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'SCALE RELATIVE ONTOLOGY' AND SIMONE WEIL'S SPIRITUAL PHILOSOPHY

Can the debilitating effects of Scientism – identifying knowledge solely “with science” – be overcome? To answer that question, Simone Weil’s treatment of her three historical categories – Greek Science, Classical Science and Contemporary Science – can be compared to Don Ross’s conception of ‘Scale Relative Ontology’ – how we “track the world” depends upon the cognitive scale used to measure it – in *Every Thing Must Go*. Scale Relative Ontology can then be used to identify the cosmological dimension, ‘the common sense world’, and a scientistic stance. Given a comparison between these three dimensions in each case, implications for her spiritual philosophy can be explored.

1. INTRODUCTION

Can the debilitating effects of Scientism – identifying knowledge solely “with science”¹ – be overcome? Simone Weil’s three ways of characterizing science historically will be compared to the three dimensions, released through interpreting Don Ross’s conception of Scale Relative Ontology (SRO from now on); how we “track the world” depends upon the cognitive scale used to measure it as Ladyman and Ross put it (ETMG from now on).² However that phrase SRO may be used in a different way in this paper from what he may have intended originally.³ Herein, SRO will be cast as responding to the ontological question ‘What is there?’, not by claiming that one can’t say *what there is* nor by claiming that one can only *say* what there is. Rather, the idea is forwarded that how that question – ‘What is there?’ – is answered will depend on the scale at which ontology is to be interpreted. In this way it can be shown how the rise of Scientism undermines spiritual awareness, as that doctrine appears to be legitimated by contemporary interpretations of scientific activity – as Simone Weil anticipated⁴ – whilst indicating how that undermining might be overcome. SRO’s stance derives from the idea that “--- one’s ontological

¹ Jürgen Habermas, *Knowledge and Human Interests* (London: Heinemann, 1972), 4.

² J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized* (New York: Oxford University Press, 2010), 199.

³ D. Ross, “Pattern Reality, Causality & Scale Relativity” *Real Patterns Workshop*, Verdon-Smith Room, Royal Fort House, Senate House, Bristol University, (9 October 2018).

⁴ Simone Weil, “Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees (London: Oxford University Press, 1968), 65-70.

characterization of *one and the same* particular may vary depending on the sorts of questions one is attempting to answer⁵ even if Chakravarty is applying that remark for the micro-level. Elsewhere three such scales have been identified⁶: i) the contemplative or cosmic dimension exercised, for example, in Von Schelling's speculations; ii) priority ascribed to the 'common sense' or everyday dimension concerned with 'middle sized objects' articulated, for example in Hegel's philosophy; iii) the theoretical or scientific stance interpreting reality through the micro-level, adopted by Ladyman and Ross, following Peirce's early footsteps, in *Every Thing Must Go*. These three scales or measuring perspectives can then be considered in view of Simone Weil's treatment of her historically grounded categories: her characterizations of Greek Science, Classical Science and Twentieth Century Science. These three dimensions are required given our awareness that even if the 'common sense' or everyday perspective can be appropriately expressed in ordinary language, the latter "--- is ill-adapted for reflecting differences of level---",⁷ whether cast in terms of measuring perspectives or Simone Weil's historical categories.

2.0 SIMONE WEIL'S HISTORICALLY GROUNDED CATEGORIES

One objection to this endeavour has to be considered at the outset. Isn't Simone Weil's characterization of the contemplative or cosmic dimension different from the cosmological as interpreted by Ladyman and Ross where "there are no mountains" just as "--- there are no cats" at the quantum level?⁸ Firstly, the former cosmic dimension, within our present culture, is increasingly interpreted scientifically. Indeed some scientists might claim that the cosmological provides a ground for or even replaces the former. Secondly, as will be appreciated herein, Simone Weil claims, as do Ladyman and Ross, that the cosmic dimension – just as the cosmological – must be distinguished from the 'common sense' or everyday perspective.

2.1 *Meditations on Greek Science*

Consider Simone Weil's treatment of her possibly mistaken praise for Thales in her 1930 dissertation "Science and Perception in

⁵ Anjan Chakravarty, *A Metaphysics for Scientific Realism* (Cambridge: Cambridge University Press, 2010), 84.

⁶ N.E. Boultong, "Scale Relative Ontology and Scientism" *Philosophica* 46 (2015): 102-107.

⁷ Simone Weil, "Classical Science and After; Reflections on Quantum Theory; Scientism - A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 54.

⁸ J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 199.

