

1 **Metaphysics: Intelligible Questions and the Explicable**

2 **World of Intentionality**

3
4 *Metaphysics deals with the intelligible world of questions and the explicable*
5 *world of intentionality. Metaphysics is explicable, and its explicability is*
6 *connected to questions related to what there is to know about the nature of*
7 *reality. While physics deals with what is and what else there is, metaphysics*
8 *deals with the nature of reality and what else there is to know about the*
9 *nature of reality. If the content of metaphysics is considered as "answers" to*
10 *questions related to cosmology and consciousness, then metaphysical*
11 *claims must be understood in the context of the questions that necessitate*
12 *such claims. For without understanding the relevance of the questions, we*
13 *cannot establish the 'truth' or 'falsity' of metaphysical claims. The relevance*
14 *of the questions is the basis for establishing the veracity of the metaphysical*
15 *distinctions. Hence, all metaphysical distinctions are a non-reductive*
16 *explanation of what is considered as being reductive. The content of*
17 *consciousness or intentionality deals with the following metaphysical*
18 *distinctions, namely, the matter/mind, the essence/existence, the space/time,*
19 *the concrete/abstract, the particular/universal, and the contingent/necessary*
20 *distinctions. These distinctions are made possible because of the questions*
21 *raised by the intelligent mind. Two questions that connect physics and*
22 *metaphysics are-- what is there and the nature of what is there. Two further*
23 *questions that promote our interest in physics and metaphysics are: what*
24 *else is there to know, and what else is there to know about the nature of*
25 *reality. Reality and the nature of reality are the same. Still, because the*
26 *mind makes this distinction, we can state that what is physical is an*
27 *empirical given, and what is metaphysical is a phenomenological or an*
28 *existential given.*

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31 **Introduction: Questions related to Ontology/Metaphysics:**

32 **Understanding what is Physical and what is Phenomenological.**

33
34 The two famous questions that necessitate the relationship between physics
35 and metaphysics are Leibniz's question -- *why is there something instead of*
36 *nothing*¹ and Quine's question *on what there is?*² These two questions are related
37 to two other questions raised in this paper—what else there is to know, and
38 what else is there to know about the nature of what is? What is fundamental to
39 the continued pursuit of metaphysics is the question: what else is there to know
40 about the nature of reality. Because reality and nature of reality are inseparable,
41 the following metaphysical distinctions are made in this paper; namely, the
42 mind/matter, the essence/existence, the space/time; the particular/universal, the
43 concrete/abstract, the contingent/necessary distinctions help us understand the

¹Leibnitz, Gottfried Wilhelm, *Philosophical Works*, "Principles of Nature and Grace". (New Haven: Turtle, Morehouse and Taylor Publishers, 1890), 213

²Quine, Willard V., "On What There Is", *The Review of Metaphysics*, Vol. 2, No. 5 (Sep., 1948), pp. 21-38.

1 relationship between matter, mind, and metaphysics. So this paper intends to
 2 discuss the questions that initiate metaphysical distinctions to better understand
 3 the nature of reality, for "all consciousness is consciousness about something"³
 4 and its nature.

5 Ontology deals with what is reductive. What is reductive is basically the
 6 118 elements in the universe. Fundamental to each element is the atom. And
 7 for over 2000 years, it was believed that the atom was the smallest part of
 8 reality and was indivisible⁴. Now we know that atoms are divisible in that
 9 fundamental to atoms are electrons, protons, and neutrons. And what is
 10 fundamental to protons and neutrons are quarks. We also know that atoms exist
 11 in the context of time/space, gravity, electromagnetic force, fields, and energy.
 12 However, everything associated with matter has its beginning with matter⁵.
 13 Time, space, gravity, electromagnetic force, quantum fields, and mathematics
 14 do not have a special beginning, but have their beginning with the beginning of
 15 matter⁶. Observing the universe, the following scientists have made four
 16 fundamental or significant discoveries: (1) Emilie Du Chatelet purported that
 17 energy cannot be created or destroyed.⁷ and (2) Antoine Lewiser purported that
 18 mass cannot be increased or decreased.⁸ (3) Einstein argued that mass and energy
 19 are interchangeable.⁹ (4) Higgs argued that everything exists in quantum fields¹⁰.

20 Metaphysics deals with the non-physical/non-reductive phenomena of
 21 what is reductive. The content of intentionality is the content of metaphysics.
 22 The single characteristic of metaphysics is the non-reductive description of its
 23 content, for all metaphysical distinctions and assertions are a non-reductive
 24 account of a reductive given. The two inseparable aspects of reality, namely
 25 physics and metaphysics, are fundamental aspects of the same reality¹¹, though
 26 one is a reductive or an empirical given and the other a non-reductive or
 27 phenomenological given. In understanding the nature of matter, the mind
 28 provides the basis for all the distinctions that are fundamental to the study of
 29 reality. If the assertion of property dualism that physical phenomena and mental

³Jean-Paul Sartre, *Being and Nothingness*, trans. Hazel E. Barnes. (New York: Washington Press, 1977) 11.

⁴Dalton understanding of the Atom, until J.J. Thomas discovered the electron which redefined the atom as being divisible.

⁵Steven Weinberg, *The First Three Minutes*. (New York: Basci Books, Inc., Publishers, 1977) 147

⁶Iain Nicolson, *Unfolding Our Universe*, (Cambridge: University Press, 1999) 235

⁷Hagenruber, Ruth, editor (2011) *Émilie du Chatelet between Leibniz and Newton*. Springer. ISBN 978-94-007-2074-9. (The basis for the law of conservation of matter)

⁸American Chemical Society International Historic Chemical Landmarks. Antoine-Laurent Lavoisier: The Chemical Revolution. <http://www.acs.org/content/acs/en/education/whatschemistry/landmarks/lavoisier.html>.

⁹Serway, Raymond A.; Jewett, John W.; Peroomian, Vahé (5 March 2013). *Physics for scientists and engineers with modern physics* (9th ed.). Boston, MA. pp. 1217–1218.

¹⁰Sean Carroll, What is the Higgs Boson? Sean Carroll Discusses the God Particle. <https://www.youtube.com/watch?v=wCZr8mUsJ2s>

¹¹George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner,, (Toronto: University of Toronto Press, 1990) 74

1 phenomena¹² are a phenomenological given, then physics and metaphysics are
 2 inseparable. Reality and the awareness of reality are inseparable. "Consciousness
 3 and matter are different aspects of the same reality"¹³. For "all consciousness is
 4 consciousness of something." It is one thing to argue that consciousness
 5 requires a neural base but another to argue that the brain alone can cause
 6 consciousness, for we know that temperature, pressure, oxygen, and nutrients also
 7 play a role in the actualization of consciousness. Consciousness could be a
 8 fundamental aspect of reality. However, the essential property of consciousness,
 9 namely, intentionality and subjectivity can only be a phenomenological or
 10 existential given. What separates us from animals is metaphysics. While animals
 11 are aware of reality, we aware of the nature of reality. As such, humans are
 12 metaphysicians, for no animal can be a metaphysician for animals can never
 13 understand the nature of reality.

