

# Just Colours and Positions

Richard Price

All Souls College, Oxford University

[richard.price@all-souls.ox.ac.uk](mailto:richard.price@all-souls.ox.ac.uk)

Draft 1/7/07

## Abstract

Philosophers have often raised the question what kind of information is available to vision. For instance, Berkeley argued that one could not see depth, and Hume argued that one could not see necessary connections.

Recently philosophers have asked what kinds of properties visual experience represents. According to *sparse* views, visual experience represents a sparse range of properties, for instance just colours, shapes, positions and sizes (see McGinn 1982, Burge 2003, Millar 2000). According to *rich* views, visual experience represents a rich range of properties, for instance properties such as being a tomato, and being sad (see Peacocke 2003, Siegel 2006, Searle 1983, McDowell 1998).

In this paper, instead of using the terminology of what properties visual experience represents, I define a kind of looking, *phenomenal looking*, which is individuated in terms of differences in visual phenomenal character. I argue that objects phenomenally look to have only colours and positions.

## 1 Phenomenal Looking

In this paper I identify a certain kind of looking, which I call *phenomenal looking*, and I explore what properties objects phenomenally look to have. I argue that objects phenomenally look to have only colours and positions, and that the colour properties do not include determinables such as being red.

I identify phenomenal looking by arguing for a constraint on it: a constraint that states a necessary condition on a kind of looking. My methodology is similar to that of someone who wishes to identify, say, a particular kind of justification, and does so by identifying a constraint on a particular kind of justification.

The following principle is a preliminary formulation of the constraint:

### **The Restricted**

**Phenomenal Character Principle:** Necessarily, for all objects  $x$ ,  $y$  and  $z$ , and all properties  $F$  and  $G$ , if  $x$  looks  $F$  to  $z$ ,  $y$  does not look  $F$  to  $z$ , and  $y$  looks  $G$  to  $z$ , then there is a visual phenomenal difference between the ways that  $x$  and  $y$  look to  $z$ .

I intend to apply the constraint diachronically and across worlds. Therefore the full constraint, the phenomenal character principle, quantifies over times and worlds, and is as follows:

**The Phenomenal Character Principle:** Necessarily, for all objects,  $x$ ,  $y$  and  $z$ , all properties  $F$  and  $G$ , all times  $t_1$  and  $t_2$ , and all worlds  $w_1$  and  $w_2$ , if  $x$  looks  $F$  to  $z$  at  $t_1$  in  $w_1$ ,  $y$  does not look  $F$  to  $z$  at  $t_2$  in  $w_2$ , and  $y$  looks  $G$  to  $z$  at  $t_2$  in  $w_2$ , then there is a visual phenomenal difference

between the way that x looks to z at  $t_1$  in  $w_1$  and the way that y looks to z at  $t_2$  in  $w_2$ .

I assume that only one kind of looking satisfies the phenomenal character principle, and I call this *phenomenal looking*. What it means to say that there is a visual phenomenal difference between the ways that two objects, A and B, look to S is that *what it is visually like* for S for A to look the way it does to S is different from what it is visually like for S for B to look to the way it does to S.

The phenomenal character principle is phrased in terms of how things look to *a particular subject*. Sometimes I refer to the properties that objects phenomenally look to have and leave it implicit that there is some particular subject to whom these objects phenomenally look to have the properties in question.

The phenomenal character principle uses the locution ‘an object looks F’, where ‘F’ is to be replaced by an adjective. In English, some properties can be expressed by predicates of the form ‘is + adjective’. For instance, the property of being red can be expressed by the predicate ‘is red’. However, some properties, for instance, the property of being a tomato, are not expressed by predicates of the form ‘is + adjective’. There is no predicate ‘is tomatoey’ which expresses the property of being a tomato.

In order to express the question whether an object can stand in the phenomenal looking relation to the property of being a tomato, we could invent an adjective,

‘tomatoey’, stipulate that being tomatoey is identical with being a tomato, and then ask whether objects can phenomenally look tomatoey. Instead, however, I will simply ask whether an object can phenomenally look *to be a tomato*, or whether an object can phenomenally look to have the property of being a tomato. Phenomenally looking to be an F and phenomenal looking to have the property of being an F obey the same constraint as phenomenally looking F; that is, if an object x phenomenally looks to be F, and another object y does not phenomenally look to be F, but phenomenally looks to be G, then there is a visual phenomenal difference between the ways that x and y phenomenally look to be. The stronger principle which quantifies over times and worlds also applies to phenomenally looking to be F.

Some philosophers have argued that the expression ‘looks to be’ refers to a more epistemic kind of looking than the expression ‘looks’. However I do not use ‘phenomenally looks to be’ in a different sense from ‘phenomenally looks’; they both obey the same constraint. Using the locution of ‘phenomenally looking to be an F’ is merely a way of avoiding having to introduce new adjectives such as ‘tomatoey’.

## **1.1 Externalist-looking**

One way of understanding phenomenal looking is to consider kinds of looking that are not phenomenal. Suppose that everything that looks red to Joe looks green to Fay. And suppose that Joe and Fay are looking at a tomato, which looks red to Joe and green to Fay. Some externalists about perception, whom we shall call *moderate externalists*, have suggested that there are two kinds of looking, internalist-looking

and externalist-looking. Internalist-looking is explained as the kind of looking involved in the tomato looking different colours to Joe and Fay. Moderate externalists allow that tomatoes internalist-look different to Joe and to Fay, even though cases of tomatoes internalist-looking the way they do to Joe are normally caused by the same surface reflectance properties as cases of tomatoes internalist-looking the way they do to Fay.

Externalist looking is introduced as follows:

**Externalist-Looking:** Necessarily, for all objects  $x$  and  $y$ , and all properties  $F$  and  $G$ , if  $x$  internalist-looks  $F$  to  $y$ , and cases of objects internalist-looking  $F$  to  $y$  are normally caused by those objects being  $G$ , then  $x$  externalist-looks  $G$  to  $y$ .

The tomato internalist-looks different colours to Joe and to Fay. However, the tomato may well externalist-look to have the same properties to Joe and Fay. If cases of objects internalist-looking red to Joe are normally caused by those objects being  $G$ , and cases of internalist-looking green to Fay are normally caused by those objects being  $G$ , then the tomato will externalist-look  $G$  to Joe and to Fay.

Externalist-looking does not satisfy the phenomenal character principle.

Suppose that Joe is looking at a tomato, which internalist-looks red to him. Say that the tomato externalist-looks  $G$  to him. Suppose that in world  $w_1$ , cases of internalist-looking red to Joe are normally caused by objects being  $F$ , where being  $F$  is distinct from being  $G$ . In that world, when the tomato internalist-looks red to Joe, it will

externalist-look F to him, i.e. different from how it actually externalist-looks to him, even though there is no visual phenomenal difference between the way the tomato looks to Joe in the actual world and the way it looks in  $w_1$ . It follows that externalist-looking does not satisfy the phenomenal character principle.

Internalist-looking, by contrast, does seem to satisfy the phenomenal character principle. It seems to follow from the tomato internalist-looking different to Joe and Fay that there is a visual phenomenal difference between the way the tomato looks to Joe and the way it looks to Fay.

Some externalists will reject the claim that there is internalist-looking. Let us call such an externalist a *radical externalist*. Since externalist-looking was introduced in terms of internalist-looking, a radical externalist will deny that there is externalist-looking. A radical externalist will acknowledge that there is externalist-looking\*, a constraint on which is as follows:

**Externalist-looking\*:** Necessarily, for all objects x and y, and all properties F, x externalist-looks\* F to y only if there is a mental state s of y such that s is normally caused by the presence of F-ness.

Thus, an object externalist-looks\* red to Joe only if there is a mental state of Joe which is normally caused by redness. A radical externalist will account for the intuition that everything that looks red to Joe might look green to Fay as follows. They will hold that, for some surface reflectance property F, what it is visually like

for Joe for objects to externalist-look\* F to him is different from what it is visually like for Fay for objects to externalist-look\* F to her.

The disagreement between the radical externalist and the moderate externalist concerns whether there is a kind of looking that is individuated in terms of visual phenomenal character. The moderate externalist holds that there is such a kind of looking, and the radical externalist denies this.

