

Are the Universe and the Earth Billions of Years Old or Just Thousands of Years Old? Interpreting the Word “Day”—Part Two

Dr. John Ankerberg with guests Dr. Kent Hovind and Dr. Hugh Ross

Ankerberg: Let's go back to that speed of light thing because we missed that in the other program.

Hovind: Yeah, we do see the stars.

Ankerberg: I think you've [Ross] said now there are quite a few ways that you've measured speed of light—I think 13 different tests that scientists have made in terms of speed of light—because it has been challenged within the scientific community itself. And of course, if the speed of light gets messed up, then Einstein's relativity theory goes down the tubes, string theory goes down the tubes, all kinds of things go down the tube. But give us a little background of why now you feel so sure about the speed of light.

Ross: Okay. When astronomers measure hyperfine split lines, we're measuring the velocity of light when the light left that star or galaxy. And astronomers have been routinely making these measurements on millions of different objects. What we see is the identical velocity of light that we measure here on earth. We've been able to do this to galaxies as far as away as 14 billion light years, so the velocity of light has not changed over the past 14 billion years. That's a direct measurement. Now, we can combine that with a theoretical measurement: $E=MC^2$. If you make C different, it's going to affect E or M. [If] The velocity of light is a little bit higher for Adam than it is for us, he gets incinerated by the heat of the sun or He doesn't have the elements to make Adam in the first place. Digestion. Human digestion depends on the velocity of light. We note that Adam and Eve were eating in the Garden of Eden, therefore the velocity of light had to be the same for them as it is for us.

Ankerberg: Apparently there are certain lines that spread out as it gets to us.

Ross: You're talking about the idea that maybe Duane Gish makes the proposition, for example, that light didn't come from the stars and galaxies, God sent it from an intervening point only 6,000 light years out.

Ankerberg: Yes.

Ross: But we can prove that's not true through direct observation. As a beam of light travels through space, it travels through dust and gas. What the dust will do is redden the continuums, kind of like when you see the moon during a forest fire. It gets redder and redder as the smoke gets denser and denser. And as it goes through gas clouds, those clouds have movements and that's going to Doppler broaden the spectral lines and therefore a test of whether or not the objects came from the stars and galaxies: Are the more distant objects more reddened in the continuum and broader in their spectral lines? And it's

a direct proportion. The farther away the object is, the broader the spectral lines and the deeper the red of the continuum.

Ankerberg: Which all means what?

Ross: It means the light must have come from the stars and galaxies rather than from some intervening point.

Ankerberg: In measuring that light you get a time of?

Ross: If it came from those distant galaxies, then the light must have been traveling for billions of years because the velocity of light we can measure and prove theoretically did not change.

Ankerberg: Okay, we've got about a minute left. I'll give you the last minute.

Hovind: I recommend that anybody watching this call Duane Gish and say, "Did you really say that?" Because I bet I got 25 or 30 letters and calls from people saying Hugh Ross misquoted me...it's not correct.

Ross: He said it in my presence several times.

Hovind: There's a long web site on "Answers in Genesis," you know, a long expose'....

Ankerberg: What about this light coming?

Hovind: Last June of the year 2000 at Princeton University they speeded light up to 300 times the speed of light. In February of this year at Harvard University Dr. Howe from Denmark slowed light down to one mile per hour. I said, I think there are three things...

Ross: Nothing physical....hold it....

Hovind: It's my turn now. Just a minute. There are three things to consider with star-light. We do not know that the speed of light has always remained constant all through history. The way we measure light now is with an atomic clock, using the wavelength of a cesium 133 atom. So if light is slowing down, your clock is slowing down at the same rate, you have a rubber ruler. You're never going to notice it. Since 1962....

Ross: We don't use that method.

Hovind: Let me finish. Then, secondly, I mentioned earlier, you can't tell the distance to these stars—14 billion light years away. They might be...they probably are. But we can't measure that and it's silly for us—little humans on earth—to say, "We know the distance to that star: 14 billion light years away." It can't be done!

Ross: It's high school trig.

Hovind: The God that I worship made a full-grown man, a full-grown garden. He didn't make two babies and put them in the Garden and say, "Here's a package of seeds. Go plant them quick!" You know? There was fruit already on the trees. That's not deceptive. It's necessary. It doesn't work otherwise. And the reason God made the stars was for signs and for seasons so Adam could see them. God made the stars and the light all simultaneously or the light traveled faster. My God is not limited by stuff like that. And I get real concerned that maybe we're talking about different gods here when we talk about...

