which M is supposed to be tokened in S.

Now what, according to the Content Thesis, is the phenomenal character of E supposed to be one and the same as? The phenomenal character of E can't just be M since this would amount to the phenomenal character of E being a representational vehicle (e.g. a token neural property), which Tye explicitly denies. It can't just be R since functional / computational roles *as such* aren't the sorts of things that have content. So, either the phenomenal character of E (or determinates thereof) is one and the same as A (or certain constituents thereof), or the phenomenal character of E is one and the same as E's representing A nonconceptually.

Again, if the semantic interpretation is correct then the phenomenal character of a given phenomenal state would just be a certain possible state of affairs. But possible states of affairs aren't the sorts of things that mental states instantiate, at least not unless some sort of implausible Berkeleyan idealism is true. Rather, possible states of affairs are

things mental states represent as obtaining if RTM about phenomenally conscious sensory states is true. So, presumably Tye intends the state interpretation.⁵⁹ But even on that interpretation it is clear that on Tye's view mind-independent properties are somehow constitutive of the phenomenal character of phenomenal states by virtue of being constituents of represented states of affairs.

To see this consider first that for Tye phenomenally conscious sensory state types have their own unique phenomenal characters regardless of what other functional, physiological or behavioral properties they have, or what such states ultimately reduce to. In the first chapter I cited the following passage in which Tye discusses a gustatory sensation associated with eating fudge, a sensation he calls *fudgefeel*:

Fudgefeel is an experience defined, I am supposing, by reference to its phenomenal or subjective character. So there is something it is like to undergo fudgefeel. Moreover, by hypothesis, any (actual or possible) particular experience that feels just the way fudgefeel feels will be an instance of fudgefeel. So there is something it is *essentially* like to undergo fudgefeel. That is to say, there is some felt quality such that it is simply incoherent to suppose that fudgefeel is present without it. The state or experience I am calling fudgefeel has this felt quality whenever and wherever it is, or could be, found. (1995, p.55)

According to this passage fudgefeel isn't itself a felt quality; rather, it is a mental state (i.e. experience) that has a certain phenomenal character (i.e. the fudgefeel quality) essentially. No mental state can have the quality peculiar to fudgefeel and fail to be the sensory *state* fudgefeel, regardless of whatever other behavioral, physiological or functional properties fudgefeel has either of necessity or only contingently. And this is so for all putative phenomenal states and their uniquely identifying phenomenal characters.

⁵⁹ As I noted in the first chapter, Tye comes closest to explicitly endorsing this interpretation in the Chapter 6 of *Ten Problems*.

What does this mean with regard to W? Well, it at least means that there is some type of sensory state that has W (or *W**ness* if we're talking about types) as an essential feature. Any possible or actual instance of W-consciousness just is an occasion when the type of sensory state for which W is "what it is like" to undergo that state is tokened. Call the type of sensory state that one tokens when one is W-conscious '**V**' and the particular instance of **V** that you are undergoing as you look toward the surface of the page before you '**V**'. As I noted in the last chapter, Tye claims that if W is a quality of anything, it is a quality of the surface of the page before you, namely, the color property whiteness. (2000, p.49) He claims that "phenomenal character involves the surface qualities of which the subject of the visual experience is directly aware"; that "these qualities partially *constitute* phenomenal character"; and that "visual phenomenal character is representational content...into which certain external qualities enter." (2000, p.48-51)

So, on either interpretation of the Content Thesis W is the phenomenal character of V because it is part of the *semantic* content of V. As such W / whiteness⁶⁰ is a certain surface reflectance property the instantiation of which is a condition of accuracy for V. So, W / whiteness is a mind-independent constituent of a certain structured, existential state of affairs that may or may not actually obtain (here and now) as you undergo V, specifically, a certain surface reflectance property represented by V as being instantiated before you. That is, W / whiteness is what V represents as being instantiated before you. Since V is a token representation that can either accurately or inaccurately represents the page before you, then the instantiation of W / whiteness before you is part of the accuracy conditions for V. So, we can suppose that the relevant accuracy conditions for V include:

⁶⁰ My use of "W / whiteness" indicates what W is according to PANIC, namely, the property whiteness that V represents as being instantiated before you. My continued use of just "W" refers only to a particular phenomenal character as characterized above.

you the subject; some item or other x (i.e. the surface of page before you); and x 's being white.⁶¹

Consider now how W might be causally relevant to your W -conscious behaviors according to the PANIC theory. Setting aside the question of which interpretation of the Content Thesis is correct we should ask what it means to say that W is part of the semantic content of V such that the following are true:

- (1) W is causally relevant to your W -conscious behaviors as you undergo V .
- (2) W , if it is a quality of anything, is a surface reflectance property of the facing surface of the page before you.