In this paper I claim that there is a kind of looking, phenomenal looking, that is individuated in terms of visual phenomenal character, and, in particular, one that obeys the phenomenal character principle. By contrasting phenomenal looking with other kinds of looking, I hope to make the claim that there is phenomenal looking plausible.

There is a third kind of externalist position which would reject an assumption common to moderate and radical externalism. We will call this kind of externalist a *phenomenal externalist*. A phenomenal externalist endorses the following claim:

**Phenomenal Externalism:** Necessarily, for all subjects x and y, if the mental states of x are normally caused by the same properties as the mental states of y, then what it is like for x to have x's mental states is the same as what it is like for y to have y's mental states.

According to a phenomenal externalist, if the mental states of Joe and Fay are normally caused by the same properties of objects, then what it is like for Joe to see tomatoes is the same as what it is like for Fay to see tomatoes. Both the moderate and the radical externalist reject this claim. In this paper I do not argue against phenomenal externalism, but merely note that it seems counter-intuitive. It seems plausible that even if the mental states of Joe and Fay are normally caused by the same properties of objects, what it is like for Joe and Fay to see certain objects may differ. In what follows I will assume that phenomenal externalism is false.

## **1.2 Epistemic Looking**

It is intuitive that some looks-statements refer to a state of a subject that is at least partly epistemic. For instance, if Joan is looking at a DVD cover, she may say ‘this film looks intriguing’, and, intuitively, this looks-statement refers to an epistemic kind of looking.

It seems that epistemic looking is not phenomenal looking. There can be cases in which the way an object epistemically looks changes between  $t_1$  and  $t_2$  without there being any visual phenomenal difference between the way the object looks at  $t_1$  and the way it looks at  $t_2$ . Suppose that, at  $t_1$ , one is told that one is in a room where all and only red things look green. When one is asked to pick out the red objects, one may well find an object that looks green, and say ‘that object looks red to me’. At  $t_2$  one is told that the room is such that all and only blue things look green. When asked

to pick out blue things, one may well find an object which looks green and say ‘that object looks blue to me’.

Assuming that one’s looks-statements in this context refer to epistemic looking, the way that the objects epistemically look between  $t_1$  and  $t_2$  has changed, and yet there need be no visual phenomenal difference between the ways that the objects look at  $t_1$  and the ways that they look at  $t_2$ ; in the phenomenal sense of ‘looks’, the objects look green at  $t_1$  and at  $t_2$ . Thus epistemic looking does not satisfy the phenomenal character principle.

### 1.3 Nonconceptual Looking

*Nonconceptual looking* is constrained by the following principle:

**The Nonconceptual Principle:** Necessarily, for all objects  $x$  and  $y$  and all properties  $F$ ,  $x$  nonconceptually looks  $F$  to  $y$  only if  $x$ ’s looking  $F$  to  $y$  does not entail that  $y$  has a concept of  $F$ .

A kind of looking is *conceptual* iff it is not nonconceptual. One might wonder whether there are any connections between the notion of phenomenal looking and the notions of conceptual and nonconceptual looking. One might wonder, for instance, whether phenomenal looking would have to be nonconceptual.

*Prima facie* there are no connections between phenomenal looking and nonconceptual looking. The central notion in the constraint on phenomenal looking was the notion of a visual phenomenal difference, and it does not seem that there is any property of visual phenomenal differences which suggests that phenomenal looking should be either nonconceptual or conceptual.

#### **1.4 The Relata of Phenomenal Looking**

When we consider cases of an object, *x*, phenomenally looking to have a property *F* to a subject *S*, it seems natural to hold that phenomenal looking is a three-place relation between two objects and a property, in this case *x*, *F* and *S*. This view is the *property view*:

**The Property View:** Phenomenal looking is a relation between two objects and a property.

According to the property view, an object *x*'s phenomenally looking *F* to *S* is a matter of *x*'s standing in the phenomenal looking relation to *S* and to the property of being *F*.

An alternative view is that phenomenal looking is a two-place relation between a subject and a proposition. This view is the *propositional view*:

**The Propositional View:** Phenomenal looking is a relation between a subject and a proposition.

The relation in question is that of visual representation, and the proposition in question may be singular or general.

I won't explore the issue of which of the property view and the propositional view is true. The arguments that follow are independent of which of the two views is correct. If one held the propositional view, one could substitute 'is visually represented to be' for 'looks' in the phenomenal character principle, and one could substitute 'phenomenally looks' with 'is visually phenomenally represented to be'.

## **2 The Phenomenal Difference Test**

In this section I discuss a test, the phenomenal difference test, that is designed to help determine which properties objects phenomenally look to have. I will first apply it to the property of being a tomato. In the presentation of the argument, it will be a simplifying assumption that objects phenomenally look to have shape properties. I will later argue that objects do not phenomenally look to have shape properties, but in the argument that follows the assumption is harmless. I also assume, in the arguments that follow, that objects phenomenally look to have shades of colour, and position properties.

### **2.1 Being a tomato**

Consider all the specific colour and shape properties that a particular tomato phenomenally looks to a subject to have. Call this highly specific set of colour and shape properties *the tomato colour and shape properties*. The first part of my argument is that it is possible for an object phenomenally to look to have the tomato colour and shape properties without the object phenomenally looking to be a tomato. That is, that the following principle is true:

**The Tomato Anti-Entailment Principle:** For all objects  $x$  and  $y$ ,  $x$ 's phenomenally looking to  $y$  to have the tomato colour and shape properties does not entail that  $x$  phenomenally looks to  $y$  to be a tomato.

Suppose that in another possible world,  $w_1$ , there are twin-tomatoes. Twin-tomatoes are not tomatoes, but there is no visual phenomenal difference between the way that tomatoes and twin-tomatoes look. Suppose that a given tomato phenomenally looks to Oscar, an inhabitant of the actual world, to have the tomato colour and shape properties, and a given twin-tomato phenomenally looks to twin-Oscar, an inhabitant of  $w_1$ , to have the tomato colour and shape properties as well.

It would be very implausible to say that this twin-tomato phenomenally looks to twin-Oscar to be a tomato, and therefore that the twin-tomato is not the way it phenomenally looks to him. Twin-Oscar has as much right to say that the tomato in the actual world phenomenally looks to Oscar to be a twin-tomato, and therefore is

not the way it phenomenally looks to Oscar. The correct description of  $w_1$  seems to be that the twin-tomato phenomenally looks to have the tomato colour and shape properties without phenomenally looking to be at tomato. This example establishes the tomato anti-entailment principle.

We are now in a position to apply the phenomenal difference test. The test can be applied in two ways, a diachronic and a synchronic way. I will start with the diachronic way.

Suppose that, at  $t_1$ , O phenomenally looks to have the tomato colour and shape properties, but does not phenomenally look to be a tomato. Suppose that at  $t_2$ , O comes phenomenally to look to be a tomato in addition to phenomenally looking to have the tomato colour and shape properties. What kind of visual phenomenal difference might we expect to notice between the way O looks at  $t_1$  and  $t_2$ ?

The kind of possibility envisaged in the paragraph above is stronger than that entailed by the tomato anti-entailment principle, but it does not seem that there are grounds for ruling it out, once the tomato anti-entailment principle has been granted.

Suppose that we applied the phenomenal difference test to two shades of colour. At  $t_3$ , O phenomenally looks red<sub>56</sub>, and then at  $t_4$ , O phenomenally looks green<sub>32</sub>. It seems clear what the visual phenomenal difference is between the way that O looks at  $t_3$  and the way O looks at  $t_4$ . This is the kind of visual phenomenal difference we are expecting to notice between the way O looks at  $t_1$  and the way O looks at  $t_2$ . It seems that we cannot imagine a visual phenomenal difference between

the way O looks at  $t_1$  and the way O looks at  $t_2$ , and this suggests that objects do not phenomenally look to be tomatoes.