Descartes". Here she converts Descartes's cogito from "I think therefore I am" into "I can, therefore I am". But what is significant about this diploma-monograph is her somewhat dogmatic claim that "Thales discovered geometry," which was "history's greatest moment". Accordingly, we learnt "that the realm of pure thought is the sensible world" in the light of "a more careful kind of perception," even if, for Plato, geometrical figures enabled reasoning about abstract ideal entities so that what was perceived was mere appearance.⁹ Hence the knower is cast as seeking "--- a transformation of the soul" through an understanding of the sensible world determined by a model whereby "--- science, art and the search for God were united" even if "--- they are separate for us."¹⁰ Thereby she can assert "Science, art and religion are connected together through the notion of *order of the world*, which we have completely lost."¹¹ So, even in the medieval age, the perceived world was haunted by a conception of something transcendental "--- expressed in the language of myth, and poetry, and image; the images consisting not only in words but also in objects and actions." But that perceived world is subject to necessity, and it is through necessity that access is granted to the Divine: "The blind necessity which constrains us, and which is revealed in geometry, appears to us as a thing to overcome, for the Greeks it was a thing to love---."¹²

Whether or not Simone Weil correctly characterizes the "enigma" of Greek Science, she emphasizes the "--- idea of equilibrium" as being "at the centre of Greek thought". So injustice in Aeschylus's *Iliad* is "a rupture of equilibrium" requiring disequilibrium elsewhere to restore a balance. Motion and change generally were seen as disequilibria so that for Archimedes immobility was "the sign of equilibrium". Natural phenomena become cast as a "succession of disequilibria" correcting each other providing "---a mobile image of equilibrium".¹³

This first dimension in the development of scientific activity closed, for Simone Weil, during the time of the Renaissance ushering in the idea of Classical Science. But the earlier and Classical Science conceptions still emphasized order, but whereas

⁹ Simone Weil, "Science and Perception in Descartes" *Formative Writings 1929-1941* ed. trans. D.T. McFarland & W. Van Ness (Amherst: Massachusetts University Press, 1987), 32-33.

¹⁰ Simone Weil, "Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 48.

¹¹ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 248.

¹² Simone Weil, "Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 13 & 21.

¹³ Ibid., 45, 14, 15 & 14.

Greek Science stressed a possible connection between “order and the condition of order”, for Classical Science the issue shifted to that between “--- desire and the conditions of its accomplishment”. Yet both conceptions were concerned with the necessities of time and space, with obstacles which for Greek Science can lead to something transcendent – God cast as “the perpetual geometer”¹⁴ – whilst for Classical Science, obstacles are to be overcome through humans creating order.

2.2 The Universe's Representation through Classical Science

According to Simone Weil, Classical Science was based on an analogy between the conditions of work or labour and the laws of nature. In that case algebraic formulae could be regarded as “--- a mechanical device involving a relation between distance and force” thereby physics – physical sciences’s language – could be interpreted as the application of mathematics rather than mathematics as indicating something beyond itself. But that earlier sense of science was still inherited in that sensible world so that it could be understood as something objective, in need of representation, thereby underpinning the idea of a connection “--- between scientific thought and the rest of human thought”. But the human being is now seen as a worker rather than a knower in the Greek sense, facing necessity in regard to obstacles encountered without regard to any influence “--- behind the phenomena of nature”; no supernatural agency then behind the natural.¹⁵

Given, however, any kind of work’s measurement, the notions of the “--- function of distance and force”, mass and velocity, these could be captured in the idea of energy. And given that humans remain in relation to the perceived world, that natural world is still accessed via the senses. Yet these distinctions are imposed upon that world, leading to the division of different forms of inquiry even if that world is represented through encountered necessities which remain “totally indifferent to our desires.”¹⁶ Indeed, the whole stance of this science might be captured in Kant’s words: the inquirer in applying reason “--- must not be content to follow, as it were, in the leading strings of nature, but must proceed in advance---” so compelling “--- nature to reply to its questions.”¹⁷ But just as Classical Science encompassed the importance of Greek Science

¹⁴ Ibid., 21.

¹⁵ Ibid., 22, 5, 30, 6.

¹⁶ Simone Weil, “Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees, 7, 81, 10.

¹⁷ Immanuel Kant, “Preface to the Second Edition (1787)” in *Critique of Pure Reason*, trans. J.M.D. Meiklegohn (London: Everyman’s Lib., 1964), 10.

through the role of necessity but without the notion of something of value transcending or behind it, so her sense of the New Science inherits algebraic formulae's significance in the inquirer's activity whilst abandoning the analogy between the conditions of work or labour and natural laws. That latter analogy was expressed by each formula being "--- made to correspond to a mechanical device involving a relation between distances and forces, which the formula expressed."¹⁸