Claim (1), as we noted above, is simply a truism about W . And, as we saw in the last chapter, claim (2) follows from Tye's commitment to CCR (i.e. commonsense color realism).⁶²

I take it that there are only two ways to account for (1) on either interpretation of the Content Thesis, what I will call *sensory account* and the *intentional account*.⁶³ According to the sensory account, W , by being a certain surface reflectance property of the surface of the page before you, is causally relevant to your W -conscious behaviors because your visual system is currently detecting it. That is, the sense in which W is causally relevant to your W -conscious behaviors is that W is an instantiation of whiteness that stands in a certain causal (i.e. sensory) relation to your visual system as you undergo V . That W / whiteness stands in this relation to your visual system makes it possible for you to be sensorily aware of W / whiteness and so perform various sensorimotor and

⁶¹ Strictly speaking, V only has the semantic content $\exists x (x \text{ is white})$, but since V is tokened in you V is accurate only if there is something located before you that is white. So, the semantic content of V is merely part of the accuracy conditions for V , but a condition of accuracy nonetheless.

⁶² I should note that most major proponents of representationalism endorse CCR, but CCR doesn't follow from representationalism. For example, representationalism is consistent with an error theory about color properties.

⁶³ Perhaps there are others, but it is by no means clear to me what they could be.

cognitive tasks involving W / whiteness. So W / whiteness is causally relevant to your W-conscious behaviors as you undergo V because V is a token sensory state that accurately represents the color of the surface of the page before you. So long as V is accurate, then W / whiteness, *qua* surface reflectance property of the facing surface of the page before you, is causally efficacious in that it actually plays a role in causing V since on Tye's brand of psychosemantics it is a law that under optimal conditions poised states with the content $\exists x (x \text{ is white})$ be tokened in the presence of property instances of W / whiteness.⁶⁴

However, assuming that misrepresentation is possible, and actually occurs, this way of accounting for (1) must be ruled out. For suppose that V is inaccurate with respect to the surface of the page before you being white and only in that respect. Imagine that the surface of the page before you is actually some color other than white, but there is a misfire of some sort and you are undergoing V. If so, then according to (2) above, W / whiteness is not a quality of anything; rather, as Tye maintains, it is an intentional nonexistent. (2000, p.156) For Tye this means that W / whiteness is a constituent of a state of affairs that doesn't currently obtain as you undergo V; it is an uninstantiated surface reflectance property. So Tye, like Dretske (1995; 1999), presumably thinks that W / whiteness is an uninstantiated universal that you can enjoy sensory awareness of as you undergo inaccurate V.

Now, according to the Content Thesis, W / whiteness is part of the representational content of (inaccurate) V by virtue of being the phenomenal character of V. But unlike

⁶⁴ As I noted Chapter 2 Tye initially endorsed a co-variation account of content determination in *Ten Problems*, though he might have opted for a psychosemantics closer to an indicator view (e.g. Dretske 1988; 1994) or a strict asymmetric view (e.g. Fodor 1987; 1990; 1994). And, in fact, Tye does seem to shift to an asymmetric dependence view in *Color, Consciousness, and Content* in order to handle Swampman cases. (p. 139)

the case in which V is accurate W / whiteness is not instantiated *before you* such that your visual system is currently detecting *it* as you undergo V. If not, then W / whiteness can't be causally relevant to your behavior because it is a certain surface reflectance property of the facing surface of the page your visual system is currently detecting. And, of course, your visual system doesn't detect intentional existents, or uninstantiated properties. Thus, if the only way W could be causally relevant to your behavior is that it be a certain surface reflectance property of the surface of the page currently before you to which your visual system stands in a veridical sensory relation, then Tye would be forced to claim that all actual tokens of **V** are accurate in order to explain (1). And, generalizing to all phenomenal state types, he would be committed to claiming that no actual phenomenal state tokens are inaccurate (i.e. misrepresent). But the PANIC theory is supposed to be a representational account of phenomenally conscious *sensory* states, including hallucinations, illusions and various other sorts inaccurate sensory states that we in fact undergo. So, to insist that all actual phenomenal state tokens accurately represent is not an option.