A different application of the diachronic phenomenal difference test is as follows. Suppose that at  $t_1$ , O phenomenally looks to have the tomato colour and shape properties, as well as the property of being a tomato. And suppose that at  $t_2$ , O still phenomenally looks to have the tomato colour and shape properties, but phenomenally looks to be a banana instead of a tomato. What kind of visual phenomenal difference might we expect to notice between the ways that O looks at  $t_1$  and  $t_2$ ? It seems that we cannot imagine a difference, and this suggests that objects do not phenomenally look to be tomatoes, or bananas.

Susanna Siegel has proposed an argument that suggests that she would hold that there is a visual phenomenal difference between the way that tomatoes look before and after one acquires a recognitional capacity for tomatoes. John Searle has argued that there is a visual phenomenal difference between the way a house looks depending on whether one thinks of the house as a mere façade, or as a whole house. I consider these arguments in section 3.

Another possible response to the above argument is as follows. Suppose that phenomenal externalism is true, and therefore that the phenomenal character of one's mental states is determined by what properties those mental states are normally caused by. It might be that, at  $t_1$ , the state of affairs of an object's phenomenally looking to have the tomato colour and shape properties is normally caused by that object's being a tomato, whilst at  $t_2$ , the state of affairs of an object's phenomenally

looking to have the tomato colour and shape properties is normally caused by that object's being a banana. The phenomenal externalist might argue that this difference in the causal facts suffices for a visual phenomenal difference between the way O looks at  $t_1$  and at  $t_2$ . This is a possible response to the argument. In this paper I am assuming that phenomenal externalism is false, but I acknowledge that some may find it an attractive way out of the above argument.

Now I will apply the phenomenal difference test in a synchronic way. Suppose that we have two objects in front of us, A and B. Suppose that both A and B phenomenally look to have the tomato colour and shape properties, and that in addition, A phenomenally looks to be a tomato, while B does not.

Admittedly, this kind of possibility is also stronger than that entailed by the tomato anti-entailment principle, but, again, it does not seem that there are grounds for ruling it out, once the tomato anti-entailment principle has been granted.

What kind of visual phenomenal difference might there be between the ways that A and B look? Again, suppose that we had applied the synchronic phenomenal difference test to two shades of colour. If we had said that C and D phenomenally look the same shape but C phenomenally looks green<sub>32</sub> and D phenomenally looks red<sub>21</sub>, it would be clear what the visual phenomenal difference would be between the ways that C and D look to us. Returning to the application of the synchronic phenomenal difference test to the property of being a tomato, it seems that we cannot imagine what visual phenomenal difference there might be between the ways that A

and B look to us, and this suggests that objects do not phenomenally look to be tomatoes.

A different application of the synchronic phenomenal difference test is as follows. Suppose that A and B phenomenally look to have the same colour and shape properties, and A phenomenally looks to be a tomato, whilst B phenomenally looks to be a banana. What kind of visual phenomenal difference might there be between the ways that A and B look? It seems that we cannot imagine such a difference, and this suggests that objects do not phenomenally look to be tomatoes or bananas.

One could reply to the arguments in this section that the worlds we are describing are too remote for us to imagine. According to this line of reply, in the actual and nearby worlds, objects phenomenally look to be tomatoes in addition to phenomenally looking red and round. The reply continues, there do exist worlds in which some objects that phenomenally look red and round phenomenally look to be tomatoes, and some do not, but these worlds are too remote for us to imagine. My reply to this objection is that such worlds do not seem *too* remote. Intuitively, in our ordinary philosophical theorizing, we describe and imagine worlds that are more remote than the ones being described in this section. I acknowledge that some readers may find this an appealing way in which to resist the above arguments. (Thanks to Alex Byrne for suggesting that I address this issue.)

I now apply the phenomenal difference test to the following properties, and I argue that objects do not phenomenally look to have them.

- being a table
- being expensive
- for any properties F and G, having changed from F to G
- for some event E, causing E
- being red
- for any object x, being the same colour as x
- being square

## **2.2 Being a table, being expensive**

Let us apply the phenomenal difference test to the property of being a table. Suppose that we have two objects, A and B, which phenomenally look to have all the same colour and shape properties, and A phenomenally looks to be a table and B does not phenomenally look to be a table. What kind of visual phenomenal difference might there be between the ways that A and B look? It seems that we cannot imagine such a visual phenomenal difference, and this suggests that objects do not phenomenally look to be tables.

Suppose that A and B phenomenally look to have the same colour and shape properties, but A phenomenally looks expensive and B does not. What kind of phenomenal difference might there be between the ways that A and B look? It seems that we cannot imagine such a visual phenomenal difference, and this suggests that objects do not phenomenally look expensive.

### 2.3 Depth properties

Let us now consider depth properties. It seems that at least objects phenomenally look to have positions on an x, or left-right, axis, and on a y, or up-down, axis. Do objects phenomenally look to have positions on a z, or forwards-backwards, axis? I shall call positions on each of these axes 'coordinates', and I shall argue that it is *prima facie* implausible that objects phenomenally look to have z coordinates.

For simplicity, I will assume in this argument that objects phenomenally look to have size properties. Later in this paper I will argue against this assumption, but the assumption in the following argument is harmless.

Consider the following anti-entailment principle:

**The Depth Anti-Entailment Principle:** Necessarily, for all objects x and y, there is no size property F and no z coordinate G such that x's phenomenally looking F to y entails that x phenomenally looks G to y.

Suppose one is looking at a red square kite in a blue sky, and one does not know what the object of one's perception is. The kite phenomenally looks a certain size. If the kite increases in size between  $t_1$  and  $t_2$ , the kite will phenomenally look a greater size at  $t_2$  than at  $t_1$ . Although the kite phenomenally looks a certain size at  $t_1$ , it

does not seem that there is any particular  $z$  coordinate which the kite phenomenally looks. And this seems true regardless of what size property the kite phenomenally looks to have. Thus the size anti-entailment principle seems intuitive. We are now in a position to apply the phenomenal difference test.

Let us assume, for the sake of argument, that objects do phenomenally look to have  $z$  coordinates. Suppose that an object,  $O$ , phenomenally looks the same size, shape, and colour properties, and the same  $x$  and  $y$  coordinates from  $t_1$  to  $t_2$ . At  $t_1$ ,  $O$  phenomenally looks to have  $z$  coordinate  $z_{15}$ , and then, at  $t_2$ ,  $O$  phenomenally looks to have  $z$  coordinate  $z_{20}$ , so  $O$  phenomenally looks further away at  $t_2$  than at  $t_1$ . We are imagining an isolated change between  $t_1$  and  $t_2$  in the  $z$  coordinate that  $O$  phenomenally looks to have. None of the other properties that  $O$  phenomenally looks to have at  $t_1$  changes. What kind of visual phenomenal difference might we expect to notice between the way that  $O$  looks at  $t_1$  and  $t_2$ ?

Suppose that instead of focussing on a change in the  $z$  coordinate that  $O$  phenomenally looked to have between  $t_1$  and  $t_2$ , we considered a change in the  $x$  coordinate that  $O$  phenomenally looked to have between  $t_1$  and  $t_2$ . That is,  $O$  phenomenally looks the same colour, size, shape,  $y$  and  $z$  coordinate between  $t_1$  and  $t_2$ , but it phenomenally looks to have a different  $x$  coordinate at  $t_1$  from the one it phenomenally looks to have at  $t_2$ . The position  $O$  phenomenally looks to have at  $t_2$  is either further to the right or further to the left of the position that  $O$  phenomenally looks to have at  $t_1$ . It seems that there would be a clear visual phenomenal difference between the way that  $O$  looks at  $t_1$  and the way that  $O$  looks at  $t_2$ .

Returning to the case of the change in the z coordinate that O phenomenally looks to have, it seems we cannot imagine what kind of visual phenomenal difference there might be between the way that O looks at  $t_1$  and the way that O looks at  $t_2$ . This is *prima facie* evidence that objects do not phenomenally look to have z coordinates.

In (reference removed for the purposes of blind review) I argue that the possibility of 360 degree vision suggests that the phenomenal difference test in this case can be met, and that objects do phenomenally look to have z coordinates. The aim of this section is merely to show that there is a *prima facie* challenge to the idea that objects phenomenally look to have z coordinates.