14 Consciousness and the content of consciousness are distinct. One is a
 15 reductive given, and the other is a non-reductive given. The reductive
 16 understanding of consciousness establishes the relationship of causation,
 17 contingency, and correlation of mental states to brain states; that is why we
 18 understand mental states as a neural state,¹⁴ an emergent property¹⁵, or
 19 quantum phenomena¹⁶. The non-reductive understanding of consciousness
 20 establishes intentionality¹⁷, subjectivity, and creativity as a phenomenological
 21 given which will always be subject to change or revision. That is why while
 22 MRI reading can establish whether one is conscious or not—alive or dead, we
 23 cannot confirm who or what one is conscious of. However, the causation,
 24 contingency, and correlation of mental states to brain states cannot explain the
 25 following : (1) how a material brain can generate an immaterial self, (2) how
 26 a determinate matter creates an indeterminate mind, (3) how insentient atoms
 27 in the brain can generate intentionality, subjectivity, and creativity¹⁸, (4) how a
 28 sense-receptory brain that processes sense-evident data can generate a mind
 29 that creates and processes self-evident truths—such as mathematics, morals,
 30 and metaphysics, (5) why it takes a brain that is made of insentient atoms or
 31 neurons to create a mind to define what an atom or neuron is, or (6) how
 32 reductive matter can generate non-reductive metaphysics.

33

¹²Ryan A Priccirillo "Property Dualism and Physicalism": Unclenching the Soldiers fist" *Inquiries* 2010, VOL. 2 NO. 08 | PG. 1

¹³George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner,, (Toronto: University of Toronto Press,1990) 74

¹⁴J.J.C. Smart, "Sensation and Bain Processes", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011) 119*

¹⁵John Searle, "The Irreducibility of Consciousness", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011) 703*

¹⁶S. Hameroff, Anesthetic action links consciousness to quantum vibrations - - 6/11/2018 https://www.youtube.com/watch?v=VG8_hlnFdWM

¹⁷Franz Brantano, "The Distinction between Mental and Physical Phenomena" (excerpt) in David Chalmers, *Philosophy of Mind*, (New York: Oxford University Press, 2002) 473-479

¹⁸Giuiio Tononi "Why is consciousness so baffling" https://www.youtube.com/watch?v=dK72pPa_gSE

Methodology

The phenomenological method is employed to investigate metaphysical claims in the context of the questions that necessitate metaphysical assertions. However, while questions relate to what is reductive or physical, metaphysical claims relate to what is non-reductive or phenomenological. When we extrapolate Leibniz's and Quine's questions, we can raise questions related to the concrete, namely, specificity, temporality, contingency, and existence, or make metaphysical claims related to the abstract, namely, identity, immortality, necessity, and essence. Once we accept that there is something and want to know the nature of reality, it results in the content of intentionality or metaphysics. This paper intends to establish the link between consciousness and the content of metaphysics along with the questions that initiate metaphysics.

Understanding the content of metaphysics in the context of the questions that initiate metaphysics makes the explicability of metaphysics *palatable*. Just as what a hypothesis is to science, the relevance of questions is to metaphysics. Only in the context of the significance of the question can we establish the truth or veracity of metaphysical claims. While ontology deals with what is, metaphysics deals with the nature of what is. Matter and awareness of matter or consciousness have to be related, for consciousness and matter are different aspects of the same reality¹⁹ or better, what 'is' and the 'nature of what is' are the same. However, what is physical is reductive, and what is metaphysical is non-reductive. Reality and awareness of reality are intertwined because of the mind, "To be and to be known—existence and its recognition"²⁰ are the same. Both reality and the nature of reality are the same²¹, but the mind makes the metaphysical distinction -- one as being concrete and the other as abstract. One is an empirical given, the other being a phenomenological or existential given.

Consciousness and Content of Consciousness— Phenomenological or Existential Given

Consciousness is a brain process²² hence reductive, but the content of consciousness, namely the content of intentionality²³ along with subjectivity, is non-reductive. As such, there are two ways we can define what consciousness is (1) the reductive understanding of consciousness is to explain the relationship between causation, contingency, and correlation of mental states to

¹⁹George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner,, (Toronto: University of Toronto Press,1990) 74

²⁰Ibid., 68

²¹Ibid 74

²²U. T. Place "Is Consciousness a Brain Process" in David Chalmers, *Philosophy of Mind*, (New York: Oxford University Press, 2002) 56-57

²³Franz Brentano, "The Distinction between Mental and Physical Phenomena" (excerpt) in David Chalmers, *Philosophy of Mind*, (New York: Oxford University Press, 2002) 473-479

1 brain states. That is why we can understand mental states as a neural state,²⁴ an
 2 emergent property²⁵, or a quantum phenomena. (2) the non-reductive
 3 understanding of consciousness is to explain the content of consciousness as the
 4 content of intentionality and subjectivity²⁶. The essential features of
 5 consciousness, namely intentionality, subjectivity, and creativity, are to be
 6 understood as a non-reductive or phenomenological given. In the paper, we
 7 shall discuss the content of consciousness or intentionality in the context of the
 8 questions that necessitated such claims because of the non-reductive nature of
 9 metaphysics. All metaphysical distinctions entail a reductive given and a non-
 10 reductive explanation for what is reductive. The content of consciousness is
 11 limited to discussing metaphysical distinctions in the context of understanding
 12 the nature of reality and the questions that necessitate metaphysics.