2.3 *The Foundation of a New Science in the 20th Century*

For Simone Weil, the development of science represents a decline as it advances. Two features are lost: not only concern for some supernatural consideration, but also the analogy between human labour and the laws of nature; we are left with a kind of instrumentalism: "Theories spring up as it were at random, and there is survival of the fittest. Such a science as this can well be a form, of *élan vital*, but certainly not a form of the search for truth."¹⁹ Hence the slogan: 'shut up and calculate'.²⁰ Yet a relation is sustained "--- between algebraic formulas void of meaning on the one hand, and technology on the other."²¹ The human element is thereby eliminated from science²² whilst, ironically, we have scientists who "--- are naturally the first to pass off their opinions as if they were the deliverances of an oracle."²³ Their position as scientists seems akin to that held by thirteen century's priests.²⁴

In this context she focuses upon Max Planck's claim, namely that "--- every hypothesis – as a factor in the picture of the external universe presented by the physicist – is a product of the freely speculating mind---" so that for the physicist "(e)very measurement first acquires its meaning for physical science through the significance which a theory gives it."²⁵ For her, his claim justifies her idea that "the experimental device is always an imitation of a purely theoretical system, even in the case where

¹⁸ Simone Weil, " Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 22.

¹⁹ Simone Weil, *The Need for Roots* trans. A. Willis (London: Routledge & Kegan Paul, 1978), 247.

²⁰ Jim Baggot, *Quantum Reality* (Oxford: Oxford University Press, 2020), 124-5.

²¹ Simone Weil, " Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 33, 22.

²² Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 196.

²³ Simone Weil, " Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 58.

²⁴ Simone Weil, *The Need for Roots* trans. A. Willis, 229.

²⁵ Max Planck, *Where is Science Going* (New York: Norton, 1932), 92.

the system has been reconstructed after a setback, in the light of experiment.”²⁶ But her real concern was the acceptance of just what worried Carl Schmitt writing after the Great War, namely the 20th century’s fetish for an anti-religious ideology of technicity: the idea that all problems can be solved by technology,²⁷ utility replacing a concern for the truth.²⁸ But unlike Plato’s premonitions in his *Republic*’s ninth book, it is not just one nation state – Ancient Greece – which is vulnerable, but the whole human race! Humans become victims of their own rhetoric!

Another danger looms in an ongoing scientificistic development and its arguments concerning differing accounts of its findings: a person through “--- the accumulation of experimental facts and by the increasing perfection of telescopic and microscopic instruments” may be lost “among a complexity of facts” where no necessity can be discerned, either because either a great deal would have to be embraced “or a great deal less. The former is impossible since a person’s mental capacities are “subject to the same limits while technique progresses and facts accumulate.” So s/he must be satisfied with the latter²⁹ initiating a vulnerability to propaganda. And if it is to be claimed the former is not impossible, if alive today, she could argue that any coherence between mathematical advancement and an empirically understood world is coming undone. Not only are physical or even cosmological hypotheses being determined by the kind of mathematical questions posed by investigators, but complex methods and sophisticated techniques along with complicated instrumental tools and instruments, which may as yet not have been constructed, are required for testing scientific theories. Not only can we appreciate the way cosmological speculations transform physics, but a dependence is induced upon mathematics as a method for verifying physical possibility.³⁰

It might be said she misunderstood Planck’s stance regarding Quantum Theory because of her reliance on texts

²⁶ Simone Weil, “ Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees, 33.

²⁷ Carl Schmitt, “The Age of Neutralizations and Depoliticizations (1929)” in *The Concept of the Political: Expanded Edition* (Chicago: University of Chicago Press, 2008), 81-5, 80.

²⁸ Simone Weil, “ Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees, 64.

²⁹ Ibid., 80.

³⁰ L.R. Kfia, “The Ontological Status of Mathematical Entities” *The Review of Metaphysics* XLVII no. 1, no. 185 (Sept. 1963): 19.

written for a lay public.³¹ Nonetheless, she was led to condemn his achievements in advancing her view that the new science, like Classical Science before it, rejected any concern for a sense of value.³² Yet Paul Dirac, for example, the first scientist to predict the existence of anti-matter, once made the case for the beautiful in scientific theorizing.

It is more important to have beauty in one's equations than to have them fit experiment. --- It seems that if one is working from the point of view of getting beauty in one's equations, and if one has really a sound insight, one is on a sure line of progress.³³

But for Simone Weil, very few scientific inquirers “--- penetrate sufficiently deeply into science for their hearts to be stirred by beauty.” Nor did Planck’s new science satisfy her central normative requirement: the scientific inquirer’s “--- true aim is the union of his own mind with the mysterious wisdom eternally inscribed in the universe.”³⁴ Indeed, scientific investigation itself might be one form of religious contemplation! And that stance revealed her deep desire to reconnect thinking in the West to those spiritual roots she detected within Ancient Greek thought.

