

Spectrum inversion as a challenge to intentionalism

PHIL 93515

Jeff Speaks

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1 Traditional cases of spectrum inversion

Remember that minimal intentionalism is the claim that any two experiences of a given sense modality which have the same content will also have the same phenomenal character: i.e., if two such experiences have the same content, then ‘what it’s like’ to have the one experience will be the same as ‘what it’s like’ to have the other. Let’s take the ‘interpersonal’ version of this thesis, i.e.

$\Box\forall x\forall y$ (x & y are experiences of the same sense modality with the same content $\rightarrow x$ & y have the same phenomenology)

The first thing to see is how certain kinds of inverted spectrum examples can be used to challenge minimal intentionalism. Any counterexample to minimal intentionalism will be a pair of possible experiences which satisfy the following description:

e_1 and e_2 are experiences of the same sense modality, and have the same content (represent the world as being the same way). But e_1 and e_2 have different phenomenal character: what it’s like to have e_1 is different from what it’s like to have e_2 .

To see how the inverted spectrum can seem to provide an example of this sort, consider the passage by which Locke introduced the inverted spectrum scenario into the philosophical literature:

“Neither would it carry any Imputation of Falsehood to our simple Ideas, if by the different Structure of our Organs, it were so ordered, That the same Object should produce in several Men’s Minds different Ideas at the same time; v.g. if the Idea, that a Violet produced in one Man’s Mind by his Eyes, were the same that a Marigold produces in another Man’s, and vice versa. For since this could never be known: because one Man’s Mind could not pass into another Man’s Body, to perceive, what Appearances were produced by those Organs; neither the Ideas hereby, nor the Names, would be at all confounded, or any Falsehood be in either. For all Things, that had the Texture of a Violet,

producing constantly the Idea, which he called Blue, and those which had the Texture of a Marigold, producing constantly the Idea, which he as constantly called Yellow, whatever those Appearances were in his Mind; he would be able as regularly to distinguish Things for his Use by those Appearances, and understand, and signify those distinctions, marked by the Names Blue and Yellow, as if the Appearances, or Ideas in his Mind, received from those two Flowers, were exactly the same, with the Ideas in other Men's Minds." (*Essay on Human Understanding*, §II.xxxii.15)

Here we are asked to imagine two different subjects whose 'blue' and 'yellow' experiences are inverted. That is, when *A* looks at a violet, his experiences seems to him exactly how *B*'s experiences when looking at marigolds seem to him. But, Locke says, this description does not "carry any imputation of Falsehood" about the experiences of either. He argues for this claim when he says each "would be able as regularly to distinguish Things for his Use by those Appearances" as the other.

Let's suppose that Locke is right about this, and that two perceivers could have their experiences as of blue and yellow things inverted with respect to each other without either misperceiving the world at all. This thought can be turned into an argument against minimal intentionalism as follows (using, as has become standard, 'Invert' for the name of the perceiver whose experiences are inverted with respect to ours, and 'Nonvert' for the name of the perceiver whose experiences are not inverted with respect to ours):

1. When Invert and Nonvert look at a violet, their experiences have different phenomenal characters. (Premise)
 2. When Invert and Nonvert look at a violet, neither misperceives the color of the violet. (Premise)
 3. The violet is only one color. (Premise)
 4. Invert and Nonvert represent the violet as having the same color. (2,3)
 5. There is no other difference in the contents of the experiences of Invert and Nonvert. (Premise)
 6. The experiences of Invert and Nonvert have the same content. (4,5)
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- C. The experiences of Invert and Nonvert have the same content, but different phenomenal characters. (1,6)

(1) and (2) are the assumptions built into the scenario that Locke imagines; but once we have these assumptions in hand, we need only the plausible further assumptions (3) and (5) to yield (C), which is inconsistent with minimal intentionalism. This is why the possibility of 'spectrum inversion without misrepresentation' is often thought to show that minimal intentionalism must be false.

We will consider in turn three responses on behalf of the intentionalist:

1. If Invert and Nonvert are appropriately similar, then (1) is not metaphysically possible.
2. Premise (5) is false, since there is a difference in the contents of the experiences of Invert and Nonvert other than their representation of the color of the violet.

3. Premise (2) is false, and one of Invert and Nonvert have the color of the violet wrong.

2 Intrapersonal inverted spectrum cases

It is worth mentioning first one sort of response you might have to the inverted spectrum example above: you might think that this sort of example shows that interpersonal versions of intentionalism are false, but that an intrapersonal version is still true. One way to bring out the problems with this move is via Block's discussion of the possibility of intrapersonal spectrum inversion:

“ First, we have a functionally normal person. Second inverting lenses are placed in his eyes and he says grass looks red and blood looks green. Third, after a period of confused use of color terms, he finally adapts to the point where he uses color language normally. That is, he naturally and immediately describes blood as 'red' and grass as 'green'. At the third stage, he is functionally normal except in one important respect: he recalls the period before the insertion of the lenses as a period in which “grass looked to me the way blood now looks”. Fourth, he has amnesia about the period before the lenses were inserted and is functionally totally normal — just as in the first period.”

It is plausible that if you have the intuition that there is no misrepresentation in Locke's case, you should also have the intuition that there is no misrepresentation here. So spectrum inversion is a problem for intrapersonal versions of intentionalism as much as for interpersonal versions.

