

Problems

Abstract Entities

Being and Becoming

Chance

Coinciding Objects

Compo

Consti

Introduction

od and Im

Identity

Individuation

Mind-Body

Modality

Necessity or Contingency

Possibility and Actuality

Space an

Universals

Vagueness

Wave

Can Information Philo



Introduction

We apply methods of information philosophy to metaphysics and find solutions to several classic problems, puzzles and paradoxes. You can find them all on our website metaphysicist.com, the most important of which are the problem of absolute and relative identity, the problem of composition (parts/wholes) and of coinciding objects, Aristotelian essentialism, the need for a metaphysical possibility, and the semantics and modal logic of “possible worlds.”

Many ancient puzzles are variations on the problem of coinciding objects, including Dion and Theon, the Growing Argument, and the Statue and the Clay. We solve these puzzles.

A central problem in information philosophy is the existential or ontological status of ideas. We show that while ideas exist in the physical world, they are not made of the matter and energy normally associated with “physical” objects. This in no way makes them supernatural or other-worldly. But ideas have a kind of physicality that deserves the name of metaphysical.

We solve the problem since at least RENÉ DESCARTES of how *immaterial* ideas in the mind have causal power over material objects like the body. The solution involves no intermediate material entity, such as his pineal gland.

We find that the *creation* of new ideas requires the existence of ontological chance. Metaphysical possibility must therefore be a fundamental aspect of metaphysical reality. Sadly, most modern metaphysicians embrace the notion of metaphysical necessity.

Information provides a unique explanation of self-identity and the *relative* identity of numerically distinct objects. It also explains the existential status of abstract entities and non-existent objects.

Metaphysics is an abstract human invention about the nature of concrete reality – *immaterial* thoughts about material things. Information philosophy explains the metaphysics of chance and possibilities, which always underlie the creation of new information structures. Without metaphysical possibilities, there can be no human creativity and no new knowledge.



A materialist metaphysics asks questions about the underlying substrate presumed to *constitute* all the objects in the universe. Unfortunately, most modern philosophers are eliminative materialists and determinists who think there is “nothing but” the substrate of matter. As JAEGWON KIM puts it,

“bits of matter and their aggregates in space-time exhaust the contents of the world. This means that one would be embracing an ontology that posits entities other than material substances — that is, immaterial minds, or souls, outside physical space, with immaterial, nonphysical properties.”¹

A formalist or idealist metaphysics asks about the *arrangement* and *organization* of matter that shapes material objects, what brings their forms into existence, and what causes their changes in space and time. Information philosophy defends a Platonic realm of *immaterial* ideas in a dualism with the realm of matter and energy. The information realm is physical and natural. It is not supernatural and “outside space and time.” Ideas are embodied in matter and use energy for their communication. But they are neither matter nor energy. They are forms that inform.

The total amount of matter (and energy) in the universe is a conserved quantity. Because of the universe expansion, there is ever more room in space for each material particle, ever more ways to arrange the material, ever more possibilities. The total information in the universe is constantly increasing. This is the first contribution of information philosophy to metaphysics.

The second contribution is to restore a *dualist* idealism, based on the essential importance of information communication in all living things. Since the earliest forms of proto-life, information stored in each organism has been used to create the following generations, including the random variations that have evolved to become thinking human beings who invented the world of ideas that contains metaphysics. Abstract information is an essential, if *immaterial*, part of reality. Plato was right that his “ideas” (ιδέαι) are real.

Plato’s forms inform.

1 Kim (2007). Physicalism, or something near enough. p.71



A third contribution from information philosophy adds biology to the analysis of metaphysical problems which began in puzzles over change and growth. The parts of living things – we call them *biomers* – are communicating with one another, which integrates them into their “wholes” in a way impossible for mere material parts – a *biomereological essentialism*.

The arrangement of individual material particles and their interaction is abstract immaterial information. The metaphysics of information can also explain the cosmic creation process underlying the origin of all information structures in the universe and the communication of information between all living things, which we will show use a meaningful biological language, consisting of arbitrary symbols, that has evolved to become human language.

Ontology asks the question “what is there?”

Eliminative materialism claims that nothing exists but material particles, which makes many problems in ancient and modern metaphysics difficult if not insoluble. To be sure, we are made of the same material as the ancient metaphysicians. With every breath we take, we inspire 10 or 20 of the fixed number of molecules of air that sustained Aristotle. We can calculate this because the material in the universe is a constant.

But information is not a fixed quantity. The stuff of thought and creativity, information has been increasing since the beginning of the universe. There is ever more knowledge (but relatively little increase in wisdom?) With hundreds if not thousands of times as many philosophers as ancient Greece, should we still be debating the same ancient puzzles and paradoxes?

Information philosophy restores so-called “non-existent objects” to our ontology. Abstract entities consist of the same kind of information that provides the structure and process information of a concrete object. What we call a “concept” about an object is some subset of the immaterial information in the object, accurate to the extent that the concept is isomorphic to that subset.



Epistemology asks, “how do we know what there is?”