## 2.4 Change

Let us now consider the property of having changed some property or other, for instance, the property of having changed position, or changed colour. Let us address the question whether a given object, O, ever phenomenally looks to have changed colour between  $t_1$  and  $t_2$ . Certainly it is possible that there are two different colours, F and G, and, at  $t_1$ , O phenomenally looks F, and, at  $t_2$ , phenomenally looks G. However, what is at issue is whether it is ever the case that O phenomenally looks to have changed from red to green, where ‘changed from red to green’ is within the scope of the ‘phenomenally looks’.

Historically this problem has been usually put by asking whether there is perception of change, as opposed to mere change of perception. Change of perception

is simply a matter of having different perceptions at different times. Perception of change, as we shall interpret it, is a matter of objects phenomenally looking to have changed, where, for two properties F and G, 'was F and is now G' is within the scope of 'phenomenally looking'.

Suppose that at  $t_1$ , object A phenomenally looks red, and at  $t_2$ , A phenomenally looks green. To say, at  $t_2$ , that A phenomenally looks to have changed from being red to being green is to say that A phenomenally looks to have been red earlier and green now. Let us apply the phenomenal difference test to this case.

Suppose that there are two objects, A and B. At  $t_1$ , A and B phenomenally look red. At  $t_2$ , A and B phenomenally look green. Whilst, at  $t_2$ , B phenomenally looks to have been red earlier and green now, A, at  $t_2$ , does not phenomenally look to have been red earlier and green now; A, at  $t_2$ , simply phenomenally looks green. What kind of visual phenomenal difference might we expect to notice between the ways that A and B look between  $t_1$  and  $t_2$ ? It seems hard to imagine what visual phenomenal difference there might be, and this suggests that objects do not phenomenally look to have been red earlier and green now.

One could respond by arguing that the state of affairs in which at  $t_1$  A phenomenally looks red, and at  $t_2$ , A phenomenally looks green, entails that A phenomenally looks to have been red earlier and green now. If this was the case, then we could not apply the phenomenal difference test. The anti-entailment principle that is relevant to this argument is as follows:

**The Change Anti-Entailment Principle:** For all objects  $x$  and  $y$ , properties  $F$  and  $G$  and times  $t_1$  and  $t_2$ , the facts that, at  $t_1$ ,  $x$  phenomenally looks  $F$  to  $y$ , and, at  $t_2$ ,  $x$  phenomenally looks  $G$  to  $y$ , do not entail that, at  $t_2$ ,  $x$  phenomenally looks to  $y$  to have been  $F$  previously and  $G$  at  $t_2$ .

The change anti-entailment principle seems very intuitive. For instance if a particular object,  $O$ , phenomenally looks red to  $S$  on Monday, and phenomenally looks green to  $S$  on Tuesday, it seems implausible to say that it follows that, on Tuesday,  $O$  phenomenally looks to  $S$  to have been red previously and green on Tuesday.

One might argue that, if one is continuously looking at  $O$ , and the colour that  $O$  phenomenally looks changes from red to green, then it follows that  $O$  phenomenally looks to have been red earlier and green now. However, this claim does not seem plausible either. It seems intuitive that there are cases in which one continuously looks at some object  $O$  between two times  $t_1$  and  $t_2$ , and, at  $t_1$ ,  $O$  phenomenally looks red, and, at  $t_2$ ,  $O$  phenomenally looks green, and one is not inclined to say that, at  $t_2$ ,  $O$  phenomenally looks to have been red previously and green now. If there is an entailment principle that concerns phenomenally looking to have been red earlier and green now, it is not clear what it is.

The argument above concerning change generalizes to rule out objects phenomenally looking to move. An object phenomenally looking to move is a matter

of the object phenomenally looking to be changing its position properties, which, in turn, seems to be a matter of the object phenomenally looking to have been *there* before and *here* now.

We can apply the phenomenal difference test to this case as well. Suppose that we are looking at two balls, A and B, travelling the same distance at the same speed. Each ball phenomenally looks the same shape and colour and size, and the positions that each ball phenomenally looks to have are changing at the same rate. Moreover, whilst A phenomenally looks to be moving, B does not phenomenally look to be moving. B is such that the position it phenomenally looks to have is different at each time, but it does not phenomenally look to be moving. What kind of visual phenomenal difference might we expect to notice between the way that A looks and the way that B looks? It seems that there will be no visual phenomenal difference, and this suggests that objects do not phenomenally look to move.

## **2.5 Causal properties**

Let us consider whether events phenomenally look to cause other events. Suppose that there are two objects, A and B. At  $t_1$ , A and B phenomenally look red. At  $t_2$ , A changes, and starts to phenomenally look green, whilst B continues to phenomenally look red. At  $t_3$ , B follows A, in that it starts to phenomenally look green, and A continues to phenomenally look green. In summary, the following facts obtain:

- t<sub>1</sub>:** Both A and B phenomenally look red.
- t<sub>2</sub>:** A phenomenally looks green; B phenomenally looks red.
- t<sub>3</sub>:** A phenomenally looks green; B phenomenally looks green.

The colour that A phenomenally looks changes from red to green between  $t_1$  and  $t_2$ , and the colour that B phenomenally looks follows suit from  $t_2$  to  $t_3$ . Let us now ask whether, at  $t_3$ , A phenomenally looks to have caused it to be the case that B is green.

The answer to this question seems to be 'no'. If one swapped B for a qualitative duplicate, say C, the result would be that A looks to bear a relation to C rather than B, which is a different way that A would look, and yet there would be no visual phenomenal difference in the way that A looks.

However, we can remove B from within the scope of the 'phenomenally looks' and rephrase the original question by asking whether, at  $t_3$ , A phenomenally looks to have caused it to be the case that there is some green object. We can apply the phenomenal difference test to this case. Suppose that, in addition to A and B above, there is another pair of objects, C and D. The facts about the colours that C and D phenomenally look over time are the same as with A and B, namely:

- t<sub>1</sub>:** Both C and D phenomenally look red.
- t<sub>2</sub>:** C phenomenally looks green; D phenomenally looks red.
- t<sub>3</sub>:** C phenomenally looks green; D phenomenally looks green.

The difference between A and B on the one hand, and C and D on the other hand, is the following:

**t<sub>3</sub>:** A phenomenally looks to have caused it to be the case that there is some green object; C does not phenomenally look to have caused it to be the case that there is some green object.

What might the visual phenomenal difference be between the way A looks and the way that C looks? It seems that we cannot imagine what this visual phenomenal difference would be, and this suggests that objects do not phenomenally look to cause it to be the case that there is something that is green.

There is also the question whether objects phenomenally look to cause it to be the case that an object is at such and such location. The argument given above could be adapted to imply that this property is not one that objects phenomenally look to have.

## **2.6 The property of having a back**

Let us now consider whether objects phenomenally look to have backs. Suppose we are looking at a particular tomato. One question is whether the tomato phenomenally looks to have a back. A second question is whether there is a certain kind of back, say a semi-spherical one, which the tomato phenomenally looks to have.

Before we apply the phenomenal difference test to this case, we should consider whether the two anti-entailment principles in question hold. For instance, one might hold that it follows from a particular object phenomenally looking red and round that it phenomenally looks to have a back of a particular kind. This seems implausible. Suppose that there is a world,  $w_1$ , in which tomatoes are semi-spherical, and that in  $w_1$  a subject, S, is looking at the curved side of a tomato. Intuitively, the tomato's not having a semi-spherical back would not provide a reason for thinking that the tomato is not the way it phenomenally looks, and this suggests that in  $w_1$ , the tomato does not phenomenally look to have a semi-spherical back. This establishes that phenomenally looking red and round does not entail phenomenally looking to have a semi-spherical back.

One might hold that phenomenally looking round entails phenomenally looking to have *some* back, and one might defend this view by arguing that the properties that objects phenomenally look to have are closed under obvious entailment. Later I argue that phenomenally looking red<sub>21</sub> does not entail phenomenally looking red, even though the entailment between being red<sub>21</sub> and being red is obvious. If this argument is sound, a special argument would have to be given for thinking that phenomenally looking round entails phenomenally looking to have a back.