3 Inverted earth

This is also a good time to consider the challenge to intentionalism posed by the example of “Inverted earth”. Here is Block's description of the example:

“ Inverted Earth differs from Earth in two respects. Firstly, everything has the complementary color of the color on Earth. The sky is yellow, grass is red, fire hydrants are green, etc. I mean everything really has these oddball colors. If you visited Inverted Earth along with a team of scientists from your university, you would all agree that on this planet, the sky is yellow, grass is red, etc. Secondly, the vocabulary of the residents of Inverted Earth is also inverted: If you ask what color the (yellow) sky is, they (truthfully) say 'Blue!'. If you ask what color the (red) grass is, they say 'Green.' If you brought a speaker of the Inverted Earth dialect to a neutral place (with unknown sky color, unfamiliar vegetation, and the like) and employed a team of linguists using any reasonable methods to plumb his language, you would have to come to the conclusion that he uses 'red' to mean what we mean by 'green', 'blue' to mean what we mean by 'yellow', etc. You would have to come

to the conclusion that the Inverted Earth dialect differs from ours in ‘inverted meanings’ of color words. If commerce develops between the two planets and painters on Inverted Earth order paint from one of our paint stores, we shall have to translate their order for “green paint” into an order to our stock-boy to get red paint. Inverted Earth differs from earth in switched words and switched stimuli.”

It seems undeniable that people in Inverted Earth believe, and say, that the sky is yellow — and that they are correct in this — even though they use the word “blue” to describe the color of the sky. As Block says, there is nothing here which seems any more puzzling than the idea that one word can have different meanings in two languages.

But now consider the following example:

“A team of mad scientists knock you out. While you are out cold, they insert color inverting lenses in your eyes, and change your body pigments so you don’t have a nasty shock when you wake up and look at your feet. They transport you to Inverted Earth, where you are substituted for a counterpart who has occupied a niche on Inverted Earth that corresponds exactly (except for colors of things) with your niche at home. You wake up, and since the inverting lenses cancel out the inverted colors, you notice no difference at all. ‘What it’s like’ for you to interact with the world and with other people does not change at all. For example, the yellow sky looks blue to you, and all the people around you describe yellow objects such as the sky as ‘blue’. As far as the qualitative aspect of your mental life is concerned, nothing is any different from the way it would have been had you stayed home. Further, we may suppose that your brain is exactly the same in its physiological properties as it would have been had you stayed at home.”

Since things seem just the same to you after you are transported to Inverted Earth, it is very plausible that the phenomenology of your gazing at the sky is unchanged. But, Block suggests, the contents of your experiences of looking at the sky will, eventually, change:

“I would say that on your first day on Inverted Earth, your intentional contents remain the same as they were—that is different from the natives. At first, when you look at the sky, thinking the thought that you would express as ‘It is as blue as ever,’ you are expressing the same thought that you would have been expressing yesterday at home, only today you are wrong. Also, your thought is not the same as the one a native of Inverted Earth would express with the same words. Nonetheless, according to me, after enough time has passed on Inverted Earth, your embedding in the physical and linguistic environment of Inverted Earth would dominate, and so your intentional contents would shift so as to be the same as those of the natives. Consider an analogy (supplied by Martin Davies): if you had a Margaret Thatcher recognitional capacity before your journey to Inverted Earth, and on arriving misidentify twin MT as MT, you are mistaken. But eventually your ‘That’s MT’ judgements get to

be about twin MT, and so become right having started out wrong. If you were kidnapped at age 15, by the time 50 years have passed, you use 'red' to mean green, just as the natives do. Once your intentional contents have inverted, so do your functional states. The state that is now normally caused by blue things is the same state that earlier was normally caused by yellow things. So once 50 years have passed, you and your earlier stage at home would exemplify what I want, namely a case of functional and intentional inversion together with the same qualitative contents-the converse of the inverted spectrum case."

So it looks like we have a case in which two color experiences (of the same person at different times) have the same phenomenology, but very different content.

A first pass at a reply by the intentionalist is to say that this is an objection to biconditional rather than minimal intentionalism. After all, minimal intentionalism does not rule out differences in content which are accompanied by no difference in phenomenology.

However, this is clearly not enough, as is shown by recalling the example of content inversion we discussed above. Consider my experience of

The moral is that even if the minimal intentionalist can allow differences in content which are not differences in phenomenology, he cannot allow large differences in phenomenology-affecting contents which are not differences in phenomenology. So the example of inverted earth is a problem for the minimal as well as the biconditional intentionalist.

Three replies open to the minimal intentionalist:

- Say that in this case the meanings of your words come apart from the contents of your beliefs and perceptions.
- Say that in this case the contents of your beliefs and words come apart from the contents of your perceptions.
- Deny that the phenomenology of your experiences stays the same while you live in Inverted Earth. Maybe by the time the meanings of your words change, the phenomenology of your experience of looking at the sky has also changed (from a blu-ish phenomenology to a yellow-ish one).
- Deny that the meanings of your words change while you are living in Inverted Earth. Maybe the meanings of names would change, but the meanings of color words would not.

The final option seems in some ways to be the best, but it is not obvious how to spell it out in a way which would not entail that color blind people mean different things by color words than we do. (There's probably an analogous problem with the contents of the beliefs of the color blind with respect to the first option above.)

The third option might seem plausible if we are willing to be externalists about phenomenology. But, as ? points out, there is a difficulty here in seeing how the shift in phenomenology could take place. Would it be all at once? Then it would surely be noticeable. Would it be gradual? In that case it is hard to see what the intermediate

stages between blue-seeing and yellow-seeming phenomenology would be. Would one's experiences have a green-seeming phenomenology for a while?

References

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