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Emergentism as an Option in the Philosophy of Religion: Between Materialist Atheism and Pantheism

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Abstract: Among worldviews, in addition to the options of materialist atheism, pantheism and personal theism, there exists a fourth, "local emergentism". It holds that there are no gods, nor does the universe overall have divine aspects or any purpose. But locally, in our region of space and time, the properties of matter have given rise to entities which are completely different from matter in kind and to a degree god-like: consciousnesses with rational powers and intrinsic worth. The emergentist option is compared with the standard alternatives and the arguments for and against it are laid out. It is argued that, among options in the philosophy of religion, it involves the minimal reworking of the manifest image of common sense. Hence it deserves a place at the table in arguments as to the overall nature of the universe.

Keywords: Emergence; pantheism; personal theism; naturalism; consciousness

1. INTRODUCTION

The main options among world views are normally classifiable as either materialist atheism, pantheism (widely understood) or personal theism. According to materialist atheism, there exists nothing except the material universe as we ordinarily conceive it, and its properties are fully described by science (present or future). According to personal theism, there exists a separate entity (or entities) of a much higher form than those found in the

material universe, a god or gods. Between materialist atheism and personal theism lies a wide spectrum of views loosely describable as pantheisms: those in which the universe or Absolute has semidivine though non-personal attributes greater than humankind—views like Plotinus's Neoplatonism, Spinoza's pantheism, the Absolute Idealism of the late Victorians, panentheism, panpsychism, deep ecology and the Confucian concept of the Mandate of Heaven. In recent times, views of the same general type have been revived in books such as John Leslie's *Value and Existence*, Thomas Nagel's *Mind and Cosmos*, Ronald Dworkin's *Religion Without God*, Antony Flew's *There is a God*, and Tim Mulgan's *Purpose in the Universe,* which deny personal theism but argue from mental, ethical and aesthetic features of the universe to some non-materialist view of the universe as a whole. These theories are all forms of "ultimism" in the sense of Schellenberg—the minimal view that "there is a reality metaphysically and axiologically ultimate (representing the deepest fact about the nature of things and also unsurpassably great)."[1]

Yet pantheism, even understood as widely as that, does not fill up all the logical space between materialist atheism and personal theism. There is an important but little-discussed gap between materialist atheism and pantheism, occupied by what could be called "local emergentism" or "sub-pantheism". We will call it "emergentism" for short, although that term has some other uses, especially in the philosophy of mind (as described in the next section).

According to emergentism, materialist atheism used to be true. One billion years ago, the universe contained, to the best of our knowledge, only material entities of the kind familiar to science, with the properties known to science. Then a series of unlikely but chance events took place, and it was revealed that the properties of matter contained the potentiality to produce, in one small corner of the universe, entities of a semidivine though limited nature—human consciousnesses with powers of reason and objective moral worth, capable of understanding such concepts as divinity. They are entities of an entirely different kind from those admitted by materialist atheism. But they exist only locally—they do not confer on the universe

[1] John L. Schellenberg, *The Wisdom to Doubt: A Justification of Religious Skepticism* (Ithaca: Cornell University Press, 2007), 2.

outside themselves any properties that it did not already have, nor do they connect with or mirror any divinity elsewhere.

The emergentist view of the process of the coming into being of consciousness is an extension of what is known about the emergence of scientific properties. The universe might have consisted of all plasma, or only of hydrogen and helium atoms, but, the tuning of its constants being what it was (by chance), more complex atoms and molecules were able to form by natural processes. Their properties are determined by the solutions of the Schrödinger Equation, and so absolutely determined by the laws of physics. At a later period, further unlikely collocations of atoms produced biochemistry, whose new properties are again determined by the chemistry and physics of its components. Later again, an unlikely evolutionary path led to the regular appearance of human zygotes which, in the course of normal development, regularly give rise to consciousnesses with rational thought processes and moral worth. There are no causal forces behind these evolutionary processes other than the natural laws and random processes described in physics and in Darwinist theory, but the result is, as a strict matter of the laws of nature, the emergence of a fundamentally different form of existence.

Emergentism differs from panpsychism in denying there was any mental aspect to the physical entities that existed prior to minds arising. By analogy, to say that hydrogen atoms can in some circumstances combine to make helium atoms is not to take a panheliumist view of hydrogen clouds. Hydrogen atoms have only hydrogen properties, irrespective of what potentialities the laws of nature provide for them. Similarly, the physical is purely physical, irrespective of what potentialities natural laws may have in store for it.

