TROPE THEORY AND THE METAPHYSICS OF APPEARANCES

Uriah Kriegel

1. INTRODUCTION: TWO NOTIONS OF APPEARANCE

In modern philosophy, the notion of appearance is introduced in a broadly Kantian or idealist context. The theory of perception is thought to require the postulation of a special set of objects which exist only "in the perceiver's mind." The argument goes something like this. When *x* perceives, there is always some thing *y* such that *y* is what *x* perceives. Yet it may happen that in reality *y* does not exist. If it does not exist in reality, *y* must exist *elsewhere* or *otherwise*—as an appearance.

Traditionally, the appeal to this idealist notion of appearance is motivated by consideration of cases of *illusion*. Illusion comes in two varieties: (i) *x* perceives a real object *y* to have property *F* when *y* does not really have *F*; (ii) *x* perceives there to be an object *y* when in reality there is no *y*. Correspondingly, the traditional account of illusion posits two kinds of appearances: (i) when *y* does not really have *F*, *y* still *appears* to have *F*; (ii) when there is no *y*, there is still an *appearance* of *y*, or a *y-appearance*.

Despite their periodic popularity, appearances—so construed—have often been regarded with suspicion. They have an air of other-worldliness about them that makes ontological commitment to them disconcerting. This other-worldliness is manifested in the fact that appearances have no location in physical space, and exert no causal powers over the physical world. They are ghostly objects floating about in the private mental spaces of the subject.

There is also a more mundane and more innocuous notion of appearance. There is a sense in which, when *x* looks at a white wall, the white wall appears to *x*, or there appears to *x* to be a white wall. In this more mundane sense, to say that *y* appears to *x* is simply to say that *x* perceives *y*. The logical relation between perception and appearance (in the mundane sense) is nothing mysterious; it is the same as the relation between kicking and being kicked. To appear is simply to be perceived, and an appearance is a perceived—*qua perceived*.

There is much philosophical interest in the mundane notion of appearance. If an appearance in this sense is just an external object *qua perceived*, then to the extent that philosophers are interested in the precise relationship(s) between a perceiving subject and a perceived object, they will find an account of appearance to be indispensable. The effect of discussing philosophically the mundane notion of appearance is

not to introduce a new kind of entity; it is to direct our attention to the ontological correlates of perception *as such* (that is, *as* ontological correlates of perception). Ultimately, what one hopes to obtain through the study of appearances is a metaphysic of the experienced world *qua experienced*. There is no principled barrier to studying the metaphysics of the world *qua kicked*, but that undertaking happens to be of little interest.

It is important to note that the philosophical motivations behind the introduction of the mundane notion of appearance do not revolve around the possibility of illusion. In the mundane sense of the term, x need not be under an illusion for x to be presented with a mere appearance. Consider the following case: x stands before a white wall, and perceives it to be white; then x shines a pink light on the wall; now x perceives the wall to be pink; x is well aware that the wall appears pink only because x is shining a pink light on it, and that the wall is not *really* pink but white—but nonetheless the wall appears pink to x. In this case, x is not under any sort of illusion. The appearance of the pink wall is nowise other-worldly. It does not invite us to conceive of it as a-spatial or "internal" or private. It is very much embedded in the ordinary causal network of external, public states of affairs: the wall being white, the light being pink, x standing before the wall, another subject's possibly entering the room, etc.

The perception of the pink wall is a non-illusory perception of an appearance of kind (i). There are similarly non-illusory perceptions of appearances of kind (ii): a play of mirrors, or a well-done hologram, may produce an appearance of a red ball where no ball (red or not) is to be found. The perceiver may be well aware that there is no ball before her, but still she is presented with a ball appearance. Again, the ball appearance has physical, external causes and effects; it has spatial location and temporal duration; it can be perceived by more than one subject; etc.

The mundane notion of appearance is both useful and unobjectionable, then. One may resist it on Ockhamesque grounds: appearances represent an unnecessary ontological addition, since there is nothing we cannot explain without mentioning them. Granted, we can explain the fact that x has a red ball perception by saying that x stands before a red ball appearance; but we can also explain the fact that x has a red ball perception by saying that x is positioned in a certain way, and under certain conditions, relative to the mirrors or hologram. Indeed, the latter explanation will be a fuller, deeper explanation than the former.

However, talk of appearances need not be construed as committing to any ontological *addition*. Compare: in talking about water, we do not commit to the existence of a new substance over and above H_2O. Water is not an ontological *addition* to an H_2O-inclusive ontology. Likewise, appearances need not be construed as ontological additions to realities.[1] Just as water phenomena can be reductively explained in terms of Hydrogen and Oxygen phenomena, so appearance phenomena can be reductively explained in terms of phenomena of mirrors, holograms, hallucinogens, or whatever.

Given the philosophical significance of the mundane notion of appearance, there is remarkably little we know about appearances. This is mainly because the term "appearance" has had the historical misfortune of being associated, in philosophical circles, with a specific doctrine of appearances, namely, the broadly idealist doctrine sketched at the opening. Once we overthrow the idealist framework, many questions present themselves. There are, first of all, questions about the nature of appear-

ance. What is an appearance? As noted above, an appearance, in the mundane sense, is an external object *qua perceived*. But what does it mean to say that something is a pink wall *qua perceived*? When we add "qua perceived" after a name or a description, what exactly are we doing? How is the wall *qua perceived* related to the wall *simpliciter*? There are also questions about the *individuation* of appearances. Suppose *x* looks at a purple music box. Are the purple color and the box shape two different appearances or parts of one and the same appearance? If two, is the left half of the box a different appearance from the right half, or are they part of the same appearance? If color and shape are part of the same single appearance, is the sound produced by the music box also part of the same appearance, or do different perceptual modalities necessarily define different appearances? When *x* does not touch the music box, but knows it is rigid because all music boxes are, is the rigidity of the music box part of its appearance? If *x* cannot see how far behind the music box extends, does the appearance of the music box have a back side? If it does, how can an appearance have parts that do not appear? If not, how can we admit an object with no back side? If *x* is presented with a duck-rabbit sculpture, is *x* presented with two appearances—a duck-appearance and a rabbit-appearance—or only one appearance? If both *x* and her next-door neighbor are looking at the music box, are there two appearances before them—one for each, so to speak—or is it only one appearance? Is there a general answer to the question How many appearances are there in front of *x*? Is there a *fact of the matter* about how many appearances there are in front of *x*?

