

nature requires a hypothesis of a particularly potent form. And I don't know whether that's true or not, but I pose it as a question. Thank you.

\*\*\*APPLAUSE\*\*\*

**PAUL GAILEY**

00:01.57 Our final response will be from Piet Hut who is Professor of Astrophysics at the Institute for Advanced Study at Princeton.

**PIET HUT**

00:02.07 Thank you. It's really wonderful to be here and it's quite a new experience for me as a physicist talking on, at a panel on wisdom. Let alone a panel on super-wisdom, as we now have heard from Bob. I didn't expect anything less from you, Bob.

00:02.27 I also had the wisdom not to tell my colleagues that I was going to talk on a panel of wisdom. Knowing how physicists react. How open-minded they are. But I am a physicist myself, so when I

realized that the real topic of a panel on wisdom was the topic of ontology, of what is real, the structure of reality, what is really real if you want, I thought well-

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-maybe a good way to talk about that, especially as the last speaker of the day, maybe a good way is through some sort of little experiment. So, if you want to have a dialogue between different ways of knowing, between science, between contemplative practices, whether it be Buddhist or Taoist or Hinduist or Sufi or medieval mystic Christianity, whatever the particular branch is - how do you start a dialogue between contemplation and science?

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Because in both cases they tell you that the world is not what it seems to be. That it is completely different, in fact, from what it seems to be. But, science tells you some things completely differently, completely different than contemplation tells you.

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And here we are. We are supposedly living in one world in which both scientists have something useful to say and contemplatives. So what is this stage, what is the starting ground, what is the place from which we can talk about both?

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So, let me propose that we spend a few minutes doing a little physics-like experiment and I would like to invite you to spend about a minute to remind yourself about how conventional reality, everyday life looks at things.

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About the solidity of the world and it's very easy - we have quite a solid room here. I don't think I've ever talked in so solid a room as this one here. The pillars of academia are left and right, all around us. So I would say, let us spend a minute to really feel how solid the world is. How material.

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Everything is really materially given. My body, your body - we feel, we see the matter. We hear sound, we know that there is waves in the air. We see light, we know it is electromagnetic radiation. Let us look at the very objective view at which we encounter everything.

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And this is not so difficult because we have been trained our whole life to look that way and basically from when we are born - and in a way, we have been trained for a few billion years if you take into account all the inner properties which evolution has put in is, as you heard today right from the beginning.

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So that is the easy part. Now, the second part of the experiment is a little bit more unusual. If you look at anything like a pillar, for example, you can look at the pillar as a material object, but you can also look at the way it is given in your experience.

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So if you point at the pillar, you have to specify really, do I talk about the pillar as a piece of stone or marble, or do I look at the pillar as a piece of experience. Because colors are not wavelengths. We don't see wavelengths, we see colors.

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So the colors we see are really given in our mind. So, we have the choice, we have the degree of freedom. Just like I can move my arm, I can move my mind, so to speak, I can move my interpretation between experiencing, seeing, viewing everything as solid objects and viewing everything as experience.

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And, if you (unintell), however, done this, it will take a little bit of getting used to it, but it's not so hard. If you really look at everything as given in your experience, in your field of experience, you don't have to change

anything about your basic world view - that is no problem.

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You can just experience everything, view everything as it is given in experience. And if you see an object across the room, you can experience the distance to the object, but you can also realize that your experience of the distance does not have a distance. It is your experience.

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So what seems to be distance is distance in the interpretation of an object. But what is here across the room is you, qua experience. It is really part of your mind. Nothing mystical about it, nothing strange. So you can spend a minute just becoming friends with your experience, which you normally project far away and you can easily become friends with this whole world that you are projecting.

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And both are the same, both are true at the same time. The solid picture of the world is a useful picture. The experience picture of the world is a useful picture. And if you do this for a few months or a few years, it will get many, many deeper layers of significance and you will find all kind of other levels in which you can see and feel and experience new aspects of this.

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But already, if you do this for a minute seriously, you see that there is something which can move. There is a degree of freedom here. And then there is the third way. Actually, there are many different ways, but let me just limit myself to three ways today.

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Then there is a third way. After feeling this solidity of the world and me as a small piece of the solid world, and then seeing the whole world as experience, the third way would be to view everything which presents itself each moment in the way that it's presenting itself.

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So, you don't label it as solid. You also don't label it as experience. You try not to label everything. You don't- You try not to label anything or everything. So, this means that each moment you just let happen. What presents itself. You don't have to do any work for it, you just let it happen.

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And you try not to view yourself as an individual with a lifetime history, with a past and a future. If you want to, you can tell yourself that all your knowledge about the past is given in present memory. All your anticipation of the future is given in present anticipation.

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So, focus on this presence. The sense of presence of your whole story about yourself. The sense of the presence of your sense of individuality. And try to see whether you can just let everything like that happen in a very relaxed, open way without any labeling.