Emergentism also differs from Searle's "biological naturalism" (although that is its nearest neighbour on the spectrum in the materialist atheist direction). That theory has a similar view of the evolution of genuine consciousness as a "system property" of brains, but is committed to strict naturalism. Thus Searle takes consciousness to be a scientific property of how brains act overall, similar to the way liquidity is a scientific property of masses of water molecules at certain temperatures.[2] Similar is the position

[2] John R. Searle, "Biological Naturalism," in *Blackwell Companion to Consciousness*, eds. M. Velmans and S. Schneider (Cambridge, Mass: MIT Press, 2007). Also, see

of "religious naturalism", which holds that the scientific story of the cosmos is the complete one, but that religious attitudes and practices are nevertheless appropriate.[3] Emergentism is not naturalist in that sense or in any way reductionist about consciousness. It takes consciousnesses, though caused by natural processes, to be *sui generis* and to possess "queer" properties such as moral worth which, for Humean reasons, cannot be part of the scientific world picture.

Emergentism is agnostic about future developments. So far, the highest beings in the universe (known to us) are humans. That may continue to be the case until their extinction. Or there may be yet unrealised natural possibilities of further emergence, such as that consciousnesses may somehow merge to create a "noosphere", or may build artificial intelligences which can themselves construct some different form of reality. If those suggestions were added to emergentism, it would resemble such theories as those of Hegel, Teilhard de Chardin and Samuel Alexander, which saw the universe progressing of necessity from a non-rational past to a super-rational future, in which the universe becomes in some sense self-aware. But those possibilities are not part of emergentism itself. Even if those futures did come to pass, emergentism would take a different attitude to them. For those thinkers, there is some positive directionality to the universe—"a higher type unfolded by the onward pressure of Time", as Samuel Alexander put it[4]—a view which tends towards pantheism (or perhaps more exactly towards an "emergent panentheism" that preserves some distinction between the world and God[5]; whereas for emergentism any progress is, like the emergence of life by Darwinian evolution, a matter of chance. In any case, such possibilities are now unknown, and emergentism does not pretend to know them.

The aim of the present article is not to defend emergentism as the truth or likely truth, nor to refute it, but simply to establish its *prima facie* claim

discussion in J.P. Moreland, "Searle's Biological Naturalism and the Argument from Consciousness," *Faith and Philosophy* 15 (1998).

[3] See Ursula Goodenough, *The Sacred Depths of Nature* (New York: Oxford University Press, 1998), and "Who is a religious naturalist?" *Theology and Science* 15 (2017).

[4] Samuel Alexander, *Space, Time and Deity* (New York: Humanities Press, 1927), 381.

[5] For example, see Philip Clayton and Arthur Peacocke, eds., *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World* (Grand Rapids, MI: Eerdmans, 2004).

to serious consideration. If we wish to lay out the menu of options as to world views, perhaps with a view to applying Bayesian considerations to decide among them, it is necessary to first recognise and understand the range of reasonable candidates. Emergentism has not so far been properly focused on (in the philosophy of religion, as opposed to the philosophy of mind). It deserves to be.

2. SENSES OF EMERGENCE IN PHILOSOPHY AND SCIENCE

Although emergentism has not been a well-recognised option in the philosophy of religion, emergence has been a much discussed concept in the philosophy of science and in the philosophy of mind. A brief review will both clarify the meaning of emergentism as applicable to the philosophy of religion and identify what in the discussion of emergence in general is relevant to the philosophy of religion. It will be argued that emergence in science is reasonably well understood, but not relevant, while emergence in the philosophy of mind is relevant, but not sufficiently well understood to be of much help. Many of those involved in the discussion hoped to understand the difficult case, the emergence of consciousness, in terms of easier cases, such as the emergence of chemistry from physics. It will be argued that that project has not been successful.

Certainly *some* cases of emergence seem easy to understand and to be philosophically unproblematic. The general idea of emergence is that some genuinely novel property (or substance or process) arises as a matter of necessity out of something that lacks that property. An instance is the way that chaotic behaviour in dynamical systems arises from simple rules.[6] The emergence is wholly mathematical: simple rules apply over and over, and the complex behaviour that arises is novel, but determined as the global effect of many simple local actions. It is hard to calculate with, but not hard to understand in principle—no harder than understanding that many small

[6] James Gleick, *Chaos: Making a New Science* (New York: Viking, 1987), chap. 1. In the philosophical literature, it is called "weak emergence", see Mark Bedau, "Weak Emergence and Context-sensitive Reduction," in *Emergence in Science and Philosophy*, eds. A. Corradini and T. O'Connor (New York: Routledge, 2010), sec. 4, or "epistemological emergence", see Philip Clayton, "Conceptual Foundations of Emergence Theory," in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion*, eds. P. Clayton and P. Davies (Oxford: Oxford University Press, 2008).

movements in one straight line add up to a large movement in the same straight line.