These and similar questions will be discussed in what follows. The approach taken in this paper is to *assume* a certain—not uncontroversial—metaphysical framework

and see how a metaphysic of appearances could be developed within it. The metaphysical framework in question is that of Trope Theory, but the conclusions of the discussion to follow are not supposed to depend on the specifics of Trope Theory.[2] In §2, the metaphysical framework of Trope Theory is introduced, and the minimum is done to justify it. Because appearances are particulars, §3 takes a closer look at the way Trope Theory handles particulars in general. §4 considers how Trope Theory might account for appearances; this section addresses the nature of appearance, then. §5 then turns to the individuation of appearances and the challenges it raises.

2. METAPHYSICAL FUNDAMENTALISM AND TROPE THEORY

On a natural understanding, a simple state of affairs, such as a ball's being yellow, should be analyzed as featuring two entities of two different ontological categories. One entity is the ball, the other is yellowness. The former is an individual, the latter a property. According to the natural understanding, the ball is a *particular*: an unrepeatable, unique individual substance; and yellowness is a *universal*: an entity literally (token-)identical among many individuals.

In the history of philosophy, many attempts have been made to analyze all categories of existence into a single category of fundamental beings.[3] The view is that there is a category of fundamental entities, such that any form of existence is in some sense merely a combination or manifestation of these fundamental entities; call this view *Metaphysical Fundamentalism*. In modern times, the motivation behind metaphysical fundamentalism has had to do mainly with considerations of ontological parsimony. In ancient times, it had to do more with the esthetic qualities of a global system of reality which exhibits unity, symmetry, and harmony.

Fundamentalists have been naturally dissatisfied with the distinction between particulars and universals, and attempted to analyze individuals or properties in terms of one another. There are two opposite ways of doing this. *Nominalism* attempts to analyze properties in terms of individuals: yellowness is nothing over and above the set of all yellow individuals (Devitt), or the *sum* of all yellow individuals (Goodman), or the set of all *possible* yellow individuals (David Lewis), or something along these lines. *Bundle Theory* attempts to analyze individuals in terms of universals: an individual is nothing but a bundle of universals, or at least a bundle of *coinstantiated* universals (Russell, Goodman). Oddly, despite their diametrical opposition, nominalism and Bundle Theory have appealed to the same type of philosophic personality (see Goodman, Quine). This may suggest that the chasm between fundamentalists and their opponents runs deeper than that between friends of particulars and friends of universals.

Nominalism and Bundle Theory have well documented difficulties which it is unnecessary to recite here.[4] Given these difficulties, though, two approaches are open: one is to give up on fundamentalism; the other is to look for a *third category* of entities, distinct from either individuals or properties, and attempt to analyze both in terms of this third category. This is the strategy of *Trope Theory*. A trope is a particular feature, such as this particular yellow or that particular rigidity.[5] The ball's yellowness and the car's yellowness are the same property, but they are different tropes; this is just how one counts tropes.[6] In a seminal paper, Donald Williams outlined the program of analyzing both individuals and properties in terms of trope.[7] Let us call *Trope Realism* the view that tropes exist, and *Trope Funda-*

mentalism the view that all categories of entities can be analyzed in terms of tropes, that is, that tropes are the fundamental category of existence, "the elements of being" as Williams put it.

To understand better the thesis of trope fundamentalism, we need to be clearer on what is meant by "category of entities." There is in fact any number of ways to categorize entities.[8] One illuminating way (particularly in the present context) is along the axes of particularity-universality and concreteness-abstractness. Individuals are *concrete particulars*; the great majority of properties are *abstract universals*; the remaining minority of properties—specifically, properties of being a certain concrete particular (e.g., the property of *being this ball*, or *being Socrates*)—are *concrete universals*; and tropes are *abstract particulars*. This categorization of entities is illuminating inasmuch as the twin axes it is founded upon seem to carve the ontological realm at its joints.

Under this categorization, metaphysical fundamentalism can take one of four forms, depending on which category of entities one takes to be the fundamental category. *Trope Fundamentalism* is the thesis that the category of abstract particulars is the fundamental one, and all other three can be analyzed in terms of tropes. Thus trope fundamentalism may be defined as the conjunction of two other theses, *Trope Nominalism* and *Trope Bundle Theory*. Trope nominalism is the thesis that *properties*—of all kinds, including properties of being a certain specific individual—are analyzable in terms of tropes. If trope nominalism is true, both abstract universals and concrete universals can be analyzed in terms of abstract particulars. Trope Bundle Theory is the thesis that *individuals* are analyzable in terms of tropes. If trope Bundle Theory is true, concrete par-

ticulars can also be analyzed in terms of abstract particulars.[9] If both trope nominalism and trope Bundle Theory are true, then abstract particulars form the fundamental category of entities.

Both the distinction particular-universal and the distinction concrete-abstract are not as easy to explicate as may initially appear. One elegant, but problematic, explication is in spatio-temporal terms. An entity is particular iff it can only be at one place at the same time; it is universal iff it can be at *more* than one place at the same time.[10] An entity is concrete iff it cannot be at the same place as other entities at the same time; it is abstract iff it *can* be at the same place as other entities at the same time.[11] Interestingly, Donald Williams originally conceived concreteness and abstractness as opposite poles of a single continuum. According to him, "color-cum-shape is less abstract or more concrete . . . than the color alone but it is more abstract or less concrete than color-plus-shape-plus-flavor, and so on till we get to the total complex which is wholly concrete."[12] Upon reflection, this is quite intuitive: we all talk of "levels of abstraction." Thus to consider *y* only insofar as it is colored and shaped, we must *abstract from* its texture. Williams seems to think of the degree of abstractness/concreteness of an entity as a matter of its level of *determinacy*: an entity is abstract to the extent that it is indeterminate, concrete to the extent that it is determinate.