This leaves us with the second way we might try to account for (1) on the PANIC theory, the intentional account. According to the intentional account the sense in which W / whiteness is causally relevant to W-conscious behaviors has nothing to do with W / whiteness being causally efficacious as you undergo V, but is merely a matter of our being able to reference W / whiteness in explaining W-conscious behaviors given that W / whiteness is a quality (i.e. the property whiteness) that is part of the semantic content of a token state that is *poised*. On Tye's view V counts as poised because there is currently a token neural property with the semantic content $\exists x (x \text{ is white})$ playing the poisedness

role. And it is because V is poised that W / whiteness *qua* semantic content for V can be referenced in explaining your W-conscious behaviors, though W / whiteness *qua* semantic content of V does no actual causal work. That W / whiteness is causally inert is most apparent when we consider token phenomenal states that are inaccurate (i.e. misrepresent). As we have seen, if V is inaccurate, then, according to Tye, W / whiteness is an intentional nonexistent (i.e. an uninstantiated surface reflectance property). As such it is not causally efficacious with respect to bringing about W-conscious behaviors as you undergo V any more than the proposition *Earth is flat* (*qua* semantic construct) causes Flat Earthers to search for the edge of Earth. That is, there are no causal powers relevant to your W-conscious behaviors that W / whiteness has by virtue of being a color property misrepresented by V as being instantiated before you. But the same is true even if V accurately represents the page before you as being white. Regardless of whether V is accurate, that W / whiteness is what V represents as being instantiated before you doesn't thereby render W / whiteness causally efficacious with respect to your W-conscious behaviors, or indeed anything else. To be *what* something represents isn't to thereby be causally efficacious, at least not unless some sort of implausible Berkelian idealism is true.

So, according to the intentional account, the only sense in which W / whiteness *qua* what V represents as being instantiated before you is causally relevant on the PANIC theory is that it can be made use of in explaining *why* certain behaviors transpire when you are W-conscious. However, that you are undergoing a phenomenal state that represents W / whiteness does not account for *how* these behaviors transpire any more than the propositional contents of beliefs and desires account for *how* one comes to

wonder whether there is a beer in the fridge if one desires to drink a beer, or how one manages to open the fridge if one wants a beer and believes that there's a beer in it. The propositional contents of the attitudes are useful in explaining why people do what they do, or think what they think, and to that extent may be regarded as causally relevant to intentional actions. However, there is nothing within the theoretical framework of RTM that has propositions themselves (or states of affairs, or any indeed any other sort of semantic construct) doing any actual causal work. Propositions *qua* propositions can't have causal powers. On RTM only representational vehicles (e.g. token neural properties in humans) can be properly regarded as causally efficacious by virtue of being physically realized structures with certain syntactic properties that play certain information-processing roles. Thus, as a representational theory of phenomenally conscious sensory states the only feature of the PANIC theory that goes any way in accounting for how behaviors involving phenomenal characters come about in humans is that token neural properties play the poisedness role. Physically realized token neural properties are causally efficacious, so token neural properties that play the poisedness role play a causal role in the behaviors involving phenomenal characters.⁶⁵ However, like the propositional contents of the attitudes on RTM, phenomenal characters *qua* representata don't *do* anything. Only token neural properties playing the poisedness role can properly be regarded as having causal powers. That a token neural property is playing the poisedness role is what actually makes for your W-conscious behaviors as you undergo V, not what V represents and so not the phenomenal character of V if PANIC is true.

⁶⁵ So long as we're trying to account for the causal relevance of phenomenal characters at a level higher than that of microphysics then even supervenient causation will do. Arguably, the only place to find such causal powers within the theoretical framework of RTM is the level at which representational vehicles are realized.

Nonetheless, just as we reference the propositional contents of beliefs and desires to explain intentional actions, W / whiteness can at least be referenced in explaining W-conscious behaviors because it is the semantic content of V. For example, why is it W, and not some other phenomenal character, or no phenomenal character at all, that you can introspectively attend to as you look at the facing surface of this page? Or, why is it W that plays a role in allowing you to clearly make out the English characters printed on this page? Well, it's because you are undergoing a phenomenal state that represents W / whiteness and not some other quality, or no quality at all. So, the sense in which W is causally relevant is that W / whiteness *qua* represented property can be featured in explaining why your W-conscious behaviors transpire, and W / whiteness can be causally relevant in this sense regardless of whether V is accurate. In short, like the propositional contents of beliefs and desire, W / whiteness *qua* semantic content of V is explanatorily useful though it has no causal powers.

IV. Methodological Concerns about the PANIC Theory

That the intentional account of the causal relevance of W appears to be the only story that can be told about the causal relevance of W on the PANIC theory is unfortunate. For in asking how a theory of phenomenal consciousness can account for (1) we are presumably asking for an explanation of how W, whatever sort of broadly physical item it is, is causally efficacious. But this isn't what we get on the PANIC theory. Rather, what we get is an account of how V *qua* poised state is causally efficacious and this in virtue of a token neural property playing the poisedness role. Of course it is plausible to suppose that properties have causal powers when they are instantiated, and this is why

there is no question as to how W / whiteness could be causally relevant to your W-conscious behaviors if V is accurate. But when the theoretical role of a property is to simply be that which a given mental state represents as being instantiated the property in question isn't causally efficacious *because* it is so represented.