There are strong reasons to believe that many, but not all, of the important scientific cases of emergence are no more obscure than that. The emergence of chemistry from physics appears to be explicable without remainder as the properties of solutions of the Schrödinger equation.

Dirac asserted in the first years of quantum mechanics that "The underlying physical laws necessary for the mathematical theory of a large part of physics and the whole of chemistry are thus completely known, and the difficulty is only that the exact application of these laws leads to equations much too complicated to be soluble."[7] The pioneers of quantum chemistry believed that "In so far as quantum mechanics is correct, chemical questions are problems in applied mathematics."[8] Their optimism has been strongly confirmed as increases in computational power permit approximate solutions of the equations, which are found to agree with experimental results and to predict the properties of molecules yet to be made. In that case, chemical properties arise from (quantum) physical ones in exactly the same way as chaos emerges from simple rules. Solving a differential equation such as the Schrödinger equation (whether exactly or approximately) is simply extracting the global structure implied by the local structure, which is the business solely of mathematics.[9] Being mathematics, it is unmysterious.

That already casts a more reductionist light on some of the examples of emergence that were intended to provide models for the emergence of mind. George Henry Lewes's initial idea of emergence was to contrast the emergence of the novel properties of water from hydrogen and oxygen with the merely mechanical "resultant" of the sums of forces.[10] Similarly Searle

[7] P.A.M. Dirac, "Quantum Mechanics of Many-Electron Systems," *Proceedings of the Royal Society A* 123 (1929): 714.

[8] Henry Eyring et al., *Quantum Chemistry* (New York: Wiley, 1944), iii. Despite warnings by some philosophers of chemistry that the explanation is not yet complete, see Robin Hendry, "Prospects for Strong Emergence in Chemistry," in *Philosophical and Scientific Perspectives on Downward Causation*, eds. M.P. Paoletti and F. Orilia (New York: Routledge, 2017).

[9] James Franklin, "Global and local," *Mathematical Intelligencer* 36, no. 4 (Dec. 2014).

[10] George Henry Lewes, *Problems of Life and Mind*, vol. 2 (Boston: Osgood, 1875), 368-370.

distinguished between system properties such as shape, weight and velocity that can be deduced from the way the components are arranged from "causally emergent system features" like solidity, liquidity and transparency (the latter to be compared with the emergence of mind).[11] We now know that solidity, liquidity and transparency arise in the same way as weight arises from addition of the weight of components: it is just mathematics working itself out. That is why quantum mechanics proved such a blow to the British emergentism of C.D. Broad and Samuel Alexander—the emergence whose mysteriousness they sought to emphasise had been demystified.[12]

It is likely—though less certain given the complexity of the subject-matter—that the same sort of merely mathematical emergence is responsible for the way the properties of living things arise from biochemistry. Organic chemistry is just chemistry, but the complex potentialities of carbon bonding imply the great variety of organic molecules up to proteins and DNA, while the necessity of protein folding produces properties that are sufficient for many aspects of life.[13] The project of explaining the properties and activities of living things in terms of the chemical, physical and resulting geometrical properties of their components is going very well.

At a higher level, there is also good progress on understanding how social and economic phenomena emerge from individual psychology. Game theoretical considerations allow us to understand how interpersonal communication and social properties like prices and political entities are generated, again in a purely mathematical way, from individual minds interacting with and second-guessing one another.[14]

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[11] John R. Searle, *The Rediscovery of the Mind* (Cambridge, Mass: MIT Press, 1992), 111-112.

[12] Brian P. McLaughlin, "The Rise and Fall of British Emergentism," in *Emergence or Reduction? Prospects for Nonreductive Physicalism*, eds. A. Beckermann, H. Flohr, and J. Kim (Berlin: De Gruyter, 1992), 54-55.

[13] For example, see Bruce Alberts et al., "The Shape and Structure of Proteins," in *Molecular Biology of the Cell,* 4th ed. (New York and London: Garland Science, 2002). https://www.ncbi.nlm.nih.gov/books/NBK26830/.

[14] For example, see Keith R. Sawyer, *Social Emergence: Societies as Complex Systems* (Cambridge: Cambridge University Press, 2005), and John Searle, *Making the Social World: The Structure of Human Civilization* (New York: Oxford University Press, 2010).