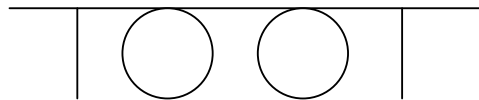
In what follows I shall assume the anti-entailment principle that phenomenally looking to be red and round does not entail phenomenally looking to have a back. Suppose that objects A and B phenomenally look the same colour and shape

properties, and A phenomenally looks to have a back whilst B does not. What kind of visual phenomenal difference might we expect to notice between the ways that A and B look? It seems that we cannot imagine such a difference, and this suggests that objects do not phenomenally look to have backs.

### 3 The Arguments of Searle and Siegel

Susanna Siegel and John Searle argue that there are visual phenomenal differences that are not accounted for in terms of different colour and position properties that objects phenomenally look to have. Searle gives two examples:

‘Consider the following figure:



‘This can be seen as the word ‘TOOT’, as a table with two large balloons underneath, as the numeral 1001 with a line over the top, as a bridge with two pipelines crossing underneath, as the eyes of a man wearing a hat with string hanging down each side, and so on.....

‘Consider, for example, the difference between looking at the front of a house where one takes it to be the front of a whole house, and looking at the front of a house where one takes it to be a mere façade, e.g. as part of a movie set. If one believes one is seeing a whole house, the front of the house actually looks different from the way it looks if one believes one is seeing a false façade of a house....It is part of the content of my visual experience when I look at a whole house that I expect the rest of the house to be there if, for example, I enter the house or go round to the back.’ (Searle, 1983, p54-55).

Siegel also gives two examples:

‘Consider a page of Cyrillic text. The way it looks to someone before and after she learns to read Russian seems to bring about a phenomenological difference in how the text looks. (Christopher Peacocke makes a similar phenomenological claim in ch. 3 of *A Study of Concepts*). When you are first learning to read the script of a language that is new to you, you have to attend to each word, and perhaps to each letter, separately. In contrast, once you can easily read it, it takes a special effort to attend to the shapes of the script separately from its semantic properties. You become disposed to attend to the semantic properties of the words in the text, and less disposed to attend visually to the orthographic ones.

The second example involves a different recognitional disposition. Suppose you have never seen a pine tree before, and are hired to cut down all the pine trees in a grove containing trees of many different sorts. Someone points out to you which trees are pine trees. Some weeks pass, and your disposition to distinguish the pine trees from the others improves. Eventually, you can spot the pine trees immediately: they become visually salient to you. Like the recognitional disposition you gain, the salience of the trees emerges gradually. Gaining this recognitional disposition is reflected in a phenomenological difference between the visual experiences had before and after the recognitional disposition was fully developed.’ (Siegel, 2006, p490-491)

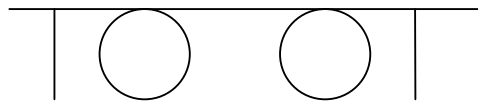
We can put the challenge posed by the above passages as follows: there exist visual phenomenal differences that are best explained in terms of objects phenomenally looking to have properties other than colours and positions.

In sections 3.1, 3.2 and 3.3 I will offer alternative explanations of the phenomena described by Searle and Siegel. In section 3.4 I will argue that even if the phenomena that Searle and Siegel describe do require that objects phenomenally look to have properties other than colours or positions, these properties do not include natural kind properties, such as the property of being a tomato.

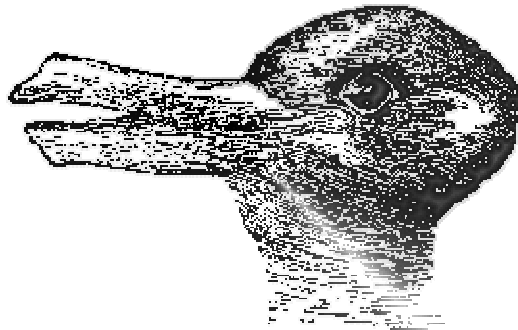
I will consider two different kinds of case: firstly, Searle’s ‘TOOT’ aspect-switching case, and secondly Siegel’s language and pine tree cases.

### 3.1 Aspect-switching

Searle's 'TOOT' figure below is one of a variety of ambiguous figures: figures which one can see under different aspects, or which one can see as different types of object.



Other examples of ambiguous figures include the duck/rabbit picture:



(from <http://mathworld.wolfram.com/Rabbit-DuckIllusion.html>)

And also the young girl/old woman picture:



(from <http://mathworld.wolfram.com/YoungGirl-OldWomanIllusion.html>)

I will argue that the phenomenal shifts in these examples are explicable in terms of the following differences:

- differences in patterns of attention
- differences in how one takes the objects to be
- differences in how one visually imagines the objects to be

Searle and Siegel argue that the best explanation of the visual phenomenal differences is that, in their terminology, visual experiences represent properties in addition to colours and positions. Let us call this account of aspect-switching the *content view*. Let us call the account I shall defend, which appeals to the above three factors, the *non-content view*. The non-content view is so-called because it does not appeal to differences in the properties that the objects in question phenomenally look to have.

I will use the expressions ‘seeing as’ and ‘seeing under a certain aspect’ in such a way that it is not controversial that one can see ambiguous figures as different

kinds of objects, or under various aspects. I take the substantive issue to concern the question what the best explanation of seeing as is.

### 3.1.1 Patterns of attention

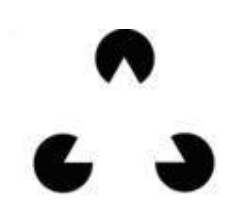
Normally, aspect-switching on an ambiguous figure is accompanied by a shift in one's patterns of attention towards the figure, though these shifts need not be the same for different individuals. My patterns of attention change in the following way when I see the above ambiguous figures under different aspects. When seeing the duck/rabbit as a rabbit, I tend to look at the picture from left to right, and when seeing it as a duck, I tend to look at it from right to left. Also, when seeing it as a rabbit, I attend to the rabbit's mouth and eye together, when I see it as a duck, I attend to the duck's eye and beak together. When seeing 'TOOT' as the word 'TOOT', I tend to attend to the whole word at once, whereas when I see it as a man wearing a hat with strings hanging down each side, I tend to attend to the eyes first and then the hat. When I see the young girl/old woman as an old woman, I tend to attend to the mouth and the eyes first, and when I see it as a young girl, I attend to her cheek and left shoulder first.

Changing one's patterns of attention towards a figure can cause a phenomenal difference to occur. Consider the following picture:



Initially, one's attention is evenly distributed over the shapes in the picture. After one sees the Dalmatian in the middle of the picture, one attends to the specific outline of the Dalmatian. There seems to be a phenomenal difference associated with this shift in one's pattern of attention.

Consider the figure below. One can see it as being composed of a white triangle superimposed on black circles, and one can see it as composed of three black circles with wedges cut out of them. When one sees it as composed of a white triangle superimposed on black circles, it seems that one attends to the straight lines between the three black circles that would be the edges of the white triangle. When one sees it as composed of three black circles with wedges cut out of them, then one attends to these circles alone without attending to the straight lines that would be the edges of the white triangle.



### 3.1.2 How one takes the object to be

Cognitive states can have phenomenal character. There can be something it is like to understand a proposition. Switching between one's cognitive states can thus involve phenomenal shifts. For instance, one experiences a phenomenal shift when thinking of the two different meanings of the sentence 'visiting royalty can be boring'. This phenomenal shift is not perceptual: one can be thinking about the different meanings of this sentence with one's eyes shut and without one's other sense modalities being stimulated. It is natural to think that there is some shift in cognitive phenomenal character between thinking of the duck/rabbit figure as a duck and thinking of it as a rabbit. Bill Brewer relies exclusively on this factor in his account of aspect-switching:

[When] I see it as a duck, say, this is again a phenomenological change, but one of conceptual classificatory engagement with the very diagram presented to me. Similarly, when I shift aspects, and see it as a rabbit, there is an alteration in this phenomenology of the categorization of what is presented. (Brewer, 2006, p18).