The appearance of the red ball and the appearance of the pink wall are both concrete particulars. They are appearances of individual objects, and so are themselves individuals. The purpose of this paper is to consider how Trope Theory might handle such individual appearances. For this purpose, let us discuss in greater detail the trope Bundle Theory of individuals.[13]

3. THREE TROPE BUNDLE THEORIES

Perhaps the most embarrassing problem of the *standard* Bundle Theory—which attempts to "assay" individuals as bundles of universals—is its commitment to the principle of the identity of indiscernibles. According to this principle, it is impossible for two different individuals to be exactly alike in all respects, that is, to have exactly the same properties. The principle is false, however. Consider a possible world with a non-absolute space which contains two exactly similar balls. The two balls share all their properties. Since each property the one ball has is (token-)identical with a property the other ball has, the set of all their properties is one and the same. It would follow from the standard Bundle Theory that the balls are token-identical, i.e., are one and the same individual object. But of course they are not.

Trope Bundle Theory avoids this embarrassment. According to trope Bundle Theory, as originally developed by Williams, individuals are nothing but sufficiently concrete (insufficiently abstract) bundles of concurrent tropes. The trope Bundle Theory does not entail that the two balls are token-identical. The particular yellowness of the one ball is token-different from the particular yellowness of the other, therefore the two bundles of tropes are token-different.

The *original* trope Bundle Theory does entail its own oddities, however. In particular, it entails that it is impossible for individuals to *change*. Take any individual I (e.g., a yellow ball). According to the original trope Bundle Theory, I is nothing but a bundle of concurrent tropes $T_1, T_2, \ldots, T_n$. For I to change (e.g., to be painted red), I would have to lose a trope T_i, $1 < i < n$, and/or gain a trope T_r, $r > i$. So suppose I both loses T_i and gains T_r (e.g., I loses its particular yellowness and gains a particular

redness). Since $T_1, \ldots, T_i, \ldots, T_n$ is different from $T_1, \ldots, T_r, \ldots, T_n$, the latter is different from I. But if $T_1, \ldots, T_r, \ldots, T_n$ is different from I, the fact that $T_1, \ldots, T_r, \ldots, T_n$ is red is not a fact about I. So the change from T_i to T_r was not a change in I, but the destruction of I and its replacement by a new individual. It follows from the original trope Bundle Theory that individuals can come into or go out of existence, but never change while existing.

To bypass this objection, Peter Simons has put forward what he calls the *Nuclear Theory*.[14] The idea is to divide the trope bundle into two subgroups, the group of *essential* tropes and the group of *accidental* tropes. The loss or gain of an essential trope constitutes the destruction of the individual, but the loss or gain of an accidental trope only constitutes a *change* in the same individual. Thus the nuclear theory can accommodate change. In any event, the nuclear theory is superior to the original trope Bundle Theory inasmuch as original bundles are a *special case* of nuclear bundles, namely, the case where the nuclear bundles' set of accidental tropes is the empty set.[15]

An even better trope account of individuals may be the following, which we may call the *Field Theory*. Like the nuclear theory, the field theory introduces the dimensions of essentiality and accidentality. But unlike the Nuclear Theory, it does not create a dichotomy between purely essential tropes and purely accidental tropes. Rather, it assigns to each trope a certain degree of essentiality. Some tropes are more essential, or more central, others are more accidental, or more peripheral. The trope bundle thus forms a field of tropes with varying degrees of distance from the center. The destruction of an individual is not construed narrowly as the loss or gain of a single purely essential trope, but as the loss or gain of a group of tropes whose combined weight exceeds a certain threshold of essentiality. Again, the field theory has the advantage over the nuclear theory that nuclear bundles are a special case of field bundles, namely, the case where the tropes align neatly in two groups of tropes, a group of fully essential tropes and group of fully accidental tropes.

The trope Bundle Theory—in its original, nuclear, or field version—faces a host of difficulties; not least of which concerning the nature of the concurrence or compresence relation that bundles tropes together. It is not our concern here to offer a justification of the trope Bundle Theory, although we should note its considerable flexibility. The purpose of the discussion in this section has been mainly to introduce the general approach to individuals taken by Trope Theory. Now that we have a clearer notion of how Trope Theory treats individuals in general, let us consider how it might treat the specific class of appearances.

4. Appearances and Phenomenal Tropes

Consider again the white wall under the pink light. When x shines the pink light on the wall, nothing changes in the wall. The wall itself is as white as it has always been. What is pink is not the wall but the light. Yet there is also an intimate relationship between the wall and the pink. Even though the wall is not pink, it *appears* pink. The wall *couldn't* be pink, since it is white, and nothing can be both white and pink (all over). But anything could both *be white* and *appear pink*. Being white and appearing pink are not in competition in the way being white and being pink are. The wall features two separate tropes, then: its being white and its appearing pink. Let us call the trope of the wall's appearing pink a *phenomenal trope*, and the trope of the wall's being white a *non-phenomenal trope*.

Observe that the contrast here is not between phenomenal tropes and physical tropes, as it would be from a Kantian perspective. After all, there is nothing non-physical in the wall's appearing pink to x. Since the wall is physical, the pink light is physical, and x's perceptual system is physical, the wall's appearing pink to x is as physical as the wall's being white. What makes a given trope phenomenal is not its non-physicality. Rather, what makes it phenomenal is its constitutive connection to a perceptual state or act of a sentient creature. Whenever an individual I is perceived to have a property F, this brings into existence a phenomenal trope, namely, the trope of I's appearing F to the perceiver.