For present purposes, it is not important whether the projects of explaining life as emergent from biochemistry and social life as emergent from individual decisions are totally successful. What is significant is only that it is clear how they are supposed to work and that they show good promise of explaining at least a large part of the phenomena they are intended to explain.

What needs to be examined is whether those reasonably well-understood forms of emergence provide a model for the case of emergence that is the key to emergentism as a position in the philosophy of religion, the emergence of mind and ethics from living matter. It will be argued that it does not, and that research over the last century has shown the stark contrast between the gradually better-known cases of emergence just discussed, and the anomalous case of mind. Discussion will be left to the section on reasons against emergentism.

3. REASONS FAVOURING EMERGENTISM

The great strength of emergentism (in the philosophy of religion) is that it takes things to be more or less as they seem. Personal theism has a hidden God whose existence must be inferred or taken on faith. Pantheism and panpsychism attribute purpose and some measure of divinity to what looks like, frankly, a pretty ordinary pile of rocks. Materialist atheism requires a savage and on the face of it implausible deconstruction of consciousness and ethics as a mere concourse of atoms and evolved custom of tribes. Even its supporters have generally admitted a large explanatory gap between purely material base and mental and ethical superstructure; as D.M. Armstrong says, a materialist can admit that ordinary experience (such as of mental images) involves the illusion of the truth of anti-materialism (which then needs to be explained away).[15] John Mackie's account of why

Classically it is found in Kurt Lewin, "Frontiers in Group Dynamics: Concept, Method and Reality in Social Science; Social Equilibria and Social Change," *Human Relations* 1 (1947). For an analysis, see Georg Theiner and Timothy O' Connor, "The Emergence of Group Cognition," in *Emergence in Science and Philosophy* eds. A. Corradini and T. O'Connor (New York: Routledge, 2010).

[15] David M. Armstrong, "The Headless Woman Illusion and the Defence of Materialism," *Analysis* 29 (1968). For further discussion, see Martine Nida-Rümelin, "What about the Emergence of Consciousness Deserves Puzzlement?" in *Emergence in Science and Philosophy* eds. A. Corradini and T.O' Connor (New York: Routledge, 2010).

any kind of objective moral values would be metaphysically "queer" entities in a materialist universe is well-known.[16]

Emergentism, on the other hand, takes things to be much as they seem. Rocks and galaxies are just rocks and galaxies. Humans, on the other hand, are a quite different kind of being: consciousness is, as it seems to be, truly unique, quite unlike anything that existed in the universe beforehand. That much is the thesis of emergentism in the philosophy of mind. But it is natural to add the objectivity and emergence of ethical properties, based on the loosely Kantian idea of the supervenience of the moral worth of persons on their rationality (or closely related properties such as their capacity for free action on the basis of practical rationality). Kantian claims that man is "an end in himself, that is, he possesses a *dignity* (an absolute inner worth) by which he exacts *respect* for himself from all other rational beings in the world"[17] can be taken literally. The death of a human is a tragedy, but the explosion of a lifeless galaxy is merely a firework. Emergentism preserves that distinction, whereas materialist atheism threatens to undermine it and theism merely adds an external divine commendation for what should be already obvious and intrinsic. Emergentism can thus reasonably claim to be the world view which requires the most minimal reworking of the manifest image of common sense.

The regularity with which zygotes grow into persons with consciousness (unless some medical cause prevents it) is in tune with the emergentist story. *Prima facie*, there is no need for the infusion of a soul by an external divinity. The embryo body develops gradually, and then as the biological structure becomes capable of supporting it, automatic responses, then feelings, then higher cognitive functions develop in parallel with bodily progress. If ontogeny recapitulates phylogeny, as it may do in this case, there was a similar, naturally determined, development of consciousness from biological matter over a long time scale. In both the short and long time scales, the apparent gradualness of biological and mental development side by side (or rather exactly co-located) suggests a

[16] John Mackie, *Ethics: Inventing Right and Wrong* (Harmondsworth: Penguin, 1977), 38.

[17] Immanuel Kant, *The Metaphysics of Morals*, trans. M. Gregor (1797; repr., Cambridge: Cambridge University Press, 1991), 186.

close connection between the two, with the necessity of natural law. It suggests too that if an identical entity came to be by some other causal path, for example if we constructed a zygote molecule by molecule with a finely detailed 3D printer, the result would be expected to possess all the properties of a naturally-occurring zygote, including growing a consciousness. If that is all true, the most reasonable conclusion is that the consciousness-producing system is a fully natural process, as emergentism holds, however much we might emphasise the uniqueness of consciousness and ethical worth.

