Notes on Shadows

David Sanson — 8 Nov 2016

1 Shadows and Materialism

Materialism is the view that there are only material things. Here is an argument against materialism:

1. There are shadows.
2. Shadows are not material things.
3. Therefore, there are things that are not material things.

What to make of this argument?

1.1 Why Think There Are Shadows?

Maybe you want to deny (1). You might argue that

4. A shadow is not a *positive* thing; it is the absence of a positive thing, namely, light.

But (1) does not say that shadows are positive things; it just says that there are shadows. (Other putative examples of *negative* things: holes, ugliness, evil.)

5. We can see shadows, and you can't see things that don't exist.
6. We can feel shadows, and you can't feel things that don't exist.
7. Shadows are located in specific places ("the shadows were over the deep"), and things don't exist aren't located anywhere.

1.2 Why Think Shadows Are Not Material Things?

Here is an argument for (2):

8. A material thing has to be made of something (its matter).
9. A shadow is not made of light: its presence requires the *absence* of light.
10. A shadow is not made of any other kind of matter.
11. So shadows are not material things.

1.3 Are Shadows Dependent Things?

Even if shadows are not material things, it seems that in some sense they *depend* on material things. But it is not quite right to say that a shadow depends for its existence on the object that casts it and on the object upon which it is cast. Light takes time to travel, so a shadow can outlast the object that casts it. (Can it also exist before the object upon which it is cast? What if it is being cast through fog or dust?)

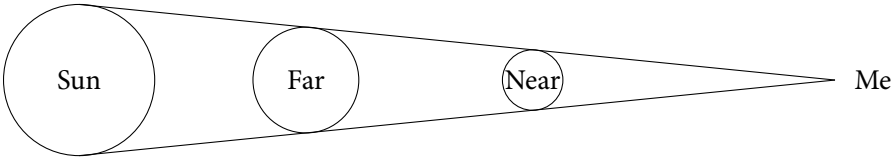
1.4 Where is the Shadow?

Options:

1. The shadow is on the surface of the object upon which it is cast.
2. The shadow is on the surface of the dark side of the object that casts it.
3. The shadow is the entire three-dimensional region of darkness that extends between the object that casts it and the surface upon which it is cast.

2 The Eclipse Riddle

It is not immediately obvious what this puzzle has to do with shadows. Instead, it seems to be about what you see when you see a backlit object. It is due to R. A. Sorensen (2008).



What do I see?

12. I don't see Far, because Near is in the way.
13. I don't see Near, because Near does nothing to causally affect the light that reaches my eye.
14. If Far were removed, everything would look the same to me.
15. If Near were removed, everything would look the same to me.

> **Causal Theory of Perception** When you see something, what you see is the thing that affects the light that reaches your eye.

16. The only thing that has affects the light that reaches my eye is the far surface of Far.
17. So, I see the far surface of Far.

This generalizes to all backlit objects: when you see a front-lit object, you see the surface near to you; but when you see a backlit object, you see the surface on the surface far from you. This is the view defended by R. A. Sorensen (2008): he calls the far surface of a backlit object its "silhouette."

Objections?

Westphal (2011) suggests instead that

18. What I see is the shadow cast by Far.

Ordinarily, when you see a shadow cast by an object, you see it on the surface of some other object. But in this case, he says, you are seeing the shadow "end on". He agrees with Sorenson that the far side of Far is the thing that affects the light that reaches your eye. So he agrees that it is what that *casts* the shadow. But he argues that what you see is not the cause of the shadow, but the shadow itself. (He also suggests that it is the shadow that is properly called the silhouette, not the far surface of the backlit object.)

Is this consistent with the Causal Theory of Perception?

3 Moving Shadows and Spinning Shadows

Shadows can move and change shape. As the sun crosses the sky, the shadow cast by a flagpole moves across the lawn. As a cloud crosses the sun, the shadow it casts moves along the ground.

What happens when two shadows meet? Do they overlap? Do they merge into one shadow?

If shadows can move in linear directions, and they also rotate in place?

4 The Yale Shadow Puzzle

This is so-called because it was the topic of lunchtime conversations within the Yale Philosophy Department in the late 60s.

19. If something casts a shadow, then there is light falling directly on it.
20. Nothing can cast a shadow through an opaque object.
21. Every shadow is cast by something.

But now consider a bird flying in the shadow of a barn. What casts the shadow of beneath the bird?

Variant: suppose the two objects are sized just right so that each, absent the other, would cast exactly the same shape and size of shadow.

Variant: suppose one of the two objects is spinning clockwise, and the other counterclockwise. If shadows spin, which direction is the shadow spinning?

Variant: suppose an object casts a shadow on the surface of the Earth. Suppose that, beneath the Earth, there is a dark cave. Does the object also cast a shadow into the cave?

5 What is a Shadow?

What is a shadow? Shadows involve the absence of light, but not every absence of light involves a shadow. Under what conditions, exactly, is it correct to say that a shadow exists?

Further Reading

Aranyosi, István. 2010. "The Nature of Shadows, From Yale to Bilkent." *Philosophy* 85 (332): 219–223.

Lewis, David, and Stephanie Lewis. 1970. "Holes." *Australasian Journal of Philosophy* 48: 206–212.

Sorensen, Roy. 2006. "Spinning Shadows." *Philosophy and Phenomenological Research* 72 (2) (March): 345–365. http://www.jstor.org/stable/40040928.

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Westphal, Jonathan. 2011. "Silhouettes Are Shadows." *Acta Analytica* 26 (2) (June): 187–197. doi:10.1007/s12136-010-0102-0.