

ROY SORENSEN

*Seeing Dark Things: The Philosophy of Shadows*

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Imagine a child playing in the afternoon sun, suddenly jerking her arm one way then the other, trying to catch her shadow out. The game, the child soon learns, is one that she can never win. Her shadow moves the moment she does. Such childish games father common sense wisdom; when things move, so do their shadows. Or do they? A spinning sphere casts a shadow. But does its shadow also spin? The question takes you by surprise. Surely not?, you think. But then again, why not? This is the trope of Roy Sorensen's work. A seemingly simple phenomenon is probed in just the right way and, without warning, you are unsure what to say.

Another example. Imagine first a suspended cone, illuminated from above, casting a shadow throughout a truncated conical volume. Now imagine that someone moulds a black brick with the exact dimensions of this truncated cone, painting its surface to make it look just like the shadow. Viewed alone and under the right conditions, both shadow and brick are perfectly visible. But what do we see if the brick is moved so that it precisely fills the shadow volume? On the one hand, by sliding the brick completely into the volume it occupies, the shadow appears to have been destroyed, or at least blocked from view. On the other hand, the brick is perfectly engulfed in shadow, and no light reaches it. How then can it be visible?

Such conundrums are the cornerstones of *Seeing Dark Things*. Its theme is our perceptual encounter with absences, first and foremost shadows, but also other related phenomena. Thus, the book opens with Sorensen's justly celebrated eclipse riddle. Imagine viewing a double solar-eclipse where two planets, Near and Far, intervene between you and the sun. Far is further away but this is exactly compensated for by its greater size, so that the

scene would look just the same to you if either one of the planets were annihilated. Intuitively, we see one of the planets. But which? Near, Sorensen argues, is “causally idle and therefore invisible”. How though can Far be seen when it is blocked from view by Near? Sorensen’s ingenious answer is that you can see Far by seeing Far’s silhouette. This really is to see Far since silhouettes, according to Sorensen, are the back-surfaces of backlit objects, visible in virtue of the light that they block. Not all vision involves light transmission.

Another chapter considers whether there can be coloured shadows. No, says Sorensen, coloured shadows are really “filtows”, bodies of filtered light, and shadows are not bodies of light. The book closes with a number of other absorbing questions about absence in perception. Is the world of a colour-blind person presented in shades of grey? Or, as Sorensen claims, must you see in colour to see black and white? Can we see anything in the pitch dark or hear anything when engulfed in complete silence? Yes, argues Sorensen, we can see the darkness and hear the silence, and both in ways which go beyond merely lacking visual or auditory experience.

Sorensen is an extraordinarily fertile and imaginative philosopher, drawing widely on philosophy, physics, biology and vision science to mine his chosen quarry. His arguments, anecdotes and examples are always engaging. Add to them his effortless style and you have that rare commodity – a book of serious philosophy that many non-professionals will enjoy.

One might, of course, wonder how puzzles about shadows or silences could constitute serious philosophy. The sceptic should remember that a moral theory can hardly be satisfactory if it fails to explain how omissions no less than actions can be the objects of blame or praise. Similarly, a philosophical account of what it is to perceive something will fail if it accounts only for our perception of presences. As Sorensen puts it, “When a theory of perception predicts that you cannot see something that you do see, then you ought not to believe the theory”. Traditional models of hearing only allow for the hearing of sounds. They stumble if we can hear silence. There is no sound of silence.

Sorensen thinks of his method as distinctively “bottom-up”, in that he does not begin with a general account of absences but instead meets each case on its own terms. He is

certainly keenly alive to the diversity of phenomena. Nonetheless, he consistently approaches them bearing substantial prior theoretical commitments. A truly bottom-up approach would try to tailor theory to data rather than reinterpreting the data to fit the theory. We can see this by returning to the two puzzles we began with.

In order to think about the perception of shadows, we need to know what shadows are. The puzzle of the spinning sphere's shadow can help us start to answer that question. However, Sorensen's way with the puzzle is to begin with a metaphysical theory of shadows and then defend what it has to say about the puzzle. According to Sorensen a shadow is a wholly objective but causally derivative creature, an absence of light whose identity is dependent on the light-blocker(s) causing it. So conceived, Sorensen sees no reason to deny that a perfectly round shadow can inherit its caster's spin. Consequently, he takes his task to be one of explaining away opposing intuitions.