Ankerberg: Well, we don't want to end it right here, so respond to that.

Ross: Okay. Astronomers view the credibility of the "Young Earth" as being much weaker than that for a flat earth.

Hovind: Wait, wait, wait. Just this blanket statement: "Astronomers say..." as if he's speaking for all astronomers. I just spent the last three hours with Danny Faulkner who is an astronomer—who would love to debate you, by the way.

Ross: Sure.

Hovind: Would you be willing to do that?

Ross: Definitely.

Hovind: Oh, please. Please call Danny Faulkner in South Carolina.

Ankerberg: Keep going.

Hovind: He says you're wrong. The earth is only 6,000 years old.

Ross: Yes but based on the Bible. He has admitted to me that if you look at the astronomical evidence, there's no case. He has been arguing in print for years that Young Earth Creationists need to pay attention to astronomy because they've got a profound challenge there. My point was this. Given that the astronomical community—and I'll except Danny Faulkner, okay?

Hovind: I won't give that, see? Right away, you're assuming everybody's on your side and that's simply not true.

Ross: Hang on. Given that there are so many well-known astronomers who have put in print the statement that I've just stated, shouldn't you at least talk to those astronomers and determine why they view the astronomical evidence for a Young Earth to be so incredible?

Hovind: Sure. I'm willing to read anything written on the topic. I'm willing to talk to anybody. But I think you've got some built in assumptions.

Ross: But on the velocity of light, clearly there's no case for the velocity of light varying. Yet you continue to preach it.

Hovind: There's a great case for the speed of light.... I taught physics. We used to measure the speed of light in the hallway with rotating mirrors and a laser beam.

Ross: Do you believe that astronomers can measure the velocity of light when they look at distant stars?

Hovind: If the base for measuring the speed of light is the atomic clock, I think you need to understand....

Ross: It's not.

Hovind: ...you have a rubber ruler.

Ross: It's not.

Ankerberg: Are there 13 different ways to measure the speed of light?

Ross: There are many different ways to measure the speed of light. Atomic clock is only one.

Ankerberg: Okay. Do they all agree?

Ross: They all agree. Same answer to 10 places of the decimal at all different distances, all different kinds.

Ankerberg: If that's true, what does it mean?

Hovind: That's being measured here on earth. We don't know...

Ross: No.

Hovind: We don't know that the speed of light....you've never been to the moon. You've never measured the speed of light up there. We don't know that...the speed of light may be consistent. I don't know. My point is, we don't know what light is. Is it a wave, a particle, a photon? What is it? Give me a jar of it and paint it red. Nobody knows what it is.

Ankerberg: What do you think?

Hovind: What is light?

Ross: We know what light is.

Hovind: What is it?

Ross: It's a photon, which has both a wave property and a particle property and it's a principle of quantum mechanics.

Hovind: You're giving it a name but that's not telling me what it is.

Ross: Well, a light packet is a set of photons.

Hovind: It's a packet. Zip-Loc bag or what?

Ross: We're talking about quantum mechanics. Do you believe that quantum mechanics is true? Not all Young Earth Creationists do. I don't know what your position is.

Hovind: I guess I'd have to get the question phrased more clearly. Exactly what do you mean? Einstein's theory was that the speed of light is a constant. Time is the variable. Maybe he was wrong. Maybe time is the constant and light is the variable.

Ross: Okay, the velocity of light as Einstein stated, it was for a vacuum. I mean, the examples you gave were not vacuums where the velocity of light traveled at different rates. Now, it travels 186,000 miles per second but in a vacuum and it's a physical entity. Now, a wave peak can obviously travel faster than the velocity of light. In fact, you could have the physical object carrying light moving at just two miles an hour and yet the peak of the wave could go 10 times the velocity of light. So you're misrepresenting Einstein or Relativity when you say that just because a light pulse goes faster than the velocity of light, that disproves the whole idea of constant speed of light.

Hovind: Do you realize how much doctrine you are hanging on this one idea? You've already come to the conclusion the universe is billions of years old and now you're going to try to force this book to say that.

Ross: No, I get it independently from the texts.

Hovind: You wouldn't have got that had you gone to school in some other country or the Hindus or some other...you would have come to a different....

Ross: The early Church Fathers figured it out long before the astronomers got into the game.