13 14 15 **Matter/Mind Distinction** 16

17 The first metaphysical distinction that has both a reductive and a non-
 18 reductive aspect to it, is the matter/mind distinction. What is reductive are the
 19 basic elements in the brain and what is non-reductive is the metaphysics
 20 associated with the mind. We know what there is in the universe. From
 21 Democritus' times to the present, we have become aware of the basic elements
 22 in the universe²⁷--their atomic structure, mass, weight, and the structure of the
 23 subatomic or the quantum world. First, we thought that atoms were the smallest
 24 unit of being and were indivisible, then we discovered that atoms were
 25 divisible and consisted of protons, neutrons, and electrons; later, we found out
 26 that each proton and electron is made of quarks--(Proton having two up quarks
 27 and one down quark and the neutron has two down quarks and one up quark)
 28 ²⁸, and now we have discovered the Boson²⁹ or the "God particle."³⁰ Further,
 29 we realized that what we call particles are actually fields³¹ in that there are
 30 many electrons, many photons, and many bosons, each in their respective
 31 fields, namely the electron field, the electromagnetic field, and the Higgs field.
 32 Atoms were first considered as the smallest unit of matter that could not be cut;

²⁴J.J.C. Smart, "Sensation and Brain Processes", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011) 119*

²⁵John Searle, "The Irreducibility of Consciousness", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011) 703*

²⁶S. Hameroff, Anesthetic action links consciousness to quantum vibrations - - 6/11/2018
https://www.youtube.com/watch?v=VG8_hlnFdWM

²⁷How to find the number of protons, neutrons and electrons from the periodic table <https://www.youtube.com/watch?v=JjozjUCsSaU>

²⁸What Happened At The Beginning of Time-with Dan Hooper, <https://www.youtube.com/watch?v=dB7d89-YHjM>

²⁹Jim Baggott, *Higgs*, (Oxford: Oxford Press,2013) 89, 181

³⁰Attributed to Physicist Leon Lederman-- was meant to poke fun at how difficult it was to detect the Higgs. The Title of Lederman's book was "The Goddam particle" was changed to "The God Particle" when the publishers weren't pleased with the phrasing.

³¹Sean Carroll, What is the Higgs Boson? Sean Carroll Discusses the God Particle. <https://www.youtube.com/watch?v=wCZr8mUsJ2s>

1 then came Einstein, who argued that atoms could be spilt, which introduced us
 2 to the quantum theory. Quantum theory or particle physics³² purports that there
 3 are two types of particles, one having mass and the other being massless³³ such
 4 as Fermions and Bosons.³⁴ Now we further know that there are two forces at
 5 work in the quantum world—the strong nuclear force and the weak nuclear
 6 force. The strong nuclear force is the attractive force between protons and
 7 neutrons that keep the nuclei together, and the weak nuclear force is the
 8 radioactive decay of certain nuclei.³⁵ So there are only three basic particles
 9 now called fields in the universe, namely electrons, up quarks, and down
 10 quarks (what protons and electors are made up of), surrounded by four forces,
 11 namely, gravitational, electromagnetic, strong, and weak nuclear forces³⁶.

12 The first atoms that came into existence in the first few minutes after the
 13 big bang were hydrogen and helium³⁷. And after the birth of stars, science tells
 14 us that carbon and oxygen, along with a few others atoms, came into existence
 15 in the universe. And after supernovas³⁸ or the death of stars the rest of the
 16 elements in the periodic table came into being. What is interesting about the
 17 periodic chart is that we have found all the types of atoms in the universe that
 18 is represented in the periodic table. Based on the number of protons in each
 19 element, we have numbered the 118 elements in the periodic table³⁹.
 20 Everything that exists has atoms; humans are no exception. For instance,
 21 humans are basically water which is made of two hydrogen atoms and one
 22 oxygen atom. But since the mass of oxygen is 16, mass-wise humans are 65%
 23 oxygen, 18% carbon, 9.5 % hydrogen⁴⁰, and nitrogen 3.3%. (Remaining 4
 24 percent is made up of other metals—like calcium, Potassium, Lithium copper,
 25 and iron. Every atom that exists was created in the beginning, as such each
 26 atom in the human is as old as the universe itself.

27 What is the brain? The brain is a neural organ composed of insentient
 28 matter, yet the neural brain is the basis for the sentient mind. However, it is
 29 hard to establish whether the brain is a necessary condition or a sufficient
 30 condition for consciousness. For we can be certain that the brain alone cannot
 31 cause consciousness because we know there are other factors like temperature,

³²The Map of Particle Physics | The Standard Model Explained. <https://www.youtube.com/watch?v=mYcLuWHzfE>

³³Why do some particles like gluons not have mass? <https://www.youtube.com/watch?v=eqwgDzJlkoY>

³⁴Jim Baggott, *Higgs*, (Oxford: Oxford Press,2013) 89, 181

³⁵<https://www.nobelprize.org/prizes/themes/forces/#:~:text=The%20Strong%20Nuclear%20Force%20is,two%20forces%20differed%20a%20lot.> (Lars Brink “ Forces”)

³⁶Beyond the Higgs: What’s Next for the LHC?-With Harry Cliff. <https://www.youtube.com/watch?v=edvdzh9Pggg>

³⁷Steven Weinberg, *The First Three Minutes*. (New York: Basic Books, Inc., Publishers,1977) 113

³⁸*Ibid.*, 18

³⁹Elements-Defined by their Numbers of protons. https://chem.libretexts.org/Courses/College_of_Marin/CHEM_114%3A_Introductory_Chemistry/04%3A_Atoms_and_Elements/4.05%3A_Elements_-_Defined_by_Their_Numbers_of_Protons

⁴⁰Ruchi Shah, “Elements That keep Us Alive Also Give Color To Fireworks” <https://biobeat.nigms.nih.gov/2015/07/elements-that-keep-us-alive-also-give-color-to-fireworks/>

1 pressure, oxygen, and nutrients, without which we cannot have consciousness.
 2 So unless we know what role temperature, pressure, oxygen, and nutrients
 3 play, we cannot be sure whether the basis for consciousness is the brain alone.
 4 We know that there is a relationship between the brain and the mind. As such,
 5 we can establish the correlation of mental states to brain states⁴¹; we can
 6 establish the causal nature of mental states to brain states; we can also establish
 7 the contingency of mental states to brain states. The question is, can
 8 establishing the relationship of brain states and mental states and correlates of
 9 mental states to brain states squeeze consciousness from the brain⁴².

10 What is consciousness? What makes brains conscious?⁴³ The mind is
 11 irreversibly dependent with the brain⁴⁴. ". . . mind and matter could be seen as a
 12 complementary aspect of the same reality"⁴⁵. Consciousness is a brain
 13 process⁴⁶, but the question is, does the brain cause consciousness? What is the
 14 relationship between mental states and brain states? What are mental states? In
 15 the ancient world, the mind or the soul was understood as being immortal⁴⁷ and
 16 that the soul is the user of the body. The soul is eternal, and death is not the
 17 death of anything but merely the separation of the soul from the body⁴⁸. Again
 18 the ancient world defined that either the soul is in the body or the body is in the
 19 soul.⁴⁹ Contemporary theorists like (1) the Identity theorist argue that mental
 20 states are identical to brain states⁵⁰--in that consciousness is a brain process⁵¹.
 21 (2) Reductive materialists argue that there are mental states, but they can be
 22 reduced to brain states⁵². (3) Non-reductive materialists argue that there are
 23 mental states, but they cannot be reduced to brain states⁵³. (4) Eliminative
 24 materialists argue that there are no mental states; all states are brain states. (5)

⁴¹David Chalmers. "Consciousness and its place in Nature" in David Chalmers, *Philosophy of Mind*, (New York: Oxford Press, 2002) 248.