That phenomenal characters are not causally efficacious, and so not causally relevant in the sense of having causal powers, on the PANIC theory may be of little significance to some. At the very least the PANIC theory is a specific kind of psychofunctionalist proposal that succeeds in finding a place for phenomenal character within a physicalist ontology. But it should be remembered that, as a matter of naturalistic methodology, among the main motivations for physicalism about mental phenomena generally is not only to account for the fact that they at least seem to clearly have physical causes and effects, but that given the causal completeness of the physical if any putative broadly physical phenomenon is to count as such then there ought to be some sense in which it can properly be regarded as causally efficacious. Now phenomenal characters either are causally efficacious with respect to the behaviors that involve them or they aren't. If they are, then the PANIC theory is false. In fact, if phenomenal characters don't play a *bona fide* causal role in behaviors that involve them, then no theory according to which phenomenal characters are merely represented properties can plausibly work. The causal efficacy of phenomenal character, if there be such a thing, effectively rules out the representationalist approach to reducing phenomenal consciousness so long as identifying phenomenal characters with representata (i.e. the semantic contents of phenomenal states) is part and parcel of such an approach. Note, however, that the phenomenal-neural identity thesis would not be ruled out. According to the phenomenal-neural type identity

theory phenomenal characters are neural properties that contingently represent in the manner Tye suggests. Thus, it can account for not only why the behaviors that involve phenomenal characters transpire, but also how. So long as neural properties are causally efficacious, then according the phenomenal-neural type identity theory, so too are phenomenal characters.

To my mind the only reason to abandon the idea that phenomenal characters are causally efficacious would be if the best reductive theory of phenomenal consciousness physicalists can offer entails that this is so. That is, if it follows from best reductive theory of phenomenal consciousness that phenomenal characters in fact have no causal powers, then so much the worse for thinking they do on the grounds that they certainly seem to play a causal role in certain of our behaviors, or for insisting that a reductive account of mental phenomena generally ought to secure the causal efficacy of the mental.

Is the PANIC theory the best reductive account of phenomenal consciousness physicalists can offer? To answer this question satisfactorily would of course require a full assessment of all the relevant proposals. My aim in previous chapters has been to take steps in that direction. The results so far suggest that the PANIC theory is likely not the best reductive account of phenomenal consciousness, at least not so long as the explanatory principles mentioned in the first chapter are our guides to theory choice and there are no other considerations that automatically rule out the type identity approach to reducing phenomenal consciousness. In Chapter 1 I pointed out that the representationalist approach to reducing phenomenal consciousness is not required to handle any of the traditional problems phenomenal consciousness poses for physicalism. In Chapter 2 I argued that given the metaphysical and methodological commitments of

physicalists about mental phenomena generally there is no principled reason to choose psychofunctionalism over the type identity approach to reducing phenomenal consciousness prior to assessing the merits of any particular sort of psychofunctionalist or phenomenal-neural type identity proposal. This leaves us with the PANIC theory, the main advantage of which is that it does provide the resources to explain certain puzzling facts about phenomenal consciousness. However, regarding the explanatory advantages the PANIC theory might have over the phenomenal-neural type identity approach I have shown that these advantages have nothing to do with identifying phenomenal character with representational content *per se*, and so nothing to do with what distinguishes the PANIC theory as a representational theory of phenomenal consciousness. In Chapter 3 I demonstrated that any theory of phenomenal character can explain the intensionality of ‘looks’ discourse, the felt location of bodily sensations and inference failure about bodily sensations so long as it postulates poised representations at the level of phenomenal consciousness. And in the last chapter I argued that for all Tye claims about the transparency of phenomenal states it is perfectly reasonable to deny that the data he cites as in need of explanation are *bona fide* explananda in the first place. In light of all this there is good reason to think that the PANIC theory is not the best reductive theory of phenomenal consciousness physicalists can offer. So long as the representationalist approach to reducing phenomenal consciousness entails that phenomenal character *qua* representational content is causally inefficacious with respect to the behaviors involving phenomenal characters there is good reason to think that such an approach is guaranteed to yield an unsatisfactory reductive account of phenomenal consciousness. The phenomenal-neural type identity theory outlined in Chapter 2 not enjoys all the relevant

explanatory virtues of the PANIC theory, but it also guarantees the causal efficacy of phenomenal character. To the extent that it does it should be considered a serious rival to the PANIC theory and perhaps any representationalist view of phenomenal consciousness.

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