If x turns off the pink light, the wall appears white again—it appears the way it really is. But the wall's being white and the wall's appearing white are still different tropes. Thus, if x leaves the room, or just looks away, the wall ceases to appear white, or appear anyhow. For the wall to appear a certain way, it must appear that way *to someone*. As stressed in §1, to say that y appears to x, in the mundane sense of "appears," is just to say that x perceives y. If x does not perceive y, then y does not appear to x. If nobody perceives y, then y appears to nobody—y does not appear. So the wall's appearing white is a distinct trope from the wall's being white. Phenomenal tropes are always different from their corresponding non-phenomenal tropes.

There are not only phenomenal color tropes. When x looks at the Muller-Lyer arrows, x perceives one arrow to be longer than the other. That is, one arrow appears to x to be longer than the other.[16] The arrow's appearing longer is also a phenomenal trope (a *relational* phenomenal trope, mind you).

Nor are phenomenal tropes restricted to the visual domain.[17] As Locke famously pointed out, if x puts her hand in a bucket of hot water just after putting her hand in a bucket of cold water, the water appears to x to be less hot than it really is. The water's apparent-heat trope is different from the water's real-heat trope. Again, when x has the flu honey tastes less sweet than usual. The honey is just as sweet as it has always been, but it appears less sweet. That is, the honey is in reality *intensely sweet*, but it appears to x *mildly sweet*. The honey's appearing mildly sweet is a phenomenal trope, whereas its being intensely sweet is a non-phenomenal trope.

The existence of phenomenal tropes is better brought out when we consider cases in which the way an individual appears is different from the way the individual really is. But as I said above, even when the way the individual appears is the same as the way it really is, the individual's *being* thus-and-so is a distinct trope from the individual's *appearing* thus-and-so. Also, although I have shied away from examples involving illusion, so that the legitimacy of the mundane notion of appearance not be mistakenly thought to rest on the possibility of illusion, it should be clear that cases of illusion do imply the divergence of phenomenal and non-phenomenal tropes.

With the notion of phenomenal trope in place, it is easier to see how trope Bundle Theory—either in its original, nuclear, or field version—can account for appearances, or as we might call them, *phenomenal individuals*. The most straightforward suggestion would be to construe appearances as bundles of compresent phenomenal tropes. Thus, the bundle including the phenomenal pink trope and the phenomenal rectangularity trope constitutes the *appearance of the wall*.[18] A different suggestion can be worked out only within the nuclear and field versions of the trope Bundle Theory. Within the nuclear theory, the suggestion can be put as follows: appearances are trope bundles in which all

essential tropes are phenomenal tropes, that is, bundles in which the nucleus is made up exclusively of phenomenal tropes. This allows for the possibility that an appearance be constituted partly by non-phenomenal tropes, provided that these are merely accidental tropes. Within the field theory, the suggestion can be put thus: appearances are trope bundles in which all sufficiently essential (or central) subsets of the tropes are made up predominantly of phenomenal tropes and no sufficiently essential subset is made up predominantly of non-phenomenal tropes.

Whatever suggestion we embrace, it follows from the trope account of appearances that the appearance of the wall is always numerically different from the wall. We said that even when the wall appears white, its appearing white is a different trope from its being white. Consequently, the bundle including the tropes of phenomenal whiteness and phenomenal rectangularity is distinct from the bundle including the (non-phenomenal) tropes of whiteness and rectangularity. This consequence strikes me as intuitively accurate. If *x* leaves the room, the wall itself persists, but the appearance of the wall does not. Thus the wall and the appearance of the wall are two different individuals.

In the remainder of the present section, I want to discuss the following question: Which of the different suggestions for construing appearances is the most plausible? To avoid unilluminating complications, I am going to set aside the field suggestion. The main question is best put within the framework of the nuclear theory: Should we construe appearances as (i) bundles in which *all* tropes are phenomenal, or only as (ii) bundles in which all *essential* tropes are phenomenal?

Here is an argument which may be thought to decide the issue in favor of (ii).

Every object is made out of a specific number of molecules.[19] If there is such an object as the appearance of the wall, as we claim there is, the appearance of the wall must *also* be made out of a specific number of molecules. Therefore, the appearance of the wall must feature a trope of being made out of this-or-that number of molecules. But this is not a phenomenal trope. So the appearance of the wall must feature at least one non-phenomenal trope. In what sense is it an appearance, then? According to (ii), it is an appearance because all its *essential* tropes are phenomenal. The essential tropes of the wall appearance are the phenomenal tropes of appearing a certain color, appearing a certain shape, etc. But the wall appearance also features—it must feature—accidental non-phenomenal tropes, e.g., of being made out of this-or-that number of molecules. Featuring a trope of *appearing* made out of this-or-that number of molecules is not good enough, for two reasons. First, every object is made out of a specific number of molecules, whether or not it appears to be made out of a specific number of molecules. More importantly, if *x* is a human perceiver, the wall does not appear to *x* to be made out of molecules at all, let alone any specific number of them, since being made out of molecules is not something *x* can *perceive*. If so, the appearance of the wall cannot feature any molecule-related phenomenal trope, because the relevant trope simply does not exist.[20]

However, the proponent of (i) has the following reply available to her. The preceding argument is explicitly premised on the principle that every object is made out of a specific number of molecules. But this is true only of *fully concrete* objects. Recall that according to Williams, entities can be more or less concrete depending on their level of determinacy. The proponent of (i)

can hold that the wall appearance is simply not determined with regard to molecular composition, and is to that extent more abstract or less concrete than the wall. In general, appearances, or phenomenal individuals, are not fully concrete in the way non-phenomenal individuals are.