Finally, emergentism supports the autonomy of ethics—its autonomy, that is, both from divine commands and from natural science. Since Socrates's discovery of the Euthyphro Dilemma, it has been problematic to explain what God and his commands could have to do with ethics, except perhaps at the margins. External commands seem the wrong kind of thing to make something good.[18] On the other hand, the extensive work on Hume's is-ought gap shows how ethics is autonomous also from purely naturalist properties of things, as revealed by science.[19] An emergentism in which ethical properties such as worth supervene on essential human properties such as rationality and free will accords with the ideas commonly taken to underlie usual morality and human rights.[20] Murder is wrong, in the first instance, because the victim's being dead is an evil for him, and that is so because of his intrinsic worth. It seems that the commands of God or man cannot make that so, nor make it be otherwise. And if other humans emerged by any process, natural, artificial or divine, murdering them would equally be wrong, because of their intrinsic worth and hence their right to remain in existence when possible. Emergentism provides a self-contained story about how beings of ethical worth arose, without the need to postulate any external creative agencies, nor to explain

[18] David O. Brink, "The Autonomy of Ethics," in *The Cambridge Companion to Atheism*, ed. M. Martin (Cambridge: Cambridge University Press, 2006).

[19] Frank Jackson, "Autonomy of ethics," in *International Encyclopedia of Ethics* (Wiley, 2013). https://onlinelibrary.wiley.com/doi/10.1002/9781444367072.wbiee015.

[20] See Alan Donogan, *The Theory of Morality* (Chicago: University of Chicago Press, 1977), 65-66, and Nicholas Wolterstorff and Terence Cuneo, "Grounding the Rights We Have as Human Persons," in *Understanding Liberal Democracy: Essays in Political Philosophy,* eds. N. Wolterstorff and T. Cuneo (New York : Oxford University Press, 2012), 218-220.

how, if they did exist, they could play any role in interfering with the intimate and necessary connection between a being's intrinsic natural properties and its ethical worth.

One consequence for philosophy of religion is that if emergentism is a viable option, there can be no "moral argument for God".

4. REASONS AGAINST EMERGENTISM

The initial reasons against emergentism in general are those that have always stood in the way of its subthesis, emergentism in the philosophy of mind. They are summed up in McGinn's well-known dictum that the human brain is "just the wrong kind of thing to give birth to consciousness. You might as well assert that numbers emerge from biscuits or ethics from rhubarb."[21] The logical gap[22] between naturalist cause (physical reality) and non-naturalist effect (consciousness and ethical worth) is very large. A century of work that better understands each side of the gap has not narrowed it. Physical processes, evolved adaptive behaviour and game theoretical "altruism" are on one side of the gap; consciousness, action on the basis of recognition of reasons, and objective ethical worth are on the other. The more we have come to understand what is on each side, the more mysterious has become the suggestion that the second can emerge from the first.

The gap is most discussed with respect to consciousness itself. The extensive work on the "hard problem" of consciousness, from Descartes to the present, is designed to shore up the intuition that consciousness really is *sui generis*, and its emergence is not like the emergence of life from chemistry.[23] Only a very strong *a priori* commitment to naturalism normally issues in reductionist views of consciousness, and the details of

[21] See Colin McGinn, "Consciousness and Cosmology: Hyperdualism Ventilated," in *Consciousness: Psychological and Philosophical Essays*, eds. M. Davies and G.W. Humphreys (Oxford: Blackwell, 1993), 160 and J.P. Moreland, *Consciousness and the Existence of God* (New York: Routledge, 2008).

[22] Referred to as "explanatory gap", see Joseph Levine, "Materialism and Qualia: The Explanatory Gap," *Pacific Philosophical Quarterly* 64 (1983). Also, see Martine Nida-Rümelin, "What about the Emergence of Consciousness Deserves Puzzlement?"

[23] David Chalmers, "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies* 2 (1995).

how the brain is supposed to give rise to it are left to ever more speculative future science.

