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Episode Transcript

[Please note that this may not exactly match the audio. However, there should be no significant differences. There is also some background thumping in some of the later minutes of the audio. We were unable to remove this. Sorry if this bothers you, but please tolerate it if possible.]

Introduction

Metaphysics of Physics is the much needed and crucial voice of reason in the philosophy of science, rarely found anywhere else in the world today. We are equipped with the fundamental principles of a rational philosophy that gives us the edge, may make us misfits in the mainstream sciences but also attracts rational minds to our community.

With this show, we are fighting for a more rational world, mostly by looking through the lens of the philosophy of science. We raise awareness of issues within the philosophy of science and present alternative and rational approaches.

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Hi everyone! This is episode sixteen of the Metaphysics of Physics podcast and I am Ashna, your host and guide through the hallowed halls of the philosophy of science. Thanks for tuning in!

Today we are going to discuss the validity of the senses and how optical illusions prove that the senses are valid.

Modern philosophers claim that the senses distort the data provided to them. And that as a result, you cannot fully trust your senses. We shall analyse what the senses are, how they operate, and why this claim is false.

What Are The Senses?

The senses take in inputs and according to their mode of operation, cause the experience of sensations. For example, human eyesight works by absorbing light, which leads to the sensations of sight. An aspect of the sensations of sight is colour.

However, dogs and many other animals perceive reality different to humans and other beings that perceive colour. They see the world around them in black, white and shades of grey.

[Editorial correction: Actually, the thing about dogs seeing in black and white is a myth, which we neglected to correct ourselves on. It is now thought that dogs can see in other colours. Granted, a more limited range of colours than humans. But, for the sake of argument and not having to correct the entire article, let us pretend it is true.]

Does this mean that dogs do not see things as they are? No, their senses are not deceiving them. Sensory organs are passive; they simply interact with light, sound or other forms of input, respond and send signals. This triggers the last stage of perception, the experience of sensations.

Sensory organs have no power to deceive or to distort their input. They simply receive input and send signals to the brain. There is no mechanism which they possess which can alter the input. Or by which they can alter the sensations experienced.

Different sensory organs work in different ways, reacting differently to light, sound, touch and so forth. However, regardless of how your sensory organs react to stimuli, regardless of whatever sensations the organism experiences, reality remains the same.

Your eyes react differently to different wavelengths of light, causing the brain to experience sensations which include various colours.

Dogs are blind to colour, but this only means that their eyes and brain do not react to different wavelengths of light in the same way the eyes and brains of humans and other colour-perceiving organisms do.

What is it that you call "colour"? Is the observed colour in the object? Or is colour a matter of sensation? What do you observe when you experience colour? You are observing that an entity has properties such that it either emits or reflects light of a certain wavelength.

Are you for instance observing that a blue object has "blueness"? No, the object does not possess "blueness". It has such properties that it emits or reflects light of a certain wavelength that causes the sensation "blue" when it reaches our eyes.

Colour is not in the object. Colour is a sensation which is dependent on the visual mode of perception. Visible objects possess properties which cause the sensations of colour.

Every organism capable of sensing the world around them has sensory organs that trigger sensations. The nature of those sensations depends on the nature of the entities observed and how they interact with the sensory organs.

Ah, but a dog sees the world in black and white, and humans see it in colour! Therefore, the vision of a dog is subjective and so is ours. After all, we know that the world is not black and white, but a world of colours.

Or do we? Perhaps neither are objectively true! Perhaps colour is just in our mind!

These kinds of irrational ideas show why it is important to identify that colour is not in the object, but the result of the means of operation of the sensory organs of certain organisms.

[Editorial: These kinds of irrational ideas also show some of the dangerous conclusions you can reach once you start questioning the validity of the senses.]

The sky has no "blueness", nor does chocolate have "brownness". The sky has properties which cause it to scatter light in such a way that, when observed by sensory organisms that respond to different wavelengths of light, cause the organism to experience the sensation of the colour blue.

Chocolate interacts with light in such a manner as to cause such organisms to experience the sensation of some shade of brown.

No matter how hard you look, you will never find "colour" in any object, only properties of the object which cause the object to emit or to reflect light of a certain wavelength.

Sensations are not in the object. The nature of sensations depends on the nature of the entities and how they interact with the sensory organs.

Objects do not possess the innate attributes of "blueness", "bad odour" or "loudness". They possess properties that cause organisms to experience particular sensations when observed by those organisms.

You are receiving sensations based on how your sensory organs operate and the nature of the relevant entities you are observing.

In the case of eye damage such that you experience blurry sensations of sight, your eyes are not distorting reality. You simply experience sensations consistent with your eyes not being able to process light rays properly.

The facts of reality remain constant. Regardless of the facts, your eyes are not able to react to light in the same manner as someone without eye problems.

The fact that sensations can take a different form, depending on the state of operation of the sensory organs, does not mean that the senses are potential agents of distortion. While they operate at all, sensory organs will trigger whatever sensations their current condition is capable of triggering.

Different organisms might experience different sensations if their sensory organs operate differently. The fact of differing sensations is not a valid reason to doubt the validity of senses.

Optical Illusions and the Validity of the Senses

The senses have no power of distortion, what they observe is real.

Optical illusions do not validate the claim that the senses can deceive us. Optical illusions are the senses making valid observations.

What is an optical illusion? It is not the senses distorting reality. It is simply the mind misinterpreting the true nature of something as a result of sensory data. We shall return to this misrepresentation in a little bit. For now, let us focus on the more physical aspect.