This reply brings out an important difference between (i) and (ii). According to (ii), appearances are fully concrete, whereas according to (i), they have an aspect of abstractness to them—they are not as abstract as properties, but not as concrete as other, non-phenomenal individuals. One has a faint intuition that appearances are indeed somewhat more abstract than realities, but different trope theorists may have different intuitions here.

It is important not to overestimate the indeterminacy and abstractness of appearances. For instance, appearances of medium-sized objects have depth, or a back side, just as medium-sized objects do. Recall that to say that y appears to x to be F is just to say that x perceives y to be F. Now, it is a well established fact in the philosophy as well as psychology of perception that perception is imbued with concepts and does not consist merely in a meaningless dance of colors and sounds. We perceive a table *as a table*, not as a two-dimensional portion of our visual field. Thus, although x does not have an angle on the wall's depth, and the depth of the wall does not impinge on x's retina, x nonetheless perceives the wall to have depth. Indeed, x cannot help perceiving the wall this way: even if she wanted, x could not perceive the wall to have no depth. This is because perception is susceptible to top-down influence from the subject's "world-model" or "schema" for walls. Now, if x perceives the wall to have depth, the wall appears to x to have depth. That is, there exists the phenomenal trope of (the wall's)

appearing deep to x. This trope, being compresent with the other phenomenal tropes related to the wall, is a constituent of the appearance of the wall. In this sense, the appearance of the wall does have depth. Similarly, it has many other features that are not strictly sensorily given to us but that it is nonetheless perceived to have. So appearances of medium-sized objects are more determined and concrete than might be thought, even if they are not as concrete as the medium-sized objects they are appearances of.

To summarize, there are such things as phenomenal tropes, and according to the trope account of appearances, phenomenal individuals—appearances—are nothing but bundles of compresent phenomenal tropes, or bundles of tropes whose nuclei feature only phenomenal tropes, or something along these lines. That there *are* phenomenal tropes is indubitable to anyone who accepts trope realism (the view that tropes exist, whether or not they are the fundamental entities). That phenomenal tropes can be compresent is also hard to doubt, although it leaves open the question of what compresence is. Perhaps the weakest part of the trope account of appearances is the thesis that bundles of phenomenal tropes can make up phenomenal individuals. But the main difficulty here has nothing to do with the phenomenal realm itself. It has to do with the notion that bundles of tropes can make up an individual. Even friends of tropes sometimes find it necessary to posit a *substratum* that carries tropes.[21] However, given that substrata are posited solely for the purpose of carrying tropes that are seen to need carrying, there is no reason why a substratum posited to carry (either exclusively or essentially) phenomenal tropes should not be considered a *phenomenal substratum*.

5. The Individuation of Appearances

We now arrive to the individuation of appearances. This issue will be examined by considering the series of questions about individuation raised at the end of §1. The first question was this: if x looks at a purple music box, is the purple color and the box shape two different appearances or one and the same appearance?

One view this question, as posed, does not seem to take into account is that there are here not one nor two but *three* appearances: the appearance of purple, the appearance of a box shape, and the appearance of a purple box. According to this *pluralist* view, for every perceiver x, there are before x as many appearances as there are combinations of phenomenal tropes.

The pluralist view faces the following difficulty. If the box appears purple to x, a pluralist might also want to say that it appears either-purple-or-yellow to x; we may call this a *phenomenal disjunctive trope*. But when we take account of such phenomenal disjunctive tropes, the number of combinations of phenomenal tropes becomes infinite. The problem is *not* one of "ontological explosion": if one countenances disjunctive tropes, then one's ontology is already as bloated as can be; and if one does not countenance disjunctive tropes, the problem never gets off the ground. The problem with wild disjunctive tropes is not that there are so many of them, but that they are disconnected from the mental life of the perceiver whereas appearances are not. When x looks at a purple box, there is a fact of the matter that makes it the case that what x perceives is a purple box and not a purple-or-yellow box nor a purple-box-or-four-headed-space-lizard. It may not be easy to specify *what* makes it the case that x perceives the purple box *as* a purple box, but surely *something* makes it the case. There could certainly be a pathol-

ogy that would make a perceiver experience a purple box as a purple-box-or-four-headed-space-lizard, but unless x suffers from such a pathology, what x perceives is a purple box. Since appearances in the mundane sense are identified in terms of what is perceived—they are external objects *qua perceived*—it is crucial to leash their individuation to the way external objects are actually perceived. The problem with the pluralist view of appearance individuation is that it fails to do that.

Going back to the purple box, the right view is probably this: how many appearances there are before x depends on how x perceives what is before her. For most x, x perceives the purple box as a single individual, not as a dissociated purple color and box shape (at least as long as x is a human perceiver). When what x perceives is a purple box and not a dissociated purple color and box shape, what appears to x is a purple box and not a dissociated purple color and box shape. For most x, then, there is only one appearance before x. There may be some (pathological) x who perceive the purple box as a dissociated purple color and box shape. For *those x*, there are *two* separate appearances before x.

According to this *subjectivist* view, before most x there really is no such trope as appearing either-purple-or-yellow, because there is nothing x perceives as either-purple-or-yellow. When looking at the purple box, x does not mobilize her concept of purple-or-yellow. She only mobilizes her concept of purple.[22] The pluralist view, by contrast, does not have the resources to ban phenomenal disjunctive tropes *ever*. The pluralist cannot postulate that there *are* no phenomenal disjunctive tropes, since she would then be unable to account for the pathological cases. The subjectivist view is therefore preferable to the pluralist view. Having said that, let us

note that both the pluralist and subjectivist views provide a clear and determinate individuation of appearances.

The next question raised in §1 was this: If color and shape are part of the same single appearance, is the sound produced by the music box also part of the same appearance, or do different perceptual modalities necessarily define different appearances?