### 3.1.3 Residual Visual Phenomenal Differences and Visual Imagination

One might argue that changes in one's patterns of attention towards the duck/rabbit figure, and changes in how one takes the figure to be, do not fully explain the phenomenal shift that one experiences. One might argue that one can prevent one's patterns of attention from changing, perhaps by looking only at the duck/rabbit's eye and beak/ears, and still experience a visual phenomenal shift when one aspect-switches on the figure.

If it is possible to aspect-switch on ambiguous figures without any change in one's patterns of attention, and if there is a residual specifically *visual* phenomenal difference between seeing the figure under the two aspects, then the above two factors that we have discussed are not sufficient to account for the phenomenon of aspect-switching.

We may appeal to states of visual imagination in order to explain the residual visual phenomenal difference. In particular, when one is looking at ambiguous figures, one may well be imagining unseen aspects of the figure. Unlike ordinary objects, ambiguous figures tend to be quite abstract, or lacking in detail. Thus it is not implausible to suppose that one's visual imagination might 'fill in' some detail when one looks at ambiguous figures.

For instance, when one sees the 'TOOT' picture as a man wearing a hat with two strings hanging down each side, one may visually imagine the boundary of a face below the eyes. This may be all that one visually imagines. One may not visually imagine features of the face such as a nose or a mouth. Merely visually imagining a small detail such as the boundary of the face would be sufficient to generate a visual phenomenal difference between seeing the picture as a man and seeing it as, say, a bridge. When one sees the figure as a bridge with two pipes passing underneath it, one may visually imagine the pipes as going off in such and such a direction. Again, this may be all that one visually imagines. Merely visually imagining brief lines going off in a certain direction would be sufficient to generate a visual phenomenal difference that would distinguish seeing the picture as a bridge from seeing it as a man.

The aim of appealing to visual imagination to explain any residual visual phenomenal differences that occur when one aspect-switches on an ambiguous figure, having fixed one's patterns of attention, is that the phenomenal character of visual imaginative states is similar to (although not identical to) the phenomenal character of visual experiences. There seems to be a reason why visual imagination is called *visual* imagination. Thus shifts in one's visual imaginative states may be able to account for the residual visual phenomenal differences in question.

### **3.2 Language acquisition and recognitional capacities**

Siegel argues that the acquisition of certain conceptual abilities, such as the ability to read Russian and the ability to recognize pine trees, can make certain kinds of objects, such as Russian sentences and pine trees, phenomenally look different.

Siegel argues that there is a phenomenal difference between looking at a page before and after one learns Russian. This claim seems plausible. Inevitably some phenomenal shift will result just because, after one has learnt Russian, one can read the text on the page, whereas before one could not, and understanding the text on the page does have a certain kind of phenomenal character.

However, this account would not explain the *visual* phenomenal shift that occurs in this case. Siegel argues that, after one has learnt Russian, one 'become[s] disposed to attend to the semantic properties of the words in the text.' (Siegel, 2006).

It is not clear that one needs to appeal to the idea of attending to semantic properties of the words in order to explain the visual phenomenal shift in question. An alternative explanation is that one becomes disposed to attend to the linguistically significant aspects of certain letters; aspects that distinguish those letters from other letters. For instance, there are two letters in the Cyrillic alphabet that differ only by the presence of a hook on the bottom of one of them. In Chinese the width, height and thickness of a stroke are relevant to determining which character it is part of. Learning Russian and Chinese will cause one to be disposed to attend to such features of the letters as these, and these altered patterns of attention towards texts in Russian and Chinese will produce a visual phenomenal shift.

If this explanation is correct, then the largest phenomenal shifts will occur when one learns a language which is written in an alphabet with which one is not familiar. A phenomenal shift may still occur when one learns a language which is written in an alphabet that one does know. The fact that one can read sentences written in the language will alter one's patterns of attention to sentences written in that language. For instance, depending on the language, one may come to look at newly intelligible sentences in a systematic way from left to right, whereas before one learnt the language one might not have looked at the sentences in a systematic way from left to right, because one might not have been attempting to read them.

A similar explanation may be offered for the phenomenal difference that occurs when one learns to recognize pine trees. After one learns to recognize pine trees, one will start to attend to those features of pine trees that distinguish them from other trees, for instance the colour or thickness of the bark. Acquiring a recognitional

disposition for pine trees will cause one's patterns of attention to shift when one looks at a grove containing pine trees and other sorts of trees.

### 3.3 Phenomenally looking a new way

Suppose that acquiring a recognitional disposition for pine trees *does* cause pine trees phenomenally to look different. Suppose also that acquiring a recognitional disposition for tomatoes, a disposition which I shall henceforth call the concept *tomato*, causes tomatoes phenomenally to look different. I will now discuss the question what new property tomatoes phenomenally look to one to have after one acquires the concept *tomato*. I will argue that, supposing that there is a property F such that acquiring the concept *tomato* causes tomatoes to look F, being F is not the property of being a tomato.

On twin-earth there are fruits that look and taste just the same as tomatoes do, but which are not tomatoes, as they are made from different molecules from tomatoes. Call these fruits on twin-earth 'twin-tomatoes'. There is no visual phenomenal difference between the way that twin-tomatoes look to inhabitants of twin-earth and the way that tomatoes look to inhabitants of earth. Here we are assuming phenomenal internalism, which is as follows:

**Phenomenal Internalism:** Necessarily, for all subjects  $s_1$  and  $s_2$ , if  $s_1$  is a molecule-for-molecule duplicate of  $s_2$ , then  $s_1$  does

not differ from  $s_2$  with respect to the phenomenal character of the mental states of  $s_1$  and  $s_2$ .

Suppose that Oscar is an inhabitant of earth, and twin-Oscar is an inhabitant of twin-earth. Developing the assumption we made above, just as Oscar's acquisition of the concept *tomato* causes tomatoes phenomenally to look some new F to him, so twin-Oscar's acquisition of the concept *twin-tomato* causes twin-tomatoes phenomenally to look some new F to him. It seems that the acquisition of the concept *tomato* will bring about the *same* kind of visual phenomenal shift as the acquisition of the concept *twin-tomato*. The argument for this claim is that Oscar and twin-Oscar do not know the difference between tomatoes and twin-tomatoes, and they are thus in the same types of brain state, narrowly construed. Given phenomenal internalism, the acquisition of the concepts *tomato* and *twin-tomato* by Oscar and twin-Oscar will produce the same kind of visual phenomenal shift in Oscar and twin-Oscar.

Let us accept the claim that Oscar's acquiring the concept *tomato* and twin-Oscar's acquiring the concept *twin-tomato* bring about the same kind of visual phenomenal shift for Oscar and twin-Oscar. It follows that there is some new F such that Oscar's and twin-Oscar's acquisition of their respective concepts causes tomatoes and twin-tomatoes phenomenally to look F to Oscar and twin-Oscar respectively. If being F is the property of being a tomato, then twin-tomatoes will not be the way they phenomenally look to twin-Oscar. This is counter-intuitive, since twin-Oscar has as much right to say that being F is the property of being a twin-tomato, and that tomatoes are not the way they phenomenally look to Oscar. To avoid an asymmetric

treatment of the cases, it seems that the only option is to hold that being F is neither the property of being a tomato nor the property of being a twin-tomato.

## 4 Determinabilism

I call the view that objects phenomenally look to have colours such as red, being green and being blue, in addition to shades of those colours, *determinabilism*. In this section I offer three arguments against determinabilism, and one argument which raises an issue concerning determinabilism, but which is ultimately inconclusive.

### 4.1 Colour Illusions

Suppose that the following fact obtains:

- (i) B is red<sub>21</sub>, and phenomenally looks red<sub>22</sub>.

If determinabilism is true, then if B phenomenally looks red<sub>22</sub>, then, in addition, B phenomenally looks red. Assuming determinabilism, then if (i) is true, it should be appropriate to assert (1).

- (1) B is partly the way it phenomenally looks in respect of colour, but not entirely the way it phenomenally looks in respect of colour.

After all, if B phenomenally looks red, and if B is red, then it should follow that B is partly the way it phenomenally looks in respect of colour. However, (1) seems false. (2) seems a better description of the state of affairs.

(2) B is roughly the way it phenomenally looks in respect of colour, but not exactly the way it phenomenally looks in respect of colour.