Immaterial information provides a new ground for epistemology, the theory of knowledge. We know something about the “things themselves” when we discover an isomorphism between our abstract ideas and the concrete objects in the material world. But words and names are not enough. Information philosophy goes beyond the logical puzzles and language games of analytic philosophy. It identifies knowledge as information in human minds and in the external artifacts of human culture.

Abstract information is the foundation – the metaphysical ground – of both logic and language as means of communication. It is a dual parallel to the material substrate that the Greeks called *ὑποκείμενον* - the “underlying.” It gives matter its form and shape. Form informs.

Much of formal metaphysics is about necessary relationships between universal ideas, certain knowledge that we can believe independent of any experience, knowledge that is “*a priori*” and “analytic” (true by logic and reason alone, or by definition). These ideas appear to be unchanging, eternal truths in any possible world.

Information philosophy now shows that there is no necessity in the material world. Apodeictic certainty is just an idea. There is no *a priori* knowledge that was not first discovered empirically (*a posteriori*). Only after a fact is discovered do we see how to demonstrate it logically as *a priori*. And everything analytic is part of a humanly constructed language, and thus synthetic. All such “truths” are philosophical inventions, mere concepts, albeit some of the most powerful ideas ever to enter the universe.

Most important, a formal and idealistic metaphysics is about abstract entities, in logic and mathematics, some of which seem to be true independent of time and space. Aristotle, the first metaphysician, called them “first principles” (*archai, axioma*). GOTTFRIED LEIBNIZ said they are true in all possible worlds, which is to say their truth is independent of the actual world.



But if these abstract metaphysical truths are not material, where are these ideas in our world? Before their discovery, they *subsisted* as unknown properties. Once invented and discovered to be empirical facts, they are embedded in material objects, artifacts, and minds – the software in our hardware. Those ideas that are invented but not found empirically “real” (imagined fictions, flawed hypotheses, round squares) are also added to the sum of human knowledge, even if never exemplified or embodied.

Many unchanging abstract entities share a property that the early philosophers Parmenides, Plato, and Aristotle called “Being,” to distinguish its nature from “Becoming,” the property of all material objects that change with time. Certain truths cannot possibly change. They are eternal, seemingly “outside space and time.”

It is unfortunate that information philosophy undermines the logical concepts of metaphysical necessity, certainty, the *a priori* and analytic, even truth itself, by limiting their analyticity to the unchanging abstract entities in the realm of Being. But, on the positive side, information philosophy now establishes the metaphysical possibility of ontological possibilities.

Possibilities depend on the existence of irreducible ontological chance and contingency, the antithesis of *necessity*. Without metaphysical possibilities, no new information can be created.

Information philosophy and metaphysics restore an *immaterial* mind to the impoverished and deflated metaphysics that we have had since empiricism and naturalism rejected the dualism of RENÉ DESCARTES and its troublesome mind-body problem.

Naturalism is a materialism. Just as existentialism is a humanism. Even stronger, naturalism is an eliminative materialism. It denies the immaterial and particularly the mental.

While information philosophy is a form of the great dualism of idealism versus materialism, it is not a substance dualism. Information is a physical, though immaterial, property of matter. Information philosophy is a property dualism.



Abstract information is neither matter nor energy, although it needs matter for its embodiment and energy for its communication.

Information is *immaterial*. It is the modern spirit, the ghost in the machine. It is the mind in the body. It is the soul. And when we die, our personal information and its communication perish. The matter remains.

Information is the underlying currency of all communication and language. Passive material objects in the universe contain information, which metaphysicians and scientists analyze to understand everything material. They are *information structures*. But passive material objects do not create, actively communicate, and process information, as do all living things.

Realism is the ontological commitment to the existence of *material* things. Information realism is equally committed to the existence or subsistence of *immaterial*, but physical, ideas.

Human language is the most highly evolved form of information communication in biology. But even the simplest organisms signal their condition and their needs, both internally among their smallest parts and externally as they compete with other living things in their environment.

Biosemioticians convincingly argue that all the messages in biology, from the intracellular genetic codes sent to the ribosomes to produce more of a specific protein, to the words in sentences like this one, are a meaningful part of one continuously evolving semantic system. All messaging is as purposeful as a human request for food, so biology is called *teleonomic*, though not teleological. This “telos” or purpose in life did not pre-exist life.

Like human language, the signs used in biological messages can be symbolic and arbitrary, having no iconic or indexical or any other intrinsic relation between a signifier and the signified concept or object.² Like human signs, the meaning of a biological sign is highly dependent on the context. Only four neurotransmitters act as primary messengers sent to a cell, inside of which one of dozens of secondary messengers may be activated to determine the use inside the particular cell - the ultimate Wittgensteinian “meaning as use” in the message.

2 Doyle (2016) *Great Problems in Philosophy and Physics*, Appendix G



Modern Anglo-American metaphysicians think problems in metaphysics can be treated as problems in language, potentially solved by conceptual analysis. They are analytical language philosophers. But language is too flexible, too ambiguous and full of metaphor, to be a diagnostic tool for metaphysics. We must go beyond language games and logical puzzles to the underlying information contained in a concept or object.