Here again there is a pluralist answer and a subjectivist answer. The pluralist answer is that there are before *x* *both* purely visual or auditory appearances *and* multimodal appearances. The subjectivist answer is that for most *x*, there is only a single multimodal appearance. Again, the subjectivist view is based on the actual psychology of the perceiver. There is a lot of empirical evidence that normal perception involves crucially the integration and calibration of multimodal information. There are also the familiar experiences of our deteriorated visual awareness when we listen to a walkman or our deteriorated auditory awareness when we wear dark sunglasses. These experiences underscore the extent to which perception goes beyond simple summation of environmental features and involves awareness of a single cohesive object. If the sound and the sight are perceived by *x* to belong to a single object, then there is before *x* an appearance of a single object, that is, a single appearance.[23]

Perception does not only integrate information from different sensory modalities, but also sensory information with background information that is not strictly sensory. Thus when we perceive a wall there is a sense in which we perceive it to be rigid even when we do not touch it.[24] At the very least we perceive it to be *rigid-if-touched*. If *x* perceives the wall to be rigid, or rigid-if-touched, then the wall appears rigid, or rigid-if-touched, to *x*. The phe-

nomenal trope of the wall's appearing rigid, or of the wall's appearing rigid-if-touched, is a constituent of the appearance of the wall. (It is important to distinguish the trope of appearing rigid-if-touched from the trope of appearing-rigid if touched. The occurrence former entails that the subject *actually* perceives the wall to be rigid-if-touched, whereas the occurrence of the latter entails that the subject *would* perceive the wall to be rigid *if* she touched it. We may call the former a *phenomenal conditional trope* and the latter a *conditional phenomenal trope*. According to the view presented here, only the former is a constituent of the appearance of the wall.) This gives us the subjectivist answer to the next question: When *x* does not touch the music box, but knows it is rigid because all music boxes are, is the rigidity of the music box part of its appearance? The subjectivist answer is Yes—provided *x* is a normal perceiver and by "knows" it is implied that that knowledge is built into *x*'s perceptual experience. It is important to stress, however, that the subjectivist view is not committed to the idea that we do in fact perceive walls to be rigid, or rigid-if-touched, from afar. If we do not, the subjectivist view is that there is no such trope as appearing rigid, nor appearing rigid-if-touched, before *x*, and *a fortiori* there is no appearance before *x* that features such a trope. The pluralist answer is easy to predict: there is one appearance that includes rigidity, or rigid-if-touched-ness, and one that does not.

We have been stressing the richness of perception, and the different ways in which it goes beyond pure sensation. But it is important not to over-intellectualize perception. When *x* looks at the music box from opposite angles (say, forty-five degrees to the left and to the right), the box appears differently to *x*. The fact that *x* can tell that

it is in reality one and the same box does not change the fact that the box appears differently to her, and therefore that the appearance of the box is *not* the same.

The general principles of appearance individuation employed by the pluralist and subjectivist views are the following, then. According to the pluralist, there are as many phenomenal individuals before x as there are possible combinations of phenomenal tropes. According to the subjectivist, there are as many phenomenal individuals before x as there are individuals x perceives there to be before her. On both views, the realm of appearance is perception-dependent in that the occurrence of phenomenal tropes is determined by the subject's perception of her surrounding. Subjectivism holds that it is *further* perception-dependent in that the bundling-up of phenomenal tropes is also determined by the subject's perception of her surrounding. For the subjectivist, sameness of appearance reduces to appearance of sameness. By contrast, pluralism holds that the bundling-up of phenomenal tropes is a purely combinatorial matter, and hence does not depend on the mental life of the perceiver.

Both views offer determinate individuation. Thus, to the question, If x is presented with a duck-rabbit sculpture, is x presented with two appearances—a duck-appearance and a rabbit-appearance—or only one appearance?, the pluralist answers Two and the subjectivist answers One. Neither thinks there is no fact of the matter to appeal to here.

So far we have considered problems of individuation involving how things appear to a single perceiver. But there are problems of inter-subjective individuation as well. Consider the next question: If both x and her next-door neighbor are looking at the music box, are there two appearances before them—one for each, so to speak—or is it only one appearance?

Although we have been speaking of the wall's appearing pink, and the box's appearing purple, it is important to remember that when something appears, there is always someone to whom it appears. A fuller description of the tropes we were speaking of would therefore be "the wall's appearing pink to x" and "the box's appearing purple to x." Now, when the box also appears purple—the same shade of purple—to x's neighbor, there also exists the trope of the box's appearing purple to x's neighbor. This is a different trope from the trope of the box's appearing purple to x. However, there is also a third trope in the vicinity, namely, the box's appearing purple to x *and* x's neighbor. To say that y appears F to two different subjects is simply to say that two different subjects perceive y to be F. That surely happens from time to time, so such phenomenal tropes do exist. And bundles of them make up phenomenal individuals. We may call such tropes *inter-subjective phenomenal tropes*, and the individuals they constitute *inter-subjective appearances*.

The answer to the latest question is a pluralist one, then: when x and x's next-door neighbor perceive the box to be purple, there are *three* appearances before them: the appearance of the box to x, the appearance of the box to x's neighbor, and the appearance of the box to both. Note that the third appearance is likely to be more abstract or less concrete than the other two. If x and her neighbor perceive the box from very different angles, the box will appear one shape to x and another shape to x's neighbor. Therefore, the inter-subjective appearance of the box will feature no inter-subejctive phenomenal shape trope. In general, inter-subjective appearances can never exceed the level of concreteness of the subjective appearances with which they are collocated.

The last two questions raised at the end of §1 were general: Is there a general answer to the question How many appearances are there in front of *x*? Is there a *fact of the matter* about how many appearances there are in front of *x*? The discussion in this section suggests that the answers are positive. The discussion also suggests that a subjectivist view of appearance individuation is the most plausible. But whether one takes a pluralist or a subjectivist view of appearance individuation, one obtains determinate principles of individuation that provide facts of the matter about counting appearances.