This suggests that determinabilism is false. In reply, the determinabilist might defend the *maximally specific principle*:

**The Maximally Specific Principle:** Expressions such as ‘the way that x looks in respect of colour’ are normally understood as concerning the most specific colour properties that x looks to have, rather than the determinable colour properties that x looks to have.

If the maximally specific principle is correct, then the determinabilist would have an explanation of why (2) seems false: we naturally understand the phrase ‘the way it phenomenally looks in respect of colour’ as referring to the most specific colour property that B phenomenally looks to have.

However, it is not clear that we should accept the maximally specific principle. In a context in which one is separating out green, red and blue objects, it seems that expressions such as ‘the way that x looks in respect of colour’ concern determinable colours such as green, red and blue, rather than specific shades of those

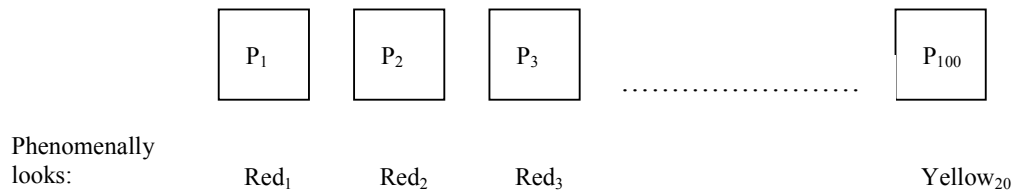
colours. Similarly, in such a context expressions such as ‘the way that x is believed to be in respect of colour’ intuitively concern determinable colours such as green, red and blue rather than specific shades of those colours.

The fact that (1) seems false is therefore evidence that determinabilism is false.

## 4.2 The Vagueness Argument

Suppose that there is a sequence of colour patches,  $P_1$ - $P_{100}$ , where  $P_1$  phenomenally looks  $red_1$ , a clear shade of red, and subsequent patches in the sequence phenomenally look progressively less clear shades of red, and  $P_{100}$  phenomenally looks  $yellow_{20}$ , a clear shade of yellow. This situation is displayed in figure 1.

**Figure 1**



According to the determinabilist,  $P_1$  phenomenally looks red in addition to phenomenally looking  $red_1$ . Suppose that  $P_{50}$  phenomenally looks  $red_{50}$ , and suppose that it is vague whether  $red_{50}$  is a shade of red. The determinabilist will presumably hold that it is vague whether  $P_{50}$  phenomenally looks red. After all, if  $P_1$

phenomenally looks red, it does not seem that there is a clear cut-off point in series at which the patches stop phenomenally looking red.

By 'it is vague whether  $P_{50}$  phenomenally looks red' one might loosely understand (1):

(1) It is vague whether the shade that  $P_{50}$  phenomenally looks is a shade of red.

However, (2) is the correct reading of 'it is vague whether  $P_{50}$  phenomenally looks red', and it is to claims such as (2) that the determinabilist is committed.

(2) It is vague whether the phenomenal looking relation holds between  $P_{50}$  and the property of being red.

(1) itself is not a controversial claim: it is a claim that an anti-determinabilist may accept.

If it is clear that  $P_1$  phenomenally looks red, and it is vague whether  $P_{50}$  phenomenally looks red, then the determinabilist seems committed to there being a varying level of vagueness in respect of the colours that  $P_1$ - $P_{50}$  phenomenally look. This seems counter-intuitive. It does not seem that the level of vagueness in how  $P_1$  and  $P_{50}$  phenomenally look in respect of colour is different. We will call the phenomenon of a varying level of vagueness with respect to the colour properties that objects phenomenally look *varying phenomenal vagueness*.

The intuition that varying phenomenal vagueness is counter-intuitive is not intended to be dependent on a particular theory of vagueness. For instance, a supervaluationist holds that vagueness is the result of a certain kind of semantic indecision. It does not seem that there is more semantic indecision in how we describe how  $P_{50}$  phenomenally looks with respect to colour than in how we describe how  $P_1$  looks phenomenally looks with respect to colour. An epistemicist holds that vagueness is a certain kind of unknowability. It does not seem that it is more unknowable how  $P_{50}$  phenomenally looks with respect to colour than how  $P_1$  looks phenomenally looks with respect to colour. (Thanks to John Morrison for pressing me to address the issue).

The determinabilist could avoid being committed to varying phenomenal vagueness only by saying that there is some colour determinable  $D$  such that it is vague whether  $red_1$  is a shade of  $D$ , and vague whether  $P_1$  phenomenally looks  $D$ . For instance,  $D$  may be reddish-brownish and the determinabilist may hold that it is vague whether  $red_1$  is a shade of reddish-brownish, and therefore that it is vague whether  $P_1$  phenomenally looks reddish-brownish. Moreover, the determinabilist will have to specify such determinables for every other patch in the sequence in order to avoid the consequence of varying phenomenal vagueness.

The intuitive support for determinabilism is that we say that objects look red. However, once it is pointed out that determinabilism, if it is to avoid being committed to varying phenomenal vagueness, entails that there are comparatively arbitrary determinables that objects phenomenally look, such as ones that begin three-quarters of the way through the red part of the colour spectrum and end half-way through the

blue area of the colour spectrum, then determinabilism seems to be a less attractive view. Determinabilism captures some of our pretheoretic intuitions but at the same time has some slightly counter-intuitive consequences.

Thus, the fact that determinabilism seems to entail that objects phenomenally look to have comparatively arbitrary determinables is a minor cost of the view.

### 4.3 Kinds of Colour Phenomenal Character

Suppose that an object A phenomenally looks  $red_{21}$ , and that A phenomenally looks at location  $l_{23}$ . It seems that we are able to distinguish two kinds of phenomenal character that our visual experience of A has: a particular kind of colour phenomenal character and a particular kind of location phenomenal character. We can call the kind of colour phenomenal character *red<sub>21</sub>-phenomenal character*, and the kind of location phenomenal character *l<sub>23</sub>-phenomenal character*.

I will now discuss two cases that seem to count against determinabilism. The first is as follows. Suppose that an object B phenomenally looks  $red_{21}$ . According to a determinabilist, B will also phenomenally look red. If the determinabilist is correct, it seems that we should be able to distinguish two kinds of colour phenomenal character that our visual experience of B has:  $red_{21}$ -phenomenal character, and also a kind of colour phenomenal character possessed by all and only visual experiences of objects that phenomenally look red; we may call this kind of colour phenomenal character *red-phenomenal character*. However, when an object, x, phenomenally looks  $red_{21}$ , it

seems that we are not able to distinguish two kinds of colour phenomenal character that our visual experience of  $x$  has, namely  $\text{red}_{21}$ -phenomenal character and red-phenomenal character. It seems that, when an object,  $x$ , phenomenally looks  $\text{red}_{21}$ , we can distinguish just one kind of colour phenomenal character, namely  $\text{red}_{21}$ -phenomenal character. This seems to be evidence that determinabilism is false.

The second case that seems to count against determinabilism is as follows. Suppose that  $B$  phenomenally looks  $\text{red}_{21}$  and that  $C$  phenomenally looks  $\text{red}_{22}$ . One's visual experience of  $B$  has  $\text{red}_{21}$ -phenomenal character, and one's visual experience of  $C$  has  $\text{red}_{22}$ -phenomenal character. Thus one's visual experiences of  $B$  and  $C$  have very similar but distinct kinds of colour phenomenal character.

According to a determinabilist,  $B$  and  $C$  also phenomenally look red. If this is correct, then we should expect that one's visual experience of  $B$  and one's visual experience of  $C$  have a common kind of colour phenomenal character, namely red-phenomenal character. However, whilst one's visual experience of  $B$  is very *similar* in respect of colour phenomenal character to one's visual experience of  $C$ , it does not seem that there is a kind of colour phenomenal character with respect to which one's visual experiences of  $B$  and  $C$  are identical. This seems to be evidence that determinabilism is false.

#### **4.4 The Red Anti-Entailment Principle**

The red anti-entailment principle is as follows:

**The Red Anti-Entailment Principle:** For all objects  $x$  and  $y$ ,  $x$ 's phenomenally looking red<sub>21</sub> to  $y$  does not entail that  $x$  phenomenally looks red to  $y$ .

