Dear Paul Davies:

When you were interviewed about your book, What's Eating the Universe?, by Robert Lawrence Kuhn, you said that the biggest unanswered question is about why the universe is comprehensible and what is the ultimate explanation of its existence. Telling Kuhn what you meant by "making sense" of what lies behind the mathematically formulated laws of physics, you said that any "universe that just exists" with all its particular properties is, as matter of logic, an absurdity. I think you are right about the questions that need to be answered—but mistaken about the absurdity.

Suppose that what exists most basically is substance, where substances are self-subsistent entities that exist in definite ways as they endure through time. Since substances would explain what is found in the universe by constituting it, they would explain the existence of the universe. And suppose that the powers by which these substances interact with one another explain everything that holds necessarily in the universe and that what exists necessarily in the universe are conscious reflective subjects who can understand everything that holds necessarily in it. If the universe were constituted by substances like that, their existence would explain why the universe is comprehensible. And since there would be an explanation of its existence that also explains its comprehensibility, such a universe would not be an absurdity.

This is what the pre-Socratics called the first cause (archê), and though they could not agree about the natures of the substances constituting the natural world, the possibility of a world with a first cause refutes your claim that a "universe that just exists" with all its particular properties is, as matter of logic, an absurdity.

On the contrary, it explains why there is something rather than nothing because, in such a world, all explanations come down to substances that cause existence. All that remains unexplained is why those substances have natures that entail its self-understanding.

But I mention this not just to show that there is a refutation of your claim about what logic requires of an explanation of everything. I predict that physicists will soon make a discovery about the natures of the substances constituting the natural world that solves all its problems and triggers a revolution in science that discovers how interactions of those substances explain all the regularities that hold necessarily. I am asking you to consider an argument that shows in detail how a universe constituted by space and matter as two opposite kinds of substances that interact as they endure through time could be the pre-Socratic first cause.

First, I predict that physicists will soon infer spatio-materialism as the best explanation of what Eugene Wigner called the "unreasonable effectiveness" of mathematics in discovering laws of physics. Interactions of space and matter can generate only quantitatively precise regularities, and physicists will discover powers that enable them to generate the regularities described by laws of physics. This will solve the problems of modern physics because we can understand the geometrical structure of space, and we can picture not only how space gives bits of matter spatial relations but also how bits of matter act on parts of space in ways that affect other ways that space acts on matter, for example as the hidden variable that makes the laws of quantum physics probabilistic.

Second, I predict that the reduction of physics to ontology will reveal a kind of efficient cause, not recognized by physics, called

geometrical causes, which works by constraining what happens by physical causes. This discovery will fill all the explanatory gaps in specialized sciences because geometrical causes will play the role that your book, Demon in the Machine, describes information as playing in the solution of those problems. Though information is a non-physical entity, it will be reduced to interactions of space and matter, and recognition of geometrical causes will lead to an ontological explanation of the origin of life that shows how goodness is part of the essential nature of life. It will reveal that distinct forms of life evolve at a series of four levels of geometrical organization, and since this includes a series of inevitable evolutionary stages that brings beings like us into existence, it reveals that we are parts of the form of life that evolves on the level of geometrical organization higher than multicellular animals. Such spiritual organisms are groups of mammals that use language to coordinate their behavior in pursuit of goals on both the individual and group levels, and when their language enables them to reflect on their psychological states and see into one another's minds, they are reflective subjects who recognize their equality. They have a spiritual nature in virtue of sharing in the life of a spiritual organism, and since their culture evolves moral rules governing how they treat one another that promote conditions under which they can cooperate in pursuit of shared goals, it is good for them to follow moral rules. That is what they must choose to lead lives as parts of spiritual organisms, and they are justly held responsible for choosing it. Though they are constituted by ontological mechanisms that are completely deterministic, they could always have done otherwise because choosing what to do is the function of the geometrical cause that guides their behavior and it constrains what happens by physical causes.

Third, the discovery that space is a substance that interacts with matter will make it possible to explain how consciousness is part

of the natural world because science can assume that the existence of even the simplest bit of matter entails the existence of something like a sensory quale, that is, all matter has a primitive phenomenal way of existing in itself. The ontological explanation of the stages of evolution that lead to reflective subjects includes an explanation of the basic structure of the mammalian forebrain as a faculty of naturalistic imagination, and since bits of matter have definite kinds of spatiotemporal structures when they coincide and interact with parts of space, it is possible for a bit of matter to have a spatiotemporal structure that is complex enough to explain the configurations of qualia in phenomenal space that are immediately present when a mammal perceives the natural world. There is such a bit of field matter helping constitute the mammalian brain, called the electromagnetic field in physics, so since being a mammal entails being the bit of field matter with that spatiotemporal structure, consciousness will be explained as what it is like to be a mammal.

This is the gist of my reasons for predicting a scientific revolution that will discover how the substances constituting the natural world are a complete explanation of the kind that you say is not possible. This explanation has a unity and completeness that makes it stand out among explanations being defended these days, and I hope that you will be interested in considering it. The details of the argument are presented in a trilogy, called Naturalistic Reason, that I am self-publishing as I send you this message. The first volume, Unification of Physics, defends the prediction that physicists are on the verge of a discovery about space that will solve the problems of modern physics and discover an efficient cause not recognized by physics. The second volume, the Unification of Science, defends the prediction that the recognition of geometrical causes will show how interactions of space and matter generate all the regularities

studied by specialized sciences. The third volume, the Unification of Science and Philosophy, shows how the spatio-material explanation of how consciousness is part of the natural world will enable ontological scientists to explain Western civilization as a stage of evolution that follows the stage represented by other civilizations on Earth. All these predictions are defended in enough detail that, if this ontology is on the right track, they will cause the scientific revolution that they predict.

You will be skeptical of this prediction because it sounds too good to be true, and since you will wonder about anyone who asks you to consider such an unlikely argument, let me say something about myself and its origin. I have been working on this argument, pretty much on my own, for over 45 years, while teaching philosophy at American University for 30 years and since retiring from teaching over 20 years ago. As a philosopher, I have written this argument with a care that justifies expecting it to stand up under such scrutiny. There may be incomplete or mistaken arguments in it. But I am confident that the discovery that space is a substance that interacts with matter will eventually cause the scientific revolution I predict, and I am prepared to defend it on all fronts. My reason for writing you and a few others is to make what I have discovered public. I am about to turn 83, and I believe that it is my duty to tell others about my discoveries because my society has given me the leisure and privilege to enjoy a life spent in such an exceedingly meaningful way.

Even those who believe in the rational pursuit of truth will find the prospect of reading a detailed all-inclusive explanation of the natural world in three volumes daunting, so I am offering an easier way of learning more about it. An executive summary of the argument is presented in a short (150 page) book titled Sapere Aude that I am also self-publishing now. I am including a free Amazon link to an eBook version of it. (See below.) And there is

more information about this argument at natReason.com, including an introduction to the trilogy, a Table of Contents for it, a bookstore, and more information about me. I would be happy to answer any questions you may have and very grateful to learn about any problems that you think may cast doubt on it. You can reach me personally at philliphscribner@yahoo.com.