6. CONCLUSION: THE STRUCTURE OF THE PHENOMENAL WORLD

As noted at the beginning of this essay, talk of appearances has had the historical misfortune of being associated with a broadly idealist or Kantian agenda. Many a great philosopher—from Protagoras to Carnap—has held that there is no reality over and above the full specification of the world of appearances. We have accepted the existence of conditional phenomenal tropes such as appearing-rigid if touched. A logical positivist, or an early phenomenologist, would claim that a medium-sized object offers also such conditional phenomenal tropes as appearing-thus-and-so if observed under a microscope, and that there is nothing to the object itself over and above the set of all such conditional phenomenal tropes—nothing over and above its "permanent possibilities of sensation." But while there are good reasons to countenance the existence of these complex conditional phenomenal tropes, there is no necessity to take the extra step of reducing the way things *are* to the way they *appear* (or the way they *would* appear if manipulated appropriately).[25] It is important to realize that these two steps are independent of each other: the existence of phenomenal individuals, of whatever complexity, does not entail the non-existence of non-phenomenal individuals; nor is the hypothesis of the non-existence of non-phenomenal individuals supported in any way by the hypothesis of the existence of phenomenal individuals.

When friends of appearances did not deny the existence of a reality independent of perception, they insisted that this reality and the world of appearances—the *phenomenal world*, if you will—form two independent systems, causally and spatially insulated from each other. This, too, is nowise implied by the mundane notion of appearance. On the contrary, since appearances in the mundane sense can be reductively explained in terms of perception-independent realities, the phenomenal world is necessarily a sub-domain of the non-phenomenal world.

Perhaps the only plausible offshoot of the Kantian legacy is the notion that the world of appearances is what Husserl called the *Lebenswelt*, the living-world. The phenomenal world is the world in which we experience our life to unfold. It is the domain in which we operate, the playground of our daily existence. If one walks to the right when one wants to leave the room, it is not because there is a wall on the left, but because there is a wall on the left *which one perceives*. That is, it is the *appearance* of the wall that pressures one to walk to the right. The only way the wall can pressure one to walk to the right is by presenting its appearance to one. In general, anything that is relevant to our life is relevant to our life through the appearances it presents or we predict it to present. It is this fact that makes the phenomenal world so philosophically interesting. To study the metaphysics of the phenomenal world is to study the ultimate structure of the world in which we *live*.

A full metaphysic of the phenomenal world will have to account for the other phenomenal ontological categories. Thus, if appearing white is distinct from being white, then there is a property of appearing white which is different from the property of being white. We may call the property of appearing white a *phenomenal property*. According to trope nominalism, a property is nothing but a set of exactly resembling tropes. If so, the property of appearing pink is the set of all tropes of appearing pink. Likewise, there are most certainly *phenomenal events*. If the wall appears white at one moment and then appears pink the next moment, there is a change in the color the wall appears to have, even if there is no change whatsoever in the color the wall really has. This change is not a real change in the wall, then, but an apparent change. Such apparent changes can be called phenomenal events. A full metaphysic of the phenomenal world will have to account for phenomenal events and phenomenal properties, as well as phenomenal causation, phenomenal possibilia, etc. The present paper attempted to embark on this program, by discussing some foundational issues regarding the main denizens of the phenomenal world—individual appearances.

Brown University

NOTES

1. In fact, they *ought* not, since appearances *supervene* on realities: two states of affairs that are exactly alike with respect to *realities* must also be exactly alike with respect to *appearances*.

2. This framework is chosen primarily because the author of these pages believes it is largely correct, but why this is so will not figure importantly in this paper. While the paper's immediate goal is to construct a trope account of appearances, the author is really more interested in showing that the topic can be quite interesting.

3. I use the term "analyze" as meaning something like reduction. But when x is "analyzed in terms of" y, it need not necessarily reduce to y *and nothing else*. Rather, it reduces to y against a certain accepted background of devices, such as sets, sums, or logical relations.

4. For a sharp critique of standard Nominalism, see Jackson 1977 and of course Russell 1912. For a comprehensive critique of Bundle Theory, see Van Cleve 1985.

5. Under this name, tropes were introduced to modern metaphysics by Donald Williams (1953), although under different names they roamed the metaphysical plains at least since the time of Aristotle (who called them "individual accidents").

6. A simpler way to conceive of tropes is as *facts*. A fact is often understood to involve the instantiation of a property by an individual, and hence is construed as an ordered pair <individual, property>, e.g., <the ball, yellowness>. But it could also be construed as a single trope, e.g., the ball's yellowness. If so, all facts are tropes. Conversely, I cannot see what trope cannot be construed as a fact. So tropes and facts are at the very least coextensive. Trope Fundamentalism may therefore be simply construed as an ontology according to which facts are the fundamental elements of being. (In this sense, Wittgenstein's ontology in the *Tractatus* may have been the first version of Trope Fundamentalism: "The world is the totality of facts.") This construal may alleviate the worry that tropes are too much of a metaphysician's cooked-up entity to serve as the material of all reality. There is a very intuitive sense in which everything there is is facts and combinations thereof.

7. Williams 1953.

8. By "entity" I do not mean only individual objects, of course, but anything a metaphysician may grant existence to.

9. How trope Bundle Theory may unfold will be discussed in the next section. Since we will not discuss in the main text the way in which trope theorists try to carry out the project of Trope Nominalism, let us say a little about this here. According to Williams (1953: 117), abstract universals are nothing over and above certain sets of tropes, namely, sets of *precisely similar* tropes. He offers no account of concrete universals, but it is not difficult to see how such an account will proceed. Take the property of being Socrates. If Socrates is nothing over and above a bundle of tropes $T_1, T_2, \ldots, T_n$, then the property of being Socrates is the nothing over and above the set of all bundles of $T_1, T_2, \ldots, T_n$. This set is a singleton, but it is nonetheless different from the bundle $T_1, T_2, \ldots, T_n$ itself. For every x, x is different from the singleton $\{x\}$. In general, every concrete universal is a singleton whose only member is a bundle of tropes which make up a concrete particular.