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And if you do that for a while, you will see that the third type of experiment again, at least feels different from the second. And the second- just like the second feels different from the third. And I would say the only place where we really can have a dialogue between science and Buddhism or other ways of knowing really is in that third place.

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So, only to the extent that we are willing to explore the third place - not as a belief, but as a working hypothesis, that's something you want to taste, to put on the tip of your tongue to really get familiar with - only in that third place do I think that we can really have a fruitful dialogue.

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And I see the type of meeting we have today as a first step in that direction. I hope that in future meetings we will have larger and smaller gatherings in which we have not only

presentations, not only talks, but where we have a combination of theory and experiment.

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That is what distinguishes science from other types of technology and mathematics and whatever was done before Galileo and Descartes and other people started to introduce the scientific methods, combining experiment and theory.

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So, if we ask the question how can we do this dialogue that is, I would say, first of all the notion of experiment. We have to come in an experimental place where we can start talking about it. But then there is also the notion of theory, equally important. And let me now go back to the more conventional way of dealing with the panelist's question about the theory part.

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If you talk with a scientist and you say ok, I'm interested in Buddhism, I'm interested in contemplation, they will tell you what does it do. And they mean with that, how does it fit in

into the world view I already have and what can it do in my world view. But they don't say that first part.

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They say, what can I do. What can you prove with it? Well, the problem with this world view of how it can fit in is that most scientists don't realize how present-day science is really only a snapshot. In a previous panel, we heard a little bit about that. I think Evan said that science is extremely young.

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Science is only 400 years old. Painting goes back to 30,000 years ago. Most major religions go back a few thousand years ago and their roots are much older. Scientists are really the youngest kids on the block. That is maybe why scientists are so arrogant. It sort of fits.

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And if we would have had this discussion about science and other ways of knowing a hundred years ago, it would have been a completely different

science. If you were to have this discussion a hundred years later, as was said in a previous panel, it would be different.

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But let us go, let us go 30,000 years in the future. After all the first external representations we have in archaeology, cave paintings, were made 30,000 years ago. So let us go another 30,000 years forward and let us wonder what science would tell us. Imagine that we open a science textbook, like physics or whatever it will be called.

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And let us say that in the introduction, it will be said, we are going to teach you what science is, what we know about it and science has a rich history. It is 30,000 years old. What do you think it would say about the history of science?

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Let me show you two different- let me mention two different possibilities. The first possibility would be that the textbook would say, well,

30,000 years ago, science started around the days of Galileo and Descartes. And there was already mathematics and there were other insights, but that's when it came all together. And then in 500 years - between 1600 and 2100 - in those 500 years, all the basic laws were discovered and all the major insights were found.

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And, for the next 30,000, 29,500 years we have been filling in the details. It's possible. It's a logical possibility. But, frankly, I don't think that it's so likely. I cannot prove it. I mean, nobody knows and I certainly don't know what the breakthroughs would be.

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But if you look at conceptual breakthroughs like Copernicus, the Copernican revolution, and like Darwinism, like quantum mechanics - each of them could not have been predicted beforehand. And each time it seemed that everything was figured out, everything was filtered. There was no room for something new.

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And yet, one breakthrough after another came. We can include Freud, not so much for specific ideas, but the notion that there is an unconscious. As you also heard before. So I would expect that these things continue to occur.

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And I think that a future science will have a much wider and a much more intimate view of reality. And I think intimacy is the name of the game of science. It is not often stated that way. But the Copernican revolution, what does it really tell you?

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It tells you that the stars and the planets behave according to the same laws of physics as things on earth. So instead of a heavenly realm, which is different from the earthly realm, the Copernican revolution taught us that we share the same laws. That there is much more intimacy between what happens in the stars and on the planets, than what happens to us here.

00:16.52 Darwinism tells us that animals and human beings are not really different. That it is really an unbroken chain of evolution and that there is a type of intimacy between what is true for animals and what is true for us. Quantum mechanics certainly tells us a story of intimacy.

00:17.13 Instead of having an individual particle, an electron, we really have an electron wave function which fills the whole universe and individual electrons are waves excited in that same shared wave function.

00:17.26 And all the electrons in our body are no exception. So, if I want to be completely conservative and only use personal action extrapolated to the future without adding anything new, my conservative extrapolation would be that science can only become more intimate.

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That science will have a number of surprising, shocking revolutions. That we will see that our place here in the world is very different from what we thought it was, and the world is very different from what we thought it was. And I think in the process, we will probably be become closer and closer to be able to have a real grown-up dialogue - when science grows up - with other ways of knowing, including contemplative traditions. Thank you.

\*\*\*APPLAUSE\*\*\*

**PAUL GAILEY**

00:18.27

Bob, would you like to respond?

**BOB THURMAN**

00:18.29

I have a couple of responses to the responses. Little bit. Not too much. You guys were really nice. But there's a couple of things. One thing a little bit mischievous, which is that one of your points, Teed, was that so-called first person