What kind of theory emerges if we place greater trust in the sensitivity of our ordinary ways of thinking? Counter-intuitive spin can be avoided by simply identifying shadows with absences of light. However, as Sorensen points out, this theory is too simple to capture all our intuitions. For one, if an elliptical hole is made in the spinning sphere, the whole shadow can be perceived as spinning. Yet if shadows are just absences of light, this must be an illusion. In themselves absences do not spin, they merely *deform*. For another, it is hard to see how the simple theory can avoid making mere contact a sufficient condition for shadow unity. Yet the shadows cast by an aeroplane and a cloud may slightly overlap whilst remaining distinct shadows.

One account that seems to accommodate all our intuitions holds that shadows are essentially subjective phenomena; their natures being essentially linked to the nature of our visual system, in the same way that the nature and existence of rainbows or the vault of the sky might be thought to be so linked. What follows is that shadows have only those intrinsic properties which are, in principle, distinguishable by vision. The spinning sphere's shadow does not have spin amongst its visible properties, so spin is not amongst its intrinsic properties.

Wedded to the objectivity of shadows, Sorensen does not take this kind of subjective view as seriously as it deserves. He dismisses a crude version, accusing it of amounting to

the (clearly false) claim that shadows have just those properties that they appear to you to have. However, he fails to appreciate the availability of a more sophisticated theory, one which points out that a shadow which does not look to you to be moving may nonetheless be moving, so long as its motion is, in principle, accessible to vision. This more sophisticated theory is also quite compatible with the thought that shadows would still exist even if there were no observers; they would still be observable.

Sorensen gives a battery of examples to support the spin view. Most have a common form: first take a case where intuitively a shadow is spinning, then suggest that there is no fundamental difference between that case and the case of the spinning sphere's shadow. They fail to convince, however, because every case of unproblematic spinning is precisely a case of visible spinning. For example, Sorensen enjoins us to imagine the spinning shadow cast by a sphere with a spike protruding from it, spinning perpendicular to a light source. What if the spike were suddenly to fall off? Surely, suggests Sorensen, the (now round) shadow will continue to rotate. Not so fast, the subjective theorist retorts, the shadow of the spiked sphere rotates just insofar as sphere and spike shadows are grouped together by our visual system as a single visibly rotating object. If the spike drops off, no visibly rotating object remains. (Such grouping also handles the two problems which bedevil the simple light-absence account above.)

What about the shadow/brick case? Whereas most philosophy of perception asks the question, "What is it to perceive an object?", by pondering our experience of colour patches or red tomatoes, Sorensen's shadow/brick puzzle affords the opportunity to raise this question in a quite novel context. However, again, instead of working from puzzle towards theory, Sorensen begins with a theory – this time a traditional causal theory of perception according to which "S sees object O just when there is an appropriate causal connection between S and O". Deploying the causal theory, Sorensen argues that we cannot see the brick because the brick does not absorb any light, and so does not stand in the "appropriate causal relation" to us to be seen. He then argues that the shadow is not destroyed but rather "hollowed out" by the brick. Thus, we can see the shadow in virtue of seeing its "abstract surface".

This is an imaginative and coherent solution. But, that is not enough. For, at the very least, one might think that such cases put pressure on causal theories of perception to

reconsider exactly what an appropriate causal connection amounts to. Exploiting a more sophisticated conception of causal connection, alternative views emerge, such as Aranyosi's, according to which we see the brick in virtue of its being an "exactly shaded" object. Such alternate accounts reveal just how puzzling the case really is.

They also raise a deeper question: must there be a fact of the matter (at least independent of our theoretical interests) as to whether we see the brick or shadow? Or, instead, might it ultimately be indeterminate whether our experience is brick-experience or shadow-experience? These concerns in no way alter my view that *Seeing Dark Things* is a marvellous book. Indeed they partly evidence it. Sorensen has a remarkable gift for uncovering puzzles and raising hard questions. Whether or not one agrees with his conclusions is far less important than the philosophical insight one gains by reflecting on his riddles.