⁴²Giulio Tononi, Why is Consciousness so Baffling? https://www.youtube.com/watch?v=dK72pPa_gSE

⁴³Christof Koch, What makes brains conscious? Episode 706 Closure to Truth <https://www.youtube.com/watch?v=3qjgvMtTKhI>

⁴⁴David Eagleman, Are the Brain and Mind the same thing. Episode 1005 Closer to Truth <https://www.youtube.com/watch?v=2i9UPTDUFJo>

⁴⁵George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner, (Toronto: University of Toronto Press,1990) 74

⁴⁶U. T. Place "Is Consciousness a Brain Process" in David Chalmers, *Philosophy of Mind*, (New York: Oxford University Press, 2002) 56-57

⁴⁷Hans Goller, *Mortal Body, Immortal Mind: Does the Brain Really Produce Consciousness*. Forum Philosophicum Volume 17, Issue I, spring 2012. 5

⁴⁸Olshewsky, Thomas M. "The Relations of Soul to Body in Plato and Aristotle". Project MUSE Scholarly journals on line, 391 <https://web.stanford.edu/~mvr2j/ucsccourse/soulolshewsky.pdf>

⁴⁹Ibid, 391

⁵⁰R. J. Hirst *Mind and Body* in John Heil, *Philosophy of Mind (Oxford: Oxford Press, 2011)* 107.

⁵¹U. T. Place "Is Consciousness a Brain Process" in David Chalmers, *Philosophy of Mind*, (New York: Oxford University Press, 2002) 56-57

⁵²J.J.C. Smart, "Sensation and Brain Processes", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011)* 119

⁵³John Searle, "The Irreducibility of Consciousness", in John Heil, *Philosophy of Mind (Oxford: Oxford Press,2011)* 703

1 Behaviorists argue that there are mental states, but they are behavioral
2 dispositions⁵⁴. (6) Functionalists argue that there are mental states but mental
3 states are functional states⁵⁵.

4 Modern theories such as (1) Emergence theory of the mind suggest that
5 consciousness is a neural emergence⁵⁶, (2) Supervenience theory of the mind
6 suggests that mental states supervene on brain states, in that there can be no
7 changes in mental states without changes to brain states⁵⁷. The mind is
8 contingent on the brain for its presence.⁵⁸ (4) The Computational theory of the
9 mind suggests that the brain is a computer with a programmer inside it—the
10 self, which interprets the information from the transducers as metaphysics. Is
11 the brain the producer of consciousness, or is it a receptor like a radio or TV⁵⁹?
12 If it is understood as a receptor, it does not produce anything; it only transmits
13 what is transmitted. To argue that the brain causes consciousness is like
14 arguing that the radio causes music when in reality, the radio is only a
15 receptor⁶⁰. And if the brain is understood as a conduit of the soul, then each
16 self can represent a different frequency. What is common in each of us is the
17 soul (intentionality), and what is distinct in each is the self (subjectivity). If we
18 argue that intentionality and subjectivity are an essential property of
19 consciousness (and neural emergence is one way, not the only way in which
20 consciousness can be actualized), then we can explicate consciousness as being
21 an inseparable part of matter or the universe.

22 Current studies in neuroscience put emphasis on understanding
23 consciousness as a quantum phenomenon. If consciousness is a quantum
24 phenomenon, then it is a result of quantum collapse⁶¹, and the cellular
25 structures called microtubules associated with collective pi resonance quantum
26 oscillations⁶² are critical to consciousness. The Penrose-Hameroff theory of
27 quantum consciousness argues that microtubules are structured in a fractal
28 pattern which would enable quantum processes to occur.⁶³ Quantum fractals
29 could provide the basis as to whether consciousness is a classical or quantum

⁵⁴Hilary Putnam, “Brain and Behavior” in”, in John Heil, *Philosophy of Mind (Oxford: Oxford Press, 2011) 100*.

⁵⁵Hilary Putnam, “Psychological Predicates” in”, in John Heil, *Philosophy of Mind (Oxford: Oxford Press, 2011) 162*.

⁵⁶John Searle, “The Irreducibility of Consciousness”, in John Heil, *Philosophy of Mind (Oxford: Oxford Press, 2011) 703*

⁵⁷<https://plato.stanford.edu/entries/supervenience/> “there cannot be a A-difference without a B-difference

⁵⁸Colin, McGinn. “Can We Solve the Mind--Body Problem?” *Mind* 98, no. 391 (1989): 353. <http://www.jstor.org/stable/2254848>.

⁵⁹Sam Parnia “What is consciousness” <https://www.youtube.com/watch?v=NcCDIxFkAcY>

⁶⁰David, Eagleman, Are the Brain and Mind the same thing. Episode 1005 Closer to Truth - <https://www.youtube.com/watch?v=2i9UPTDUFJo>

⁶¹Ibid

⁶²Anesthetic action links consciousness to quantum vibrations - S. Hameroff - 6/11/2018 https://www.youtube.com/watch?v=VG8_hlnFdWM

⁶³Christiane de Moraes Smith, Can Consciousness be explained by Quantum physics. <https://singularityhub.com/2021/07/25/can-consciousness-be-explained-by-quantum-physics-new-research/>

1 phenomenon.⁶⁴ If anesthetics can temporally⁶⁵ suspend consciousness, then
 2 consciousness cannot be understood independent of neurons. We are aware that
 3 under anesthetics, consciousness can be suspended⁶⁶. Further, we know that
 4 sleep can temporally shut out our consciousness. We are also aware of what
 5 distinguishes us from animals, namely the phenomena of intentionality and
 6 subjectivity, present only as part of human nature or condition. The
 7 generation/genesis of consciousness or cognitive states is and will always
 8 remain a mystery. The brain is about 80% water, and for water to turn into
 9 consciousness⁶⁷ is a miracle.