That lack of understanding is only deepened by the efforts of emergentists to explain how consciousness and rational thought might arise from the brain. A leading attempt is William Hasker's *The Emergent Self*.[24] It exposes powerfully the defects of dualism and the inability of materialism to account for free action on the basis of reasons. But its only suggestion on how the emergence of mind works is that it is something like a magnetic field, "as a magnet generates a magnetic field, so the brain generates its field of consciousness".[25] Hasker mentions controversies on the ontology of fields, but prefers his analogy to keep to a naïve level of physical understanding. That is uninformative just because magnetic fields are merely physics, so the analogy has nothing to say about the hard question, that is, how something that is admitted to be so unlike the physical can emerge from it. Even if we did understand fully how physical fields arise, we would have made little advance on the hard problem of mentality.

But in addition to those well-known issues in the philosophy of mind, it is not just consciousness and qualia themselves that create a problem. Thinking something for reasons, and acting freely for reasons, appear to involve a different order of reality from being impelled by causes. Kant points out that there is something incoherent in believing for objective logical reasons the proposition that one's beliefs are determined by changeable physical causes rather than reasons; similarly it is very difficult to act as if one's actions are not free.[26] In developing the argument (as an argument against materialism) Hasker asks us to imagine a zombie-world…

> indistinguishable from the actual world in all physically observable respects, but completely lacking in mentality. In such a world

[24] William Hasker, *The Emergent Self* (Ithaca: Cornell University Press, 1999).

[25] Ibid., 190.

[26] Immanuel Kant, "Review of Schulz's Attempt at an Introduction to a Doctrine of Morals for All Human Beings Regardless of Different Religions," in *Immanuel Kant: Practical Philosophy*, trans. M.J. Gregor (1783; repr., Cambridge: Cambridge University Press, 1996). For the clarification of the argument, see Allen Wood, *Kantian Ethics* (New York: Cambridge University Press, 2008), 131-132.

> organisms would still flee from danger, seek food and sex, and complain about the weather (or emit sounds interpretable as complaints about the weather), just as they do in the actual world. The lack of any actual subjective states would make *no difference whatever* to the physical course of events, or to the survival or perishing of any creature. What this means is that, given the physicalist assumption, *the occurrence and content of conscious mental states such as belief and desire are irrelevant to behavior and are not subject to selection pressures*.[27]

Fitting rational thought and free action into materialist atheism has always been recognised as very difficult. But it is hard to see how emergentism is in a better position. In principle, it does have more resources, since it admits more kinds of reality than materialist atheism. But it must explain how to deploy those resources to account for rationality and freedom. Simply saying "they emerge" gives no insight into what could be happening.

The equally extensive work in support of Hume's is-ought gap is similarly intended to show that ethics, including the ethical worth of persons, is also *sui generis*, and not possibly exhausted by, or logically implied by, non-ethical properties. That is aimed initially at materialism, but as with rationality, emergentism has a problem explaining how it can do better.

We understand, in principle and in some degree of detail, how biochemistry gives rise to life. We do not understand in the least how life can give rise to consciousness, logical reasoning, ethical intuitions, free actions, or understanding itself. Emergentists have not offered a clear account of how they propose to bridge these gaps.

Our lack of comprehension is pointed up by what might seem at first a parallel case, the way in which numerical computation arises from electronics in a calculator. The succession of numerals on the display can be described both as the deterministic effects of electronic circuitry and electrical impulses, and as the addition of numbers. In one way, that parallels the way in which logical reasoning in the brain can arise from the action of neurons: the reasoning (respectively calculation) has to be

[27] William Hasker, *The Emergent Self*, 78-79.

supported by a sufficiently structured neuronal (respectively electronic) process. But there is a significant flaw in the parallel. In the case of the calculator, not only is the mind of an engineer needed to design and build the correlations between electronic processes and addition in the Platonic realm of numbers, but also a mind is needed to interpret the display as numerical symbols signifying numbers. Flickering lights on a display are not numbers. They are only physical patterns, which have to be interpreted by a mind as discrete symbols representing numbers. But logical reasoning in the brain is self-interpreting. It knows itself as being logic—in Kantian terms, it involves not only having reasons but recognising them as compelling reasons.[28] That is what is strange about it, and what makes it a central exhibit in the contrast between the ways of consciousness and the ways of physics.

The Artificial Intelligence project has also reinforced the sharpness of the break between non-mind and mind, though it was premised on overcoming it. The better we understand the difference between adaptive behaviour, imitable by computer, and true mentality, the stronger the distinction appears. Artificial Intelligence has succeeded in imitating many effects of human thinking, but it does so by workarounds that we, the human observers who did the programming, can see are unlike actual thinking. It has proved to be quite possible to program adaptive behaviour (sometimes tendentiously called "intelligent" behaviour), in devices like smart bombs. It is possible for google translate to make a fair imitation of language translation by statistical analyses of vast corpora of human-translated texts. But the better we understand the algorithmic and statistical tricks by which such feats are accomplished, the more we see the difference between them and human conscious rational thought. The contrast is most evident with understanding itself—the human mental act of understanding why something must be so. In the following diagram, we can not only see *that* $2 \times 3 = 3 \times 2$, we can understand why 2×3 *must be* 3×2[29]:

[28] Henry E. Allison, "Kant's Refutation of Materialism," *Monist* 72 (1989), sec. 3.