For instance, you observe that a straw seems to bend in a glass of water. It is not because your eyes deceive you. It is because your eyes observe the fact that the surface of the water refracts light rays so that the straw seems bent.

This does not mean that your senses are deceiving you. However, it does mean that your senses are acting consistently with the fact that water refracts light.

The fact that you experience the sensations of a straw bent by water reveals the actual nature of light interacting with a straw in water. You experience the sensations of a bent straw because light rays are being refracted by water.

There is no alternative, given that your eyes cannot correct for this bending of light rays. To observe otherwise would be for your eyes to defy the nature of light and water and to contradict their own nature.

The fact that you observe optical illusions necessitates that your mind be able to interpret what you see as an optical illusion. You should recognize that you must apply logic to interpret what you see correctly. You can then recognize what you would see if the optical illusion did not exist.

You may then identify that the nature of the object you are observing is not contradicted by the optical illusion. You should be able to conceptualize around the illusion. And then identify that although you experience the sensations of a bent straw, the straw is not bent. The context in which you observe it simply necessitates that you experience the sensations of a bent straw.

Optical illusions demonstrate that light will interact with certain entities in a certain way. And that your optical organs are not capable of escaping this fact.

They take in light as it is and operate in such a way as to produce sensory data. It just so happens that some observed phenomena require more intellectual analysis before they can be properly understood.

So, if you see that a straw appears to bend in water, the answer is not to claim that your senses deceive you. The answer is to recognize that your senses can only operate based on what is. What you see is the result of how light interacts with the surroundings and with your senses.

You must identify the facts which your senses provide evidence of, using your rational mind. If a straw seems to bend in water, you should discover that light is refracted by water.

This is a fact which the apparent bending of the straw can help to identify. Then you can identify that the optical illusion is telling us something about reality which is not directly observable.

When presented with an optical illusion, the rational approach is to not to assert distortion of reality but to understand the nature of the entities involved, to be able to recognize it as an illusion.

You know that water does not bend straws. You can test this using touch for instance.

So, the proper attitude is only that the optical illusion provides a different view on reality than you might expect.

One that requires you to step back and think about what you see. This allows you to see that what you see is what is, it is just that it might not be immediately obvious why you see it that way.

So it is with all optical illusions. They are the senses demonstrating once more that they are valid and that what you observe agrees with the facts of reality.

However, with the careful application of logic, you can "see past the illusion", by which I mean that you can understand the nature of what you are observing.

Far from invalidating the senses, optical illusions demonstrate that the senses have no power of distortion and that the senses are valid.

They also demonstrate that the understanding of reality is not automatic. Although we are seeing reality as it is, we must understand the nature of what we are observing and be able to abstract away the illusion if we want to understand WHY we see what we do!

That is all we have to say on optical illusions for now. I hope you found that interesting. If you have any further questions, please leave a comment or contact us via email or social media.

Current Affairs Segment

Now we will cover some stuff we read about online. We intend to regularly devote a section of the podcast to this kind of thing, perhaps every episode or two? Well, we shall see.

We will give this segment a name, but for now it does not have one. This is where you can help us. If you can think of a possible name for this segment, please let us know in the comments below!

Anyway, let us get started with this currently unnamed current affairs segment.

First up, Caslav Brukner, at the University of Vienna in Austria claims to have performed an experiment that suggests that there is no such thing as objective reality. The show notes contain more information on this crazy "experiment".

[\[Click here\]](#) to find out more about these crazy experiments.]

Not so fast Dr. Brukner. If there is no such thing as objective reality, then what is the point of performing any experiments? If there is no such thing as objective reality, then how can you conclude anything based on any experiment you perform?

After all, if reality is not objective, then there is no basis for any conclusions about anything. If reality is not objective, then anything you conclude about anything is also non-objective and you cannot know anything.

If reality is non-objective, then you cannot prove anything, including reality, is non-objective!

But, let us say we believe that reality really is non-objective. Then we should at least stop pretending to be interested in science, which is all about an objective study of an objective reality.

But, once you abandon the absoluteness of reality, then you reject science. You might as well say anything you want and claim that magic pixies proved it to you. Since that has as much basis as "experiments suggest there is no such thing as reality".

You certainly cannot use science to disprove science. And one of the foundations of science is the existence of an objective reality.

Okay, more on this subject later.

The second piece of affair we wanted to mention is the book "A Rational Cosmology" about which some of you may already know. This book

attempts to present a rational cosmological system along similar ideas advocated by many Objectivist philosophers.

The show notes link you to where you can download this book for free.

[[Click here](#) to download "A Rational Cosmology" for free.]

We think that this book contains a lot of very rational points. It correctly points out many of the fallacies in modern physics and presents some rational alternatives.

However, we do not agree with everything presented in the book. Such as the author's presentation of time as a quality of objects. Or his attempts to geometrically define the concept of "entity".

Regardless, there are a lot of rational ideas and value in this book. In future episodes and in free blog posts, we will be going over the book chapter by chapter and analyzing the ideas presented in the book, the many ones we agree with and the various ones which we do not agree with.

We suggest you look at the book. If you would like to discuss any of the ideas presented in the book with us, please do so via comments on the website, social media or email us. We would be more than happy to discuss them with you.

That brings us to the end of this episode.

Thanks for listening!

Outro

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As always, you are welcome to send in questions about any of the things talked about in this episode or about irrational stuff in physics or the

philosophy of science in general. Send them in to
questions@metaphysicsofphysics.com.

Please tune in for the next episode and start thinking of some questions!
Until then, stay rational!