10 If energy and mass are interchangeable, then energy is either an intrinsic
 11 part of matter or matter is an intrinsic part of energy. Similarly, the mind is
 12 either an intrinsic part of matter or matter is an intrinsic part of the mind,
 13 "consciousness and matter are different aspects of the same the same reality"
 14 ⁶⁸; as such, mind and matter can also be interchangeable. However, what we
 15 want to know is whether consciousness is an essential property of matter or an
 16 accidental property of matter. If consciousness requires a neural base, then only
 17 what is neural can be considered as consciousness. This would imply that if
 18 there is a God, then God would have to have a neural basis for consciousness.
 19 However, if the brain is understood as a sufficient condition, then it is possible
 20 to envision a non-neural basis for consciousness in the universe.

21 So there are two ways in which we can explain what consciousness is. The
 22 reductive explanation of consciousness is to define consciousness as it relates
 23 to what is physical, in that consciousness can be considered as a reductive
 24 given, an emergent property or a quantum phenomenon. The non-reductive
 25 explanation of consciousness is to define consciousness as it relates to what is
 26 metaphysical, in that consciousness can be understood it terms of its essence,
 27 namely intentionality, subjectivity, and intelligibility. So we can either
 28 explicate the reductive property of consciousness or the non-reductive essence
 29 of consciousness. What is the essence of consciousness? The essence of
 30 consciousness is (1) intentionality --what is common to each one of us, (2)
 31 subjectivity or the self --what is unique in each one of us. What is common in
 32 each one of us is intentionality, for all consciousness is consciousness about
 33 something". What is distinct in each one of us is the self or subjectivity along
 34 with qualia.

⁶⁴ Ibid

⁶⁵Anesthetics actions links consciousness to quantum vibrations (1846 gas anesthetics introduced). https://www.youtube.com/watch?v=VG8_hlnFdWM

⁶⁶Anesthetics and consciousness, Stuart Hammeroff <https://www.youtube.com/watch?v=NOhU6CZok34>

⁶⁷Colin, McGinn. "Can We Solve the Mind--Body Problem?" *Mind* 98, no. 391 (1989): 349. <http://www.jstor.org/stable/2254848>.

⁶⁸George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner,, (Toronto: University of Toronto Press,1990) 74

Essence/Existence Distinction

1
2
3 The second metaphysical distinction that has a reductive and a non-
4 reductive aspect to it is the essence/existence distinction. What is reductive is
5 the 'is' of identity or existence. What is non-reductive is its essence. Everything
6 that exists, exists with essence. So when we see something, we are aware of
7 either its existence or its essence. Most people observe the essence of what
8 exists. For essence implies existence but seeing the existence of something
9 does not imply one knows its essence. Essence//existence distinction is
10 possible only if its existence has a beginning. If an existent does not have a
11 beginning, then the essence of an existent would be inexplicable. However, if
12 an existent has a beginning, then we not only can make an ontological
13 distinction between essence and existence, we can also say that essence
14 precedes existence, if there is an intelligent cause for its existence. The
15 metaphysical distinction between essence and existence can be traced to
16 Plato⁶⁹. The world of Ideality defined the world for a long time and still does.
17 The question is can we separate essence from existence? What is common in
18 everything that exists is existence, but when we ask what exists, then it
19 separates one entity from everything else? Are essence and existence distinct?
20 When are they separable/inseparable? What does "essence precedes existence"
21 mean? Are there beings whose essence and existence are inseparable? Who
22 defines essence? Is essence part of existence? Can we talk about essence
23 independent of existence? When we begin to observe the world, what captures
24 our attention is either the existence of objects or the essence of objects. In
25 either scenario, we have to address the question which comes first. For either
26 essence precedes existence or existence precedes essence. To Plato, the world
27 of essence precedes the world of objects. In fact, to Plato, the world of objects
28 are mere copies of the world of essence. Reality at its best is the world of
29 essence or ideas. But to Sartre existence precedes essence⁷⁰. If the universe is
30 without a beginning, without cause or essence as Sartre would argue then it is
31 almost impossible to define essence⁷¹. That is why Quine argued for the
32 inexplicability of essence.⁷² Unless one is the creator of something, then it is
33 expected to be able to define the essence of something.

34 The physical eye can registrar the 'is' of existence, but the rational or
35 metaphysical eye is required to establish the 'is' of the essence. The 'is' of
36 identity or the 'is' of composition (water is H₂O) establishes the 'is' of existence,
37 but can the 'is' of identity or composition establish the 'is' of the essence? What
38 establishes the 'is' the essence. What role does the 'is' of composition play in
39 establishing the 'is' of essence. Does the essential properties of an object define

⁶⁹David Macintosh, Plato: A Theory of Forms. (In Plato's *Republic –The dividing line*)
(https://philosophynow.org/issues/90/Plato_A_Theory_of_Forms)

⁷⁰Jean-Paul Sartre, *Existentialism and Humanism* tr. Philip Mairet (London: Methuen & Co Ltd, 1949), 28.

⁷¹Jean-Paul Sartre, *Being and Nothingness*, trans. Hazel E. Barnes. (New York: Washington Press, 1977), 29, 725.

⁷²Willard Quine, *Word and Object*, (Cambridge MA: MIT Press, 2013) 23-72

1 the existence of the object or the essence of the object? Essence is elusive.⁷³
 2 When we look at a table, how much of the 'is' of composition determines the
 3 essence of the table? The table could be made of wood, metal, or stone and still
 4 be a table. Similarly, we know that consciousness has a neural base supported
 5 by the right temperature, pressure, oxygen, and nutrients. The question is how
 6 much of its neural base is the basis for intentionality and subjectivity. With
 7 reference to mental states, we see that the existence of mental states can be
 8 traced to a neural base, but when we look at the essence of consciousness, we
 9 notice that what is essential to consciousness, namely intentionality and
 10 subjectivity, are not a property of any particular neuron. We cannot say that the
 11 brain causes consciousness because consciousness is dependent on other
 12 entities that sustain life –such as temperature, pressure, oxygen, and nutrients,
 13 so the brain alone cannot cause consciousness. So emergence, supervenience,
 14 and quantum phenomena are terms attributed to explain how consciousness
 15 comes into being.