[29] Catherine Legg and James Franklin, "Perceiving Necessity," *Pacific Philosophical Quarterly* 98 (2017).

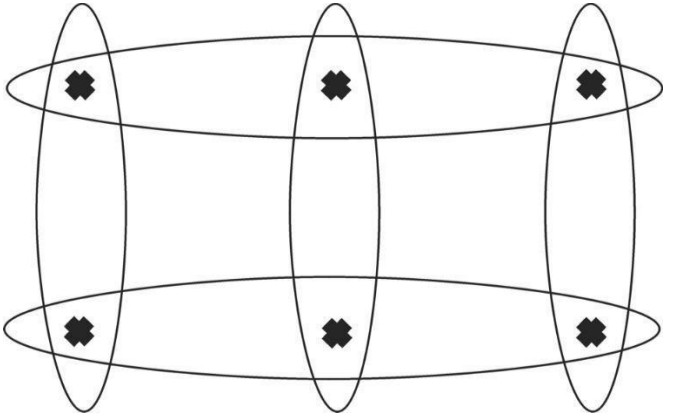

Fig 1. Why 2 × 3 = 3 × 2

There is no hint of how to do that or imitate it by Artificial Intelligence.

Emergentism does have some resources for replying to these arguments. One is a simple *tu quoque*: if the relations of consciousness, rational understanding and free action to their material base are obscure on the emergentist theory, they seem to be no clearer on contending theories. The difficulties of materialism in accounting for any of those were where the problem started, while personal theism seems to have no clear alternative story, for example as to how a divinely created immaterial soul might interact with a brain.[30] Its second line of reply would be that the dividing line between subrational nature and rational consciousness, reasoning and free will cannot be as sharp as claimed, since it is crossed gradually in fetal as well as evolutionary development, and in any case the higher animals, which clearly possess qualia, also exhibit a kind of semirational planning in the pursuit of (at least short-term) goals. In that case, the gradual crossing of the divide, if not simply and mysteriously miraculous, appears to be, in the absence of alternative explanations, some kind of emergence, however poor our understanding of it may be.

Other than that, emergentism (as a philosophy of religion) faces competition from positive arguments for opposing views. Emergentism

[30] William Hasker, *The Emergent Self*, chap. 7.

does not fit with the traditional arguments for the existence of God. (Certainly *some* form of emergence is quite compatible with traditional theism, as God could act via emergence—indeed Hasker has such a theory and there is a range of possibilities[31]—but the emergentism being considered here is a free-standing variety in which rationality, freedom and so on arise completely of their own accord.) Cosmological and teleological arguments both conclude that there is a being beyond the physical world, who creates, sustains and orders it. Similarly for considerations based on the anthropic principle—if the universe must be fine-tuned for life to appear, then there must be a powerful being capable of calculating to many decimal places in order to do the fine-tuning. If there is any force in those arguments, they tell against emergentism, which has no outside being whatsoever. Emergentism is thus a theory for those who find no logical force in any of the traditional arguments for the existence of God (or any attractiveness in faith without argument or reliance on historical arguments from scripture), but who nevertheless have a strong sense of the essential difference between humans and material objects.

5. COMPARISON WITH RELIGION: THE "RELIGION OF HUMANITY"

Emergentism lacks any outside gods, so there is no outside force or direction of the universe to align oneself with or request favours from. Therefore many of the consolations of religion are unavailable to it. But not all.

If one seeks meaning in life, in a sense stronger than the purely psychological "what people take to give their life meaning", one may find that materialist atheism precludes that kind of meaning by eliding the distinction between persons who matter and physical objects which don't. In that case emergentism provides a distinct contrast. Other people really do matter, absolutely speaking; indeed so does oneself. Good and evil, in the human world, are as they seem to be, and the importance and preciousness of human life and its development is insisted on. Any efforts

[31] Niels Henrik Gregerson, "Emergence: What is at Stake for Religious Reflection?" in *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion,* eds. P. Clayton and P. Davies (Oxford: Oxford University Press, 2008).

made on behalf of the good of humans are therefore worthwhile, absolutely speaking, and so can give life an objective meaning.

