It's a great embarrassment to the theory of evolution that it can't account for human consciousness. Because, after all, human consciousness produced the theory of evolution. — Terence McKenna

What's up everybody? Welcome to this week's episode of Hidden Forces with me, Demetri Kofinas. Today, I speak with philosopher and anthropologist Patrick Grim. Dr. Grim has been awarded the President and Chancellor's awards for excellence in teaching and was elected to the Academy of Teachers and Scholars. Named the Weinberg Distinguished Visiting Professor at the University of Michigan in 2006, Professor Grim has also held visiting fellowships at the Center for Complex Systems at Michigan and at the Center for Philosophy and Science at the University of Pittsburgh. He is the author of *The Incomplete Universe: Totality, Knowledge, and Truth*; coauthor of *The Philosophical Computer: Exploratory Essays in Philosophical Computer Modeling*; and editor of the forthcoming *Mind and Consciousness: 5 Questions*. He is widely published in scholarly journals and serves as the founder and coeditor of 25 volumes of *The Philosopher's Annual*, an anthology of the best articles published in philosophy each year. Dr. Grim, welcome to Hidden Forces...

**WHY DO I CARE?**

How can three and a half pounds of gray matter in our skulls produce the world of subjective experience? What is the relation between minds and bodies—between the mental and the physical? How does the brain produce the phenomena of consciousness in memory, emotion, perception, altered states, and our sense of ourselves? Are the core questions scientific or philosophical ones? Questions of bodies and minds have been topics of intense concentration through the history of philosophy. We can now approach those questions with new techniques and new findings in the brain sciences. In this conversation, we’ll draw on both the resources of philosophical history, contemporary psychology, and neuroscience in order to explore the multifaceted relationships between minds and bodies—between consciousness and the brain.

**BACKGROUND**

1. **Origins** — When did you first become interested in existential questions that give rise to the mind-body problem? What was your intellectual progression? How did you form your own ideas from the works of others?

2. **The Intellectual Landscape** — How do brain scientists approach the mind-body problem vs. philosophers? Brain scientists focus on the empirical details such as how subjective experience emerges from a physical substrate. Philosophers focus on how such a thing is even logically possible.

3. **The Spectrum of Thought** — What is the spectrum of philosophical thought as it applies to the mind-body problem? You have used a baseball field metaphor proposed by John Haugeland to explain this (materialists are in right field, idealists are in left field, and dualists play center field). Who are the materialists? What is the distinction between a reductive (plays deep) and non-reductive (plays shallow) materialist? Who are the idealists? How do we distinguish between idealists who...
believe the world is purely subjective to those who believe in objective reality? Who are the dualists? Where do mystics fall – people who believe that the world is fundamentally unknowable to us? Is there a general bias in the field of science and philosophy for any particular perspective, and if so, how strong is that bias? How much progress have we made in the field over the centuries?

4. **What’s the Problem?** — The perennial problem for right-field materialism is how subjective experience can fit in a purely material world. The perennial problem for deep-left-field idealism is how you can start with a subjectivity that is entirely us and arrive at an objective something independent of us. How can we make definitive statements about the nature of reality from our own state of consciousness?

**PLATO, ARISTOTLE, & THE PRE-SOCRATICS**

5. **Philosophy of the Pre-Socratics** — The Pre-Socratics were materialists. The central question for the Pre-Socratics was, “what is the nature of the cosmos?” The Ionians were cosmologists, asking: “What is the world made of?” They wanted a unified answer: a single substance of which everything else is composed. Thales of Miletus (Θαλής ὁ Μιλήσιος), writing around 600 B.C., believed the cosmos was made of water. The pre-Socratics that followed similarly tried to identify a fundamental substance; Anaximenes of Miletus (Ἀναξιμένης ὁ Μιλήσιος, 550 B.C.) proposed air as the fundamental substance and Heraclitus of Ephesus (Ἡράκλειτος ὁ Ἐφέσιος, 500 B.C.) proposed fire. All THREE of these philosophers are also connected to panpsychism, this idea that consciousness is a universal or primordial feature of all things. How does this idea of panpsychism work harmoniously with their materialist ideas of understanding the cosmos as being built from fundamental elements like water, fire, or air? Leucippus and Democritus (400 B.C.) came closer to the world that is reflected in contemporary science, envisioning a cosmos composed of extremely small particles moving randomly in a void (i.e. atoms).