16
 17

18 **Concrete/Abstract Distinction**

19

20 The third metaphysical distinction that has both a reductive and a non-
 21 reductive aspect to it is the concrete/abstract distinction. Both the concrete and
 22 the abstract objects can be reductive; however, our understanding of what is
 23 concrete and abstract is non-reductive. In understanding the relationship
 24 between matter, mind, and metaphysics, we realize the concrete/abstract
 25 distinction further explicates the nature of reality. The concrete/abstract
 26 distinction defines how the mind categorizes reality. There are concrete objects
 27 (trees or shrubs) and abstract objects (like mathematics or morals). All reality,
 28 both concrete and abstract, has its beginning with the beginning of matter.
 29 However, abstract realities such as mathematics have their beginning related to
 30 matter only if we first accept that matter cannot be separated from the mind,
 31 nor can the mind be separated from matter. If this is accepted, then both
 32 concrete and abstract realities have their beginning with the beginning of
 33 matter. The mind gets information from the world of matter which is filled with
 34 shapes, sizes, and designs. This information is processed as mathematics in
 35 mind. As such, space, time, and mathematics all come together with the
 36 beginning of matter because we cannot separate matter from the mind, nor can
 37 we separate mind from matter. Matter and mind are not only interconnected but
 38 interchangeable because they are different aspects of the same reality⁷⁴. It is the
 39 mind that defines this metaphysical distinction. While laws of physics have
 40 their beginning along with the beginning of matter, the laws of mathematics
 41 seem to have no beginning⁷⁵. However, mathematics also has its beginning

⁷³Willard Quine, *Word and Object*, (Cambridge MA: MIT Press, 2013) 23-72

⁷⁴George Wald, "Consciousness and the Physical world" in *From Sentience to Symbols*, ed. John Pickering and Martin Skinner., (Toronto: University of Toronto Press, 1990) 75

⁷⁵Max Tegmark - Is Mathematics Invented or Discovered? <https://www.youtube.com/watch?v=ybIxWQKZss822>

1 with matter. The world of matter implicitly projects mathematics. We cannot
 2 separate matter from mathematics. If we connect matter with the mathematics,
 3 then it is easy to connect mathematics to the mind.

4 Without minds, there can be no mathematical truths, yet its truth is not of
 5 our making⁷⁶. Is $2+2=4$ true because we say so, or do we say so because it is
 6 true? It is not true because we say so, nor do we say so because it is true. We
 7 say $2+2=4$ because of how the mind understands the world of matter. At first
 8 glance, it seems there seems to be no reason to project the need for a beginning
 9 for mathematical truths—in that they seem to be ageless and timeless.
 10 However, realities such as mathematics begin with the beginning of matter, and
 11 by the information, the world of matter provides the mind through the
 12 transducers. It is the information from the world of matter that the mind
 13 interprets and understands as mathematics. If metaphysics deals with the nature
 14 of reality, then mathematics is metaphysics at its best. Mathematics is in every
 15 nook and corner of the world of matter or universe. Another way of looking at
 16 mathematics is to liken it to secondary qualities. Just like the transductions
 17 from the transducers are interpreted as color, smell, and sound; similarly, all
 18 the information the transducers generate is interpreted by the mind as shapes,
 19 numerals, and sets –or mathematics. While sound, smell, and sight (color) are
 20 considered as visible secondary qualities, mathematics can be considered as
 21 comprehensible secondary qualities. So just like we do not create color, sound,
 22 or smell, we do not create mathematics—it is simply how the mind interprets
 23 transductions sent by transducers to the brain. There is no place nor location for
 24 color out there or in your mind; similarly, there is no particular place or
 25 location for mathematics out there or reductively in mind.

26 We do not talk about the birth and death of triangles like we talk about the
 27 birth and death of stars⁷⁷ because the birth of the universe entails the birth of
 28 mathematics. It also means that matter and mind are necessary before one can
 29 talk about the realities of mathematics. Mathematics does not have an
 30 independent existence. It is an assertion the mind makes, yet it is not created by
 31 the mind; it is because of the way the mind understands the world of matter.
 32 Plato argued for an immortal mind for eternal realities such as triangles and
 33 circles do not have a beginning, but can be known only because of an eternal
 34 mind. However, in this paper, it is argued that all realities, including
 35 mathematics, have their beginning with the beginning of matter. The birth and
 36 death of stars create both the world of matter and mathematics.

37 There are both concrete and abstract objects, and we can understand the
 38 nature of both concrete and abstract objects. The question is, what gets our
 39 attention first—is it the objects or the nature of objects? Metaphysics deals
 40 with both the nature of the concrete and the abstract objects. But what is
 41 interesting about objects and the nature of objects, is that objects are visible,
 42 but the nature of objects is invisible. We can see circles but we have to

⁷⁶Michael, Dummett, “Truth” in Michael F. Goodman & Robert A Snyder, *Contemporary Reading in Epistemology* (NJ: Prentice Hall, 1993) 218

⁷⁷The platonic view is that triangles and circles are eternal and since we require a mind to know such realities then there must be an eternal mind in whose mind such realities exist.

1 comprehend the notion of circularity. It is in the understanding alone. One is
 2 out there, and the other is in one's mind. One has a place and location outside
 3 the mind; the other does not have a place nor location anywhere.

4 What do we understand when we hear the word 'one'? Do we see numerals
 5 (example: Roman numerals), or do we think of numbers? What do we see
 6 when we see a clock? Do we see the time of the day or think of the notion of
 7 temporality or eternity? When we see something circular, do we see a circle, or
 8 do we think of the concept of circularity? Similarly, what do we see when we
 9 see things --do we see the existence of objects, or do we understand the essence
 10 of the objects. What we see and understand of reality is the basis for defining
 11 reality. When we see a red object, do we see the color red, or do we
 12 comprehend the concept of redness. Metaphysics deals with the abstract, but
 13 the abstract is about our understanding of what exists. We do not have access
 14 to reality as is; we only have access to how we understand reality. That is why
 15 the analytical and questioning mind plays an important role in what is known
 16 about reality. Discussing the content of metaphysics in the context of the
 17 questions that initiate metaphysics provides the basis for the explicability of the
 18 nature of reality. Since metaphysics is our understanding of reality, there is no
 19 place and location for it outside our minds or inside our minds.

20 21 22 **Space/Time Distinction** 23

24 The fourth metaphysical distinction that has both a reductive and a non-
 25 reductive aspect to it is the space/time distinction. Particular space and
 26 temporal time can be understood as being reductive. But the concepts of space
 27 and time are non-reductive when we understand that matter cannot be
 28 actualized independent of space and time. As such, time and space begin
 29 together, and its beginning is tied up with the beginning of matter.⁷⁸ The
 30 beginnings of matter simultaneously necessitate space and time. When matter
 31 had its beginning, space and time can either be understood as being a necessary
 32 aspect of being or can be understood as an emergent aspect. We cannot have
 33 matter without space and time—for all matter occupies space in time. Space
 34 and time have a beginning, but it begins with the beginning of matter. (We
 35 cannot see space nor time but without it there would be no matter or life).