Of course, efforts on behalf of humans will not help much in the long run, when the human race redissolves into the flux without remainder. Alan Donagan remarks, "if Kantian duty-based ethics are true, then *either* something like Judaism or Christianity must be true, *or* human life is ultimately tragic."[32] Emergentism takes the second of these options.

As to prayer, there is no point to petitionary prayer, as there is no-one to pray to (unless there is some sort of unconscious telepathy between humans, which on present knowledge is unlikely). Nor is there any basis for or point in awe at the wonder of the universe; the universe is just mostly the blind and uninteresting stuff it seems to be. Awe and wonder should be reserved for people and their achievements. There could in principle be some point in meditatory prayer, which may have the ability to enhance the soul and give it access to experience that is, so to speak, more divine. The Hindu tradition of the Vedanta promises something like that: literal divinity for the mind by long meditative and ascetic technique, without any outside personal God as causative agent. (That is, the original Vedanta of the Upanishads, with its emphasis on the Ātman or inner self, often combined with its identity with Brahman or ultimate reality.)[33] Emergentism does not include a commitment to such possibilities, but neither does it rule them out.

A promise of immortality seems unlikely, as there is no outside being to rescue the soul from the decay and death of the body to which it is so intimately linked. Immortality would not be totally out of the question if one went further than the mainstream of emergentism and took a strongly Cartesian view of the emergence of mind, regarding mind as a separate non-material substance created by but separable from the body.[34] Such a non-material substance might have the ability to survive death. But it is a mystery what state that separated soul could be in without divine help,

[32] Alan Donagan, "Comments on Dan Brock and Terrence Reynolds," *Ethics* 95 (1985).

[33] For example, see D.C. Mathur, "The Concept of Self in the Upanishads: An Alternative Interpretation," *Philosophy and Phenomenological Research* 32 (1972).

[34] Uwe Meixner, *The Two Sides of Being: A Reassessment of Psycho-Physical Dualism* (Paderborn: Mentis, 2004).

while alleged reports from souls on "the other side" as promised by the spiritualism of a hundred years ago have come to nothing.

Emergentism may not be a natural foundation for an institutional church, perhaps partly accounting for its low profile historically. The communal, social, tribal and charitable aspects of organised religions could just possibly be supported by a "religion of humanity" that lacks an outside God to worship. But not easily. Worship of humanity has a certain drabness that has always cast a pall over attempts like the Ethical Societies of Victorian times and Alain de Botton's proposal of an atheist church.[35] To regard oneself as the best the universe can do in the way of divinity is uninspiring, even dispiriting. Notwithstanding the feeble attempts of megalomaniac potentates in ancient times to represent themselves as divinities, solidarity is a more appropriate attitude to one's conspecifics than worship.

On the ethical front, while emergentism insists on, indeed takes part of its motivation from, the intrinsic moral worth of humans, it may have difficulty establishing their *equality* of moral worth. If we are all "made in the image of God", our equality is to be expected; but if not, any substantial inequalities at birth, such as those arising from disabilities, might be enhanced by later intellectual or spiritual developments, and the claims of some to be a master-race could be hard to refute.[36]

While emergentism has not had serious explicit consideration given to it in the philosophy of religion, it may be speculated that a certain amount of its perspective is implicit in actual people's mindsets. Secular humanism, for example, is officially committed to materialist atheism, but its adherents often speak in terms of absolute human rights and the absolute importance of human persons in ways that are *prima facie* incompatible with regarding humans as essentially the same kind of thing as animals or galaxies. On the other hand, there are suspicions that some church attendees, especially in the more middle-of-the-road churches, do

[35] See David Saville Muzzey, *Ethics as Religion* (New York: Routledge, 2008), and Alan De Botton, *Religion for Atheists: A Non-believer's Guide to the Uses of Religion* (New York: Pantheon, 2012).

[36] Jeremy Waldron, *Ones Another's Equals: The Basis of Human Equality* (Harvard: Harvard University Press, 2017), especially chap. 5.

not really believe in, or at least gravely suspect the existence of, a literal deity "out there". Their churchgoing commitment is in such cases not entirely a fiction, however, but reflects a belief in human dignity as embodied in the church's tradition. The philosophy implicit in both the more ethically serious secular humanists and the more theologically lukewarm churchgoers thus leans toward an implicit emergentism.

In any case, emergentism deserves serious examination so that the range of options among world views can become clear.

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