Anti-entailment principles have played a significant role in the arguments of this paper. Perhaps the most controversial anti-entailment principle is the red anti-entailment principle. If the arguments above against determinabilism are sound, then the red anti-entailment principle is correct, and if the red anti-entailment principle is correct, this bolsters the case for the other anti-entailment principles considered in this paper.

## **5 Other Properties**

### **5.1 Being the same shade as**

I shall now consider whether it is ever the case that, for some  $x$  and  $y$ ,  $x$  phenomenally looks the same shade as  $y$ , where 'the same shade as  $y$ ' is within the scope of the 'phenomenally looks'. I shall assume this reading of 'x phenomenally looks the same shade as  $y$ ' in what follows.

Suppose that one sees two objects,  $A$  and  $B$ . It is a consequence of the phenomenal character principle that the property of being the same shade as  $B$  is not

one that A phenomenally looks to have. This is because if A phenomenally looks the same shade as B, and if B is swapped for a duplicate C, and comes phenomenally to look the same shade as C, there would have to be a visual phenomenal difference between the ways that A looks at the different times. In fact there will be no such visual phenomenal difference, and it follows that A does not phenomenally look the same shade as B.

One might wonder whether a given object A may phenomenally look the same shade as some F, G, H object, where ‘some F, G, H object’ is within the scope of ‘phenomenally look’. In what follows I shall argue that A does not phenomenally look the same shade as some F, G and H object.

Consider three objects, A, B, and C, and suppose that they all phenomenally look red<sub>56</sub>. Furthermore A phenomenally looks the same shade as an F, G and H object, whilst C does not phenomenally look the same shade as an F, G and H object. What visual phenomenal difference might there be between the way that A looks and the way that C looks? It seems that we cannot imagine what kind of visual phenomenal difference there would be, and this suggests that A does not phenomenally look the same shade as an F, G and H object.

The relevant anti-entailment principle is as follows:

**The Same Shade Anti-Entailment Principle:** For all objects x, y and z, there are no properties F, G and H such that x’s phenomenally looking

red<sub>21</sub> to z and y's phenomenally  
looking red<sub>21</sub> to z entail that x  
phenomenally looks to z the same  
shade as some F, G and H object.

Someone might respond to the above argument by denying the same shade anti-entailment principle. However, if *any* case of phenomenally looking F entails phenomenally looking G, where F and G are different, one would have thought that phenomenally looking red<sub>21</sub> entails phenomenally looking red. The fact that the latter entailment does not hold means that there would have to be a special reason to deny the same shade anti-entailment principle, and it is not clear that there is such a reason.

We can apply the same argument to other relations, such as being the same length as. For instance, suppose there are three lines, A, B and C, and each line phenomenally looks length F. A phenomenally looks the same length as an F, G and H object, but C does not phenomenally look the same length as an F, G and H object. What visual phenomenal difference might we expect to notice between the way that A looks and the way that C looks? It seems that we cannot imagine such a visual phenomenal difference, and this suggests that A does not phenomenally look the same length as an F, G and H object.

## 5.2 Being square

Suppose that A and B are squares. Furthermore, suppose that the positions that A's boundary points phenomenally look to have are arranged in a square, and the positions that B's boundary points phenomenally look to have are arranged in a square. Furthermore, A phenomenally looks square and B does not phenomenally look square. What visual phenomenal difference might we expect to notice between the ways that A and B look? It seems that we cannot imagine what visual phenomenal difference there might be, and this suggests that objects do not phenomenally look square.

The relevant anti-entailment principle here is:

**The Square Anti-Entailment Principle:** For all objects x and y, the fact that the positions that x's boundary points phenomenally look to y to have are arranged in a square does not entail that x phenomenally looks square to y.

One could argue that the square anti-entailment principle is false. However, if the red anti-entailment principle is true, then one would have to have a special reason for denying the square anti-entailment principle. It is not clear what such a reason would be. Therefore it seems we have reason to think that objects do not phenomenally look square.

In the discussion of the tomato anti-entailment principle I assumed that objects phenomenally look to have shape properties. However, this assumption was not

essential. It could have been replaced with the assumption that the position properties that various parts of the boundaries of the objects phenomenally look to have are arranged in a certain shape. I assume that the position properties that the boundary of a given object phenomenally look to have may be arranged in the shape, for example, of a square or a circle.

### 5.3 Having a certain length

Suppose that A and B are straight lines. A consists of dots  $A_1$ - $A_{10}$  and B consists of dots  $B_1$ - $B_{10}$ . Furthermore, suppose that one sees dots  $A_1$ - $A_{10}$  and dots  $B_1$ - $B_{10}$ , and that the position that  $A_1$  phenomenally looks to be in is a distance of L from the position that  $A_{10}$  phenomenally looks to be in, and the position that  $B_1$  phenomenally looks to be in is L from the position that  $B_{10}$  phenomenally looks to be in. Furthermore, suppose that A phenomenally looks L long and B does not phenomenally look L long. What visual phenomenal difference might we expect to notice between the ways that A and B look? It seems hard to imagine what such a visual phenomenal difference might be, and this suggests that neither A nor B phenomenally looks to have a length.

The relevant anti-entailment principle here is:

**The Length Anti-Entailment Principle:** For all objects x and y, if x is a straight line composed of visible dots  $x_1$ - $x_{10}$ , where  $x_1$  is at the beginning of x and  $x_{10}$

is at the end of  $x$ , and where  $x_1$ - $x_{10}$  are all the same size, the fact that the position that  $x_1$  phenomenally looks to  $y$  to be in is  $L$  from the position that  $x_{10}$  phenomenally looks to  $y$  to be in does not entail that  $x$  phenomenally looks to  $y$  to have a length of  $L$ .

The argument for the length anti-entailment principle is similar to the argument for previous anti-entailment principles: that if the red anti-entailment principle is true, then there would have to be a special reason to think that the length anti-entailment principle is false. If the argument above is sound, then objects do not phenomenally look to have length properties. Since length properties are one kind of size property, a very similar argument to the one above would establish that objects do not phenomenally look to have size properties.

In the argument against the claim that some lines phenomenally look the same lengths as other lines, I assume that lines phenomenally look certain lengths. However, this assumption is not essential. It could be replaced by the assumption that various parts of the line phenomenally look to have various positions.

## **6 Conclusion**

In this paper I have argued, using a combination of anti-entailment principles and applications of the phenomenal difference test, that, objects do not phenomenally

look to have properties such as being a tomato, having changed, and being square. The arguments that I have employed are of a general form, and I believe that they apply, *mutatis mutandis*, to any properties that are not colour and position properties. I have also argued that the colour properties do not include determinable properties such as being red, or being coloured.

## **Bibliography**

Brewer, B., 2006, 'How To Account for Illusion', at

<http://www2.warwick.ac.uk/fac/soc/philosophy/staff/brewer/>

Burge, T., 2003, 'Perceptual Entitlement.' *Philosophy and Phenomenological Research*, 67: 503-548.

Goodman, N., 1976, *Languages of Art*. Indianapolis: Hackett Publishing Company.

Lewis, D., 1999, 'Individuation by Acquaintance and by Stipulation' in *Papers in Metaphysics and Epistemology*, Cambridge: Cambridge University Press.

McDowell, J., 1998, *Meaning, Knowledge and Reality*. Cambridge, Massachusetts: Harvard University Press.

McGinn, C., 1982, *The Character of Mind*. Oxford: Oxford University Press.

Millar, A., 2000. 'The Scope of Perceptual Knowledge.' *Philosophy*, 75: 75-88.

Peacocke, C., 2003, *The Realm of Reason*. Oxford: Clarendon Press.

Searle, J., 1983, *Intentionality*. Cambridge: Cambridge University Press.

Siegel, S., 2006, 'Which Properties Are Represented in Perception?', in *Perceptual Experience*, eds. T. Gendler-Szabo and J. Hawthorne. Oxford: Oxford University Press.

Strawson, P. F., 1974a, 'Imagination and Perception', in *Freedom and Resentment*. London: Methuen.