Information philosophy restores the metaphysical existence of a realm that is “beyond the natural” in the sense since at least DAVID HUME and IMMANUEL KANT that the “laws of nature” completely determine everything that exists, everything that happens, in the phenomenal and material world.

The immaterial realm of information is not “supernatural” in any way, but the creation of information throws considerable light on why so many humans, though few scientists, believe – correctly as it turns out – that there is a *providential* force in the universe.³

MARTIN HEIDEGGER, the philosopher of “Being,” called FRIEDRICH NIETZSCHE the “last metaphysician.” Nietzsche thought that everything in his “*lebensphilosophie*” was the creation of human beings. Indeed, when we are creative, what we create is new information, pure abstract ideas or material information structures.

Did we humans “discover” the abstract ideas, or did we “invent” them and then find them to be true of the world, including those true in any possible world? ALBERT EINSTEIN called them “free inventions of the human mind which admit of no *a priori* justification either through the nature of the human mind or in any other way at all.”⁴

As opposed to an analytic language metaphysician, a metaphysicist searches for answers in the analysis of *immaterial* (but physical) information that can be *seen* when it is embodied in external material information structures. Otherwise it can only be *known* – in our minds.

Metaphysical truths are pure abstract information, subsisting in the realm of ideas.

3 See chapter 7 below.

4 Einstein. (1933) ‘On the Methods of Theoretical Physics,’ p.165



Metaphysical facts about the world are discovered when there are isomorphisms between abstract ideas and the concrete structures in the external world that embody those ideas.

Information philosophy bridges the ideal and material worlds of Plato and Aristotle and the noumenal and phenomenal worlds of Kant. It demonstrates how *immaterial* minds are a *causal* force in the material world, connecting the psychological and phenomenological with the “things themselves,” which are perceptible *because* they are embodiments of our concepts, our ideas.

The causal force of ideas, combined with the existence of alternative possibilities, is the information philosophy basis for free will.

What are we to say about a field of human inquiry whose major problems have hardly changed over two millennia? Information philosophy looks at a wide range of problems in metaphysics, situating each problem in its historical framework and providing accounts of the best work by today’s metaphysicians.

Metaphysicians today are analytic language philosophers, some of whom work on a very small number of metaphysical problems that began as puzzles and paradoxes two thousand years ago.

The *metaphysicist* adds biological knowledge and quantum physics to help investigate the fundamental nature of reality. DAVID WIGGINS called for the former and E. JONATHAN LOWE called for the latter. DAVID CHALMERS thinks information may help explain the “hard problem” of consciousness.

An information-based metaphysics provides a single explanation for the origin and evolution of the universe as well as life on Earth. Since the beginning of time, it is the creation of material information structures that underlies all possibilities.

From the appearance of the first living thing, biological communication of information has played a causal role in evolution.

Metaphysics must include both the study of matter and its *immaterial* form. A quantum particle is pure matter or energy. The quantum wave function is pure abstract information about possibilities.

The metaphysics of possibility grounds the very possibility of metaphysics.



How We Proceed

In part 1, we analyze the information content in twenty-two classic problems in metaphysics – Abstract Entities, Being and Becoming, Causality, Chance, Change, Coinciding Objects, Composition (Parts and Wholes), Constitution, Essentialism, Free Will or Determinism, God and Immortality, Identity, Individuation, Mind-Body Problem, Modality, Necessity or Contingency, Persistence, Possibility and Actuality, Space and Time, Universals, Vagueness, and the 20th-century quantum problem of Wave-Particle Duality.

In part 2, we apply the lessons learned from part 1 to some classic puzzles and paradoxes that are frequently used to wrestle with metaphysical problems – The Debtor’s Paradox, Dion and Theon, Frege’s Puzzle, The Growing Argument, The Infinite Regress, The Problem of the Many, The Ship of Theseus, The Sorites Puzzle, The Statue and the Clay, and Tibbles, the Cat.

In part 3, we take a closer look at the work of twenty-three metaphysicians who have made major contributions to the problems and puzzles above, including David Armstrong, Michael Burke, Rudolf Carnap, David Chalmers, Rod Chisholm, René Descartes, Peter Geach, David Hume, Immanuel Kant, David Lewis, E. Jonathan Lowe, Ruth Barcan Marcus, Trenton Merricks, Huw Price, Willard van Orman Quine, Michael Rea, Alan Sidelle, Ted Sider, Richard Taylor, Peter Unger, Peter van Inwagen, David Wiggins, and Timothy Williamson.

Part 4 is a brief history of metaphysics, touching on the introduction and development of our problems, puzzles, and paradoxes.

An appendix lists some of the great problems in philosophy, physics, cosmology, psychology, and biology that may soon be solved using the methods of information philosophy.

We hope readers will look at web pages on metaphysicist.com that correspond to each of the chapters of the book for further information, for corrections, and for your suggestions, which we will incorporate in future editions of *Metaphysics*.