36 As such, all beings that have a beginning have their beginning in the
 37 beginning. All atoms that exist now had their beginning in the beginning. All
 38 beings share three space-related dimensions, namely length, breadth, and
 39 height. But when we begin to observe objects, we soon realize that we are
 40 missing something—the temporal dimension. Space and time are emergent
 41 properties with every existent. All matter/life exists in the context of space and
 42 time. A paradigm shift was required when space and time were considered
 43 fundamental to reality. Further, until recent times space and time were
 44 understood as two separate aspects of reality. But Einstein argued that they are
 45 inseparable and argued that they must be understood together, hence the space-

⁷⁸Iain Nicolson, *Unfolding Our Universe*, (Cambridge: University Press, 1999) 235

1 time notion.⁷⁹ Space and time begin with the beginning of beings. Time, like
 2 space, becomes a reality with the beginning of matter. The beginning of space
 3 and time can be traced back to the beginning of matter.

4 If (1) gravity wraps time and space⁸⁰, (2) if quantum mechanics is serious
 5 when it argues that an atom can be in two places at the same time⁸¹, and (3) if
 6 traveling at the speed of light stops time⁸², then the string theory can purport a
 7 theoretical possibility of a time machine that can go into the future or into our
 8 past⁸³. The theory of relativity purports that time dilates because of gravity—
 9 the atomic clock registrars' time dilation. Time goes faster the farther away you
 10 are from the earth's surface compared to the time on the surface of the earth.
 11 This effect is known as "gravitational time dilation."⁸⁴ While time begins to
 12 tick faster or slower once beings come into existence, consciousness is aware
 13 of how time passes one moment at a time and aware of timeless/abstract truths
 14 like mathematics and temporal truths such as aging. However, what must be
 15 noted is not only the relationship between matter, space, and time but the two
 16 important aspects of matter, namely gravity and the laws of physics. Gravity
 17 and laws of physics do not come before or after the existence of matter; it
 18 comes with the existence of matter. Gravity and the laws of physics cannot be
 19 understood independently of the physical world. Gravity and the laws of
 20 physics are an integral part of the physical world.

21 22 23 **Particular and Universal (properties)** 24

25 The fifth metaphysical distinction that has both a reductive and a non-
 26 reductive aspect to it is the particular/universal distinction. Here the particular
 27 is reductive, and the universal is not. Understanding the relationship of matter,
 28 mind, and metaphysics is to understand the particular/universal distinction.
 29 When we observe the world, we either see things as particulars or as
 30 universals. The particular/universal metaphysical distinctions can be traced
 31 back to how the mind processes what we perceive in understanding the nature
 32 of reality. When we see a red object, what do we see, the color red or the
 33 property redness? If we see a red object, then it deals with the particular, but if
 34 we see redness, then we are dealing with the universal. The question that
 35 necessitates the particular/universal distinction is to ask whether we see the
 36 color red or the property of redness? We cannot separate the particular from the
 37 universal. Seeing red is also understanding redness. Seeing a red object is
 38 different than seeing one red object among many red objects. How many

⁷⁹Ibid., 63

⁸⁰Iain Nicolson, *Unfolding Our Universe*, (Cambridge: University Press, 1999) 63

⁸¹Tim Folger, If an Electron can be in Two Places at Once, Why Can't you? <https://www.discovermagazine.com/the-sciences/if-an-electron-can-be-in-two-places-at-once-why-cant-you>

⁸²How does Time stop, <https://usm.maine.edu/planet/how-does-time-stop>

⁸³"Time Machines", Stanford Encyclopedia of Philosophy <https://plato.stanford.edu/entries/time-machine/>

⁸⁴Time Dilation—Einstein's Theory of Relativity Explained. <https://www.youtube.com/watch?v=yuD34tEpRFw>

1 objects are there that are red? If the answer is many, then the shared property
 2 becomes obvious. We either see specific things, or we see them as one among
 3 many objects it represents. Similarly, when we see a dog, we can see either a
 4 dog or one dog among many dogs. Other questions that necessitate such
 5 distinction--similarities and dissimilarities project the need to classify and
 6 distinguish one from the other. Specificity is the basis for identity, but
 7 properties (sameness) are the basis for what is universal. Universals are
 8 abstract concepts/properties and do not require space or shape⁸⁵, though they
 9 can be instantiated intangible objects in space and time. As such, what is
 10 universal can, unlike what is particular, be in two locations at the same time—
 11 because it is only a 'property'⁸⁶. Universals are properties that are shared by
 12 many objects, which is why they do not have to have a particular location. The
 13 mind can distinguish those properties in things and understand them by adding
 14 "ness" to the ends of words—such as redness. One distinctive distinction is that
 15 while what is considered as particular has a place and location in time, what is
 16 universal has no (particular) place or location in time. As such, unlike objects
 17 which cannot be in two places at the same time, universals can be in two places
 18 at the same time. Further, while objects are visible, what is considered as the
 19 nature of the objects is invisible.

20 One feature of the particular is identity, which can be defined as having
 21 either numerical identity or qualitative identity. Numerical identity speaks
 22 about remaining the same, yesterday, today, and tomorrow.⁸⁷ There can be no
 23 changes due to time. The clock is a good example of numerically being the
 24 same now and five minutes later—even though the time now is different than
 25 earlier. Qualitative identity speaks about the state of being the same in nature
 26 or quality (two pieces of chalk). The properties or qualities are the same⁸⁸.
 27 However, just because something is the same, it does not mean it is one and the
 28 same. Being exactly the same does not imply being one and the same.

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31 **Contingent/Necessary Distinction**

32

33 The sixth metaphysical distinction that has both a reductive and a non-
 34 reductive aspect to it is the contingent/necessary distinction. What is contingent
 35 can be reductive and what is non-contingent is understood as being non-
 36 reductive. In understanding the relationship between matter, mind, and
 37 metaphysics, we realize that certain existents are contingent, and certain
 38 existents are necessary. The mind is aware that concrete and abstract objects
 39 either have a beginning or do not have a beginning. Either they are dependent
 40 or not dependent; true in a given world or true in all possible worlds. As such,

⁸⁵Albert Cacullo “The Contingent Identity of particulars and universals, *Mind*, Oct, New Series, Vol. 93. No372)Oct., 1984) 533

⁸⁶Doughas, Ehring. *Analysis*, Oct. 2004, Vol. 64, No. 4 (Oct', 2004) 327

⁸⁷Oliver Black, London, “Personal Identity, Numerical and qualitative” <http://sammelpunkt.philo.at/id/eprint/2853/1/black.pdf>