6. **Pythagoreans** — The Pythagoreans rejected a cosmos made of water, air, fire, or any other material thing. For them, the cosmos is made of numbers. What is the history of Pythagorean thought, and how strong of a foothold did the mystery schools have?

7. **Socrates & Plato** — According to you, “if the pre-Socratics give us materialism, Plato gives us dualism,” and that Plato’s *clearest outline of dualism is in the Phaedo (Φαίδων).* Plato’s world is a world divided between the realm of the ideal and its imperfect physical imitation. Plato says that when we really know something, it is the ideal that we grasp. Plato also adopted the idea of metempsychosis or the
transmigration of souls, ascribed to the mythical poet Orpheus (Ὀρφεύς). Was this the first notional incarnation of immortality of the soul in Western religious thought? Were the Orphic mystery cults the first of their kind to implement such religious practice that we know of?

8. **Modularity and the Tripartite Soul** — Modularity is a theme from Plato that is echoed in contemporary scientific work on mind and body. Our contemporary understanding of both mind and brain is in terms of modules: Parts of your brain do different things, corresponding to different aspects of your mental life. Some parts handle visual data, others handle audio data, and so on. Plato envisaged a tripartite soul: three distinct modules of mental life. One module is the module of desire: drives of hunger, thirst, and sex. A second module is the module of thumos—a force of courage shown in battle. The faculty of reason is the third and should rule over the other two. How does this tripartite soul express itself onto society? How does he formulate this in the Republic?

9. **Aristotle & Functionalism** — Up until this point in the evolution of Greek thought, the fundamental question posed by philosophers contemplating the nature of reality, was, “what is the basic stuff of the universe?” Aristotle says this is the wrong question. He believed that the appropriate level of analysis is at the organizational level. In order to understand the mental life of an organism, we have to remember that it is an organism, with both a complex internal organization and a complex interaction with its environment. In order to understand elements of mental life—desires, beliefs, thoughts, even pains—we have to understand the part they play in the life of the whole organism. Is Aristotle’s philosophy the first expression of an emergent view of consciousness, similar to Marvin Minsky’s Society of Mind? Aristotelian philosophy seems to be the origin of our physical conception of a soul being the outline of a physical body. (The glow of a flame vs. the flame itself) How did this notion of the soul evolve through the centuries to what we have today? What is our contemporary notion of the soul?

**SCIENTIFIC REVOLUTION**

10. **Cartesian Dualism** — Descartes’s goal in *Meditations on First Philosophy* is certainty: What can we be absolutely certain of? Descartes’s famous thought experiment for certainty is the hypothesis of the evil demon. This leads to the formulation of his central axiom: *Cogito ergo sum*, or, “I think, therefore I am.” The central passage in Descartes that reasons for this axiom is: “But there is a deceiver of supreme power and cunning who is deliberately and constantly deceiving me. In that case, I too undoubtedly exist, if he is deceiving me.” How revolutionary was this theory at the time? Was it considered an advancement of
the dualistic tradition seen in Plato’s separation between the material world and the world of forms? How has the dualistic tradition evolved since the days of René Descartes?

11. **Monism** — a philosophy is monistic if it postulates unity of origin of all things; all existing things return to a source that is distinct from them. The highpoint of monism can be found in Baruch Spinoza’s pantheism. His interpretation is on that sees all of reality as being deductible from basic axioms of logic alone. His view is that the key to knowledge is not experience based, on the model of scientific experiment, but pure *reason based*, on the model of mathematics. This contrasts with Hobbes’ materialist monism, as expressed in *Leviathan*, that says that all sensation is motion in the brain. **What are the critiques to monism? How has this view evolved since the time of Hobbes and Spinoza?**

How is the rational monism of Spinoza or the idealism of Plato challenged by the views of people like Roger Penrose, who rely on the findings of Kurt Gödel to claim that minds make insights that go beyond the constrains of formal systems? It would seem that more progress has been made on the Hobbesian, materialist view in the centuries since, particularly in the most recent decades with advances in neuroscience. Scientific work on neural correlates of consciousness form a major theme in the literature, which draw on new technologies for brain imaging, the binding theories of Francis Crick, computational theories of mind, and breakthroughs in anesthesiology. **What has been the progress of this “scientific monism” in recent decades?**