10. The main difficulty with this characterization of the distinction is that it presupposes that we can say what counts as *one place*. This is doubly problematic. First, it is not at all clear that we can. Hawaii is a concrete entity. There is one sense of "place" in which Hawaii occurs in more than one place at a time, and another sense in which it occurs in only one place at a time. The second sense is difficult to explicate, however. This is one problem with the present characterization. A more serious problem is that if we cannot characterize particularity without already assuming a principle of place individuation, then there is at least one kind of concrete entities, namely places, whose individuation is independent of the notion of trope. This poses a threat to the very core of the fundamentalist project.

11. Traditionally, it has been customary to say that an entity is abstract just in case it is a-spatial, whereas a concrete entity has spatial location. That characterization is based on the assumption that if an entity has spatial location, then no other entity could have the same spatial location. This assumption is what the present characterization rejects. The ball's redness and the ball's roundness *have* spatial location, it is just that their location is the same. The fact that these two entities can have the same spatial location means that at least one of them is not a concrete entity. One worry about this characterization is that trope theorists take the spatial status of an entity, or lack thereof, to be itself a matter of the spatial tropes constituting that entity: what spatial location an entity has is a matter of the location trope it includes, and whether it has spatial location at all is a matter of whether it includes a location trope at all.

12. Williams 1953: 115.

13. As noted in the previous section, this paper will not present an independent justification for the framework of Trope Theory. The main justification will simply be the fact that Trope Theory can account for appearances. At the same time, we can expect Trope Theory to appeal to those among us with fundamentalist inclinations. The prospects for trope fundamentalism, although problematic (see Daly 1997; also Armstrong 1992, Lewis 1986, chap. 1), look far better than the prospects for any other version of metaphysical fundamentalism. (For a comprehensive defense of the program of Trope Theory, see Campbell 1990.) Furthermore, unlike the oddity, and apparent circularity, of upholding the opposing doctrines of *standard* nominalism and Bundle Theory, the combination of *trope* nominalism and *trope* Bundle Theory makes perfect sense and is clearly uncircular, since both properties and individuals are analyzed in terms of a third type of entity. Thus it is perhaps with trope fundamentalism that the fundamentalist personality can find her metaphysical consolation. In this respect, the evident attractions of Trope Theory derive from the attractions of metaphysical fundamentalism, that is, the attractions of ontological parsimony and esthetic harmony.

14. Simons 1994.

15. This makes the nuclear theory superior because if it turns out that the original trope Bundle Theory is true, and individuals are identical with original bundles, this does not falsify the nuclear theory. In fact, the truth of the original trope Bundle Theory would entail the truth of the nuclear theory, but not vice versa.

16. As it happens, *x* understand very well that they are the same length, so *x* is not under an illusion.

17. Contrary to what O'Shaughnessy 1990 seems to think.

18. Obviously, I am thinking of a rectangularly appearing wall.

19. This requirement is meant to apply only to big enough objects, that is, at least as big as a molecule.

20. This is not to say that being made out of molecules is an imperceptible feature; merely that it is not humanly perceivable, that is, not perceivable with the aid of the human sensory apparatus. And I am postulating that *x* is a human perceiver.

21. See, for instance, C. B. Martin 1980.

22. For some (pathological) *x*, *x* does mobilize her concept of purple-or-yellow and not her concept of purple. But in any event there is always a psychologically real event in *x* that makes it the case that she mobilizes one concept and not the other. Which phenomenal tropes exist before *x* is determined by this psychologically real event.

23. We can also consider a case in which *x* perceives the music box in silence first and only then the music comes on. On the subjectivist view explored in the text, there is here one persisting appearance.

24. The information that the wall is rigid is "background information" because it is not sensorily acquired on the occasion in question.

25. A well-known consideration against such reduction points out the possibility of the world doubling its size instantaneously. None of the conditional phenomenal tropes featured by any object would change even if such an event took place. Thus there are some facts about the world which cannot possibly be captured in phenomenal terms.

REFERENCES

Campbell, K. 1981. "The Metaphysic of Abstract Particulars." *Midwest Studies in Philosophy*, vol. 6, pp. 477–488. Reprinted in Mellor and Oliver 1997.

————. 1990. *Abstract Particulars*. Oxford: Blackwell Publishers.

Daly, C. 1997. "Tropes." In Mellor and Oliver 1997.

Jackson, F. 1977. "Statements about Universals." *Mind*, vol. 86, pp. 427–429. Reprinted in Mellor and Oliver 1997.

Lewis, D. C. 1986. *The Plurality of Worlds*. Oxford: Blackwell Publishers.

Martin, C. B. 1980. "Substance Substantiated." *Australasian Journal of Philosophy*, vol. 58, pp. 3–10.

Mellor, D. H., and A. Oliver, eds. 1997. *Properties*. Oxford: Oxford University Press.

O'Shaughnessy, B. 1990. "The Appearance of a Material Object." *Philosophical Perspectives*, vol. 4, pp. 131–151.

Russell, B. 1912. "The World of Universals." In B. Russell, *The Problems of Philosophy*. Oxford: Oxford University Press. Reprinted in Mellor and Oliver 1997.

Simons, P. 1994. "Particulars in Particular Clothing: Three Trope Theories of Substance." *Philosophy and Phenomenological Research*, vol. 54, pp. 553–575.

Van Cleve, J. 1985. "Three Versions of the Bundle Theory." *Philosophical Studies*, vol. 47, pp. 95–107.

Williams, D. C. 1953. "The Elements of Being: I." *Review of Metaphysics*, vol. 7, pp. 3–18. Reprinted in Mellor and Oliver 1997.