⁸⁸“Numerical identity does not require Qualitative identity” <http://www.rightreason.org/2009/numerical-identity-does-not-require-qualitative-identity/>

1 all beings are either contingent or necessary. Being contingent implies-- having
 2 a beginning, being dependent, which could have been otherwise, and being true
 3 or false in a given world. Being necessary implies --having no beginning, being
 4 non-contingent, cannot be otherwise, and is being true in all possible worlds.
 5 Necessity can further be understood as being factual/existential; physical/ nomic,
 6 metaphysical/logical, Logical or metaphysical necessity can be explained by laws
 7 of thought⁸⁹, physical or nomic necessity can be explained by laws of physics⁹⁰,
 8 Factual or existential cannot be explained because we cannot explain factual
 9 necessity or brute facts—not because we don't know its explanation but
 10 because there isn't an explanation⁹¹. Why anything exists or necessarily exists
 11 cannot be explained. Logical necessity purports that its negation involves a
 12 contradiction; metaphysical necessity purports that its non-existence is
 13 impossible—it cannot be otherwise. Physical necessity purports that what is, is
 14 what it is. Water is H₂O—it is what it is. As such, what is, is explicable but
 15 why it is what it is, is inexplicable. That is why while physical necessity is
 16 explicable, factual necessity is inexplicable.

17 What is the relationship between the three types of necessity?
 18 Metaphysical necessity sits between logical and physical necessity⁹². Logical
 19 necessity entails metaphysical necessity, not vice versa; metaphysical necessity
 20 entails physical necessity, but not vice versa.⁹³ Necessity displays itself in
 21 human understanding in many ways. Necessity is the property of existing
 22 necessarily—non-contingently.. A further distinction can be made between *a*
 23 *priori necessity* and *a posterior necessity*. Until 1980 only *a prior* necessity
 24 was defined as being true in all possible world. But Kripke argued that once we
 25 discovered that water is H₂O, then only what is H₂O can be called, and can be
 26 called water in all possible world.⁹⁴ All we can say is state what there is in the
 27 universe and how the universe exists, but we will never be able to explain why
 28 things exist or why anything exists.⁹⁵

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31 Conclusion

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The single characteristic of metaphysics is the non-reductive account of its content, for all metaphysical distinctions and assertions are a non-reductive description of a reductive given. Consciousness and the content of consciousness/

⁸⁹Daniel Nolan, “The extent of Metaphysical Necessity” , Philosophical Perspectives Vol. 25, Metaphysics (2011), pp. 321

⁹⁰Alexander Roberts “From Physical to Metaphysical Necessity” Mind. (Vol 00. 2021.) 2
 Mind, fzab032, <https://doi.org/10.1093/mind/fzab032>. Published 08 December 2021.

⁹¹Synthese 00: 1–18, 2003. © 2003 Kluwer Academic Publishers. Printed in the Netherlands.
 FIRST PROOF. SYNT 86. PIPS No. 5150798, TeX2K (syntkap:humnfam) v.1.2 synt86.tex;
 21/10/2003; 17:01; p.1

⁹²Metaphysical necessity, https://en.wikipedia.org/wiki/Metaphysical_necessity

⁹³Ibid.

⁹⁴Saul A.Kripke, *Naming and Necessity*, (Cambridge: Harvard Univeristy press, 1980) 116, 128

⁹⁵The Map of Particle Physics | The Standard Model Explained <https://www.youtube.com/watch?v=mYcLuWHzfME>

1 metaphysics are distinct. One is neural or reductive, and the other is non-neural or
 2 non-reductive. Because the content of consciousness is non-reductive, we can
 3 establish the truth of metaphysical claims only in the context of the questions that
 4 necessities such assertions. While reality and the nature of reality are the same, the
 5 mind makes this metaphysical distinction in defining the nature of reality. The
 6 questions associated with understanding the nature and relationship between
 7 matter, mind, and metaphysics allow us to make the following metaphysical
 8 assertions related to the concrete or abstract objects: (1) Matter, space, fields,
 9 time along with mathematics, have their origin together. Mathematics like
 10 space and time do not have a special beginning. Space, time, and mathematics
 11 have their beginning with the beginning of matter (not before or after). (2)
 12 Mass cannot be increased or decreased; energy cannot be created or destroyed;
 13 mass and energy are interchangeable (3) Consciousness is a brain process
 14 hence reductive, but the content of consciousness, namely the content of
 15 intentionality or subjectivity, is non-reductive. While the physical eye can
 16 establish the 'is' of existence or what is reductive, the metaphysical eye
 17 establishes the 'is' of the essence, which can be considered either as an essential
 18 or emergent property of matter.

19 Because property dualism purports that there is only one substance with
 20 two properties, namely the physical and the mental phenomena, we can argue
 21 that matter and mind are inseparable. When consciousness is understood as a
 22 reductive given, it can be understood as a neural state, an emergent property, or
 23 a quantum phenomenon. When consciousness is understood as a non-reductive
 24 given, the content of intentionality, subjectivity/qualia, and creativity can be
 25 understood as a phenomenological or existential given. The reductive aspect of
 26 consciousness can only establish whether one is alive or dead. It cannot establish
 27 who is alive or consciousness's content. The non-reductive explanation of
 28 consciousness establishes who is alive and can explicate the content of
 29 consciousness or intentionality. However, what will always remain a mystery is
 30 (1) how a material brain can generate an immaterial self, (2) how the determinate
 31 world can create an indeterminate mind, (3) how insentient atoms can generate
 32 sentient intentionality, subjectivity, creativity, (4) how a sense-receptory brain that
 33 processes sense-evident data generate a mind that creates or processes self-evident
 34 truths—such as mathematics, morals, and metaphysics, (5) why it takes a brain
 35 that is made of insentient atoms or neurons to create a mind that defines what an
 36 atom or neuron is.

37 The reductive world of physics becomes the non-reductive world of
 38 metaphysics because of how the mind understands the world of matter based
 39 on the questions the mind entertains. While what is physical remains the same,
 40 what is metaphysical is subject to constant change and revision because
 41 questions related to the nature of reality are always in flux. The ontological
 42 acceptance of both the physical and mental phenomena as an empirical and a
 43 phenomenological given is the basis for why physics and metaphysics are
 44 inseparable. When the essence of consciousness, namely intentionality and
 45 subjectivity, are considered as an essential property of matter and not an
 46 accidental property of matter, intentionality or metaphysics can be understood

1 as a phenomenological given. Reality and the nature of reality are the same;
 2 one is an empirical given, the other being a phenomenological or existential
 3 given.

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