**EASTERN TRADITIONS**

12. **Contrasting Philosophies** — Western philosophy is first and foremost a theoretical discipline. It’s an attempt at a representation and explanation of the way things are. Eastern philosophy is not first and foremost a theoretical discipline. It is quite fundamentally a practical discipline. **If Western philosophy is first and foremost an attempt to find out how things are, Eastern philosophy is first and foremost an attempt to figure out how to live.** Eastern philosophers tend to speak of truth as something that one should approach through practice rather than theory. Western philosophers typically try to figure out the theoretical truth, going from there to practical applications. Eastern philosophers tend to speak of truth as something you approach through practice rather than theory. **What is the main distinction**
between Eastern and Western philosophical approaches to the problem of consciousness? Is it even a misnomer to refer to it as “a problem?”

13. **Hinduism** — The Hindu universe is composed of two basic realms, though they are not what western philosophers think of as realms of mind and body (physical or mental). On the one side is Prakriti - the realm of the natural world, which includes the subjective experience of the world. On the other side is Atman, the experiencer of that world. The fundamental mystery for the Western dualist is the existence of conscious experience in a physical world. The fundamental mystery for a Hindu dualist is the existence of Atman in the natural world of prakriti: the existence of an observer in a world that shows only the observed. **What is the distinction between Western dualistic approaches and Eastern ones?**

14. **Buddhism** — Buddhist philosophy concerns itself with the subject of suffering. A major theme in modern Buddhism is the denial of any central self. The concept of self is seen as a major source of suffering. In Buddhism, there is no observer (atman) separate from the experience. Buddhist metaphysics sees what is real as what is experienced - they are one and the same. In one Buddhist parable, a house is on fire; this is the Buddha’s metaphor for the suffering that surrounds us. The important thing is not to analyze the ongoing damage. The important thing is to get out of the house. Release from suffering—the practical issue—is more important than metaphysics. **Is Buddhism monistic vs. Hinduism which is dualistic?**

**COMPUTATIONAL-THEORETIC APPROACHES**

1. **Reverse Engineering Intelligence** — How far back does this field find its origin? Do we need to go all the way back to Charles Babbage, or does it really start with Alan Turing? How has progress in the field of GOFAI advanced in the decades since Turing? How much of the field is devoted to developing artificial intelligence as a means by which we can learn more about how consciousness or intelligence works? What insights have come out of this research?

2. **Information Theory of Consciousness** — What are the informational theories of consciousness? What is Tenoni’s integrated information theory?
3. **The Problem** — Can you help lay out for us what the problem is? Is the hard problem of consciousness that every theory about consciousness derives from conscious experience? How can we know anything for certain beyond the fact that we are having an experience? Can we even be certain that we exist, as Descartes said, or is Bertrand Russell right when he argues that the most Descartes can conclude is not that “I exist” but that “thinking exists?” What is axiomatically true? What is *fundamentally* knowable? Is consciousness a primitive or is it derivative?

4. **Emergent Theories** — Something that gets a lot of play today is this notion of “emergence” and that consciousness is an emergent phenomenon of the brain. I believe this is the view of people like Daniel Dennett and Richard Dawkins. How does subjective experience arise from a purely physical brain? How do proponents of this notion that the hard problem “isn’t really that hard,” explain their theory?

5. **Consciousness is Fundamental** — David Chalmers takes the view that consciousness is fundamental, on par with concepts like mass and space-time. In fact, Chalmers has taken the view that we may need a new theory of physics that puts consciousness at the center. He has put forward interesting ideas that incorporate ideas like Tenoni’s integrated information theory with quantum mechanics: information, organized in a particular way creates consciousness, which then collapses the wave function creating physical reality. Is this really another way of talking about a grand unified theory, but one that goes beyond simply bridging the divide between quantum mechanics and classical physics?

6. **Mysterianism** — The view taken by philosopher Colin McGinn and others is that the hard problem cannot be solved – that the answer lies behind a conceptual blind spot. One way to think of this is by imagining how a dog would formulate a theory of consciousness. How would an alien species far more intelligent than us formulate such a theory? Might we be inherently limited in our capacity to arrive at the answer to the hard problem?

7. **Probabilistic Simulations** — What is the argument for living in a simulation?