2.4 *Simone Weil’s Characterizations of Science: Consequences*

Now, even if her characterization of the New Science was over hostile – even though she acknowledged the recognition of the infinitely small within Quantum Mechanics, the effect of observation upon observed phenomena and Niels Bohr’s advocacy of the Complementarity Principle³⁵ – that hostility did indicate issues that still prove relevant for us today: that scientific advancement, even if has not caused, it has certainly been accompanied by the undoing of supernatural concerns; the reification of the idea of progress; the ideology of technique dominating over other considerations; the obsession with utility and commodification liquefying a sense of anything transcendental, even if she did not realize how that liquidation would be legitimated by the entertainment industry. Her stance can be summarized in table 1 below before some flesh can be put on the notion of Scale Relative Ontology.

³¹ Simone Pétrement, *Simone Weil: A life* (London: Mowbrays, 1976), 448.

³² Simone Weil, *The Need for Roots* trans. A. Willis, 247.

³³ cf. P.B. Medawar, *The Art of the Soluble* (London: Penguin Books, 1969), 107.

³⁴ Simone Weil, *The Need for Roots* trans. A. Willis, 243, 250.

³⁵ Simone Weil, “Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees, 65-70.

Her rejection of the new science, however, has serious consequences. Not only are the discoveries at the cosmological level – as a result of more sophisticated instrumentation – ignored, the relief of physical dysfunctions to improve the human condition as well as the wide-ranging application of Quantum Theory side-stepped, but the possibility that anything at the micro-level could be revealing as to the nature of ultimate reality dismissed. To support such a dismissal, if alive today, she could point to at least five undecided ways of understanding Quantum Theory in response to the Copenhagen interpretation: Fuchs and Schack's *Quantum Bayesianism*; the *Broglie-Bohm* standpoint; Everett III and Deutsch's *Many Worlds Interpretation*; Susskind and Witten's *String Theory*; Smolin and Rovelli's *Loop Quantum Gravity* account. The only aspect of the new science which Simone Weil would acknowledge was its technological application. That meant that anything significant about the micro-level would be subsumed through its application to what can be called the 'middle-sized' perspective. The distinctions between her three different conceptions of science are illustrated in the table 1 below, but attention must now be brought upon the significance of SRO.

Simone Weil's Distinctions between Different Conceptions of Science

Kind of Science→	Greek Science	Classical Science	20th Century Science
1. Status of the human being	<i>Knower</i> aware of the distinction between Necessity & the Good.	<i>Worker</i> , given an analogy between work/labour & the laws of nature.	<i>Replaceable Specialists</i> who seek epistemological 'high priests' status.
2. Form of Thought	Thales invented geometry; inquiries arise from, but not limited by, thought.	Geometry becomes algebraic, related imaginatively to an objective world.	Meaningless algebraic formulae relate to a developing technology.
3. Constituting Material for Inquiry	An Objective Sensible World	Figures and images represent the World via figures & images for a	A freely speculating mind creates a picture of

		Measuring mind	an external world
4. Epistemological Concern	Knower as seeking 'the soul's transformation'	No concern for the transcendental dimension	No grasp of the sheer complexity of the facts
5. Focus	Objective World related to a mind revealing a Mind-orientated reality	Mastery of nature where Necessity must be subject to human control	Transcendent- alism & human/nature analogy denied
6. Concept of Order	<i>Equilibrium</i> between order and the conditions of order	<i>Relationship</i> between human desire & conditions of its achievement	<i>Experimental</i> theories & devices are driven by a theoretical system
7. Significant Activity	<i>Contemplation</i> where mathematics indicates something transcendental	<i>Working</i> where physical science becomes applied mathematics.	<i>Experimenting</i> where physics provides no certainty for metaphysical claims
8. Relationship to the Good	Aspiration towards Beauty and the Good; no opposition between religion & the arts & culture: interdisciplinary	No concern for Unity nor for Value Claims.	Instrumentalism driven by Utilitarianism.

Table 1

3.0 THE RELEVANCE OF SCALE RELATIVE ONTOLOGY (SRO)

SRO's significance is generated by Ladyman and Ross's claim that "*-- to take the conventional philosophical model of an individual as being equivalent to the model of an existent mistakes practical*

*convenience for metaphysical generalization.*³⁶ That particular claim constitutes one of the foundations for process philosophy itself. So Hartshorne, for example, considered the proposition “John spoke and was silent”. To claim that at one temporal moment a single subject John spoke and at another he was silent commits the spatialization of time fallacy, as elucidated by both Bergson and Whitehead. It is the actuality of John-at-time -t¹ who spoke, not John and another actuality John-at-time-t² who is silent. John, regarded as an existent, is an abstraction from what is concrete experience.³⁷ But what is important is that claims made about individual existents pertain to our language use in relation to what can be relevant for us practically at a common sense level, constituting a ‘middle-sized’ perspective. Such individual existents do not exist either at the cosmological – Simone Weil’s cosmic or contemplative level – nor at the micro-level. So, like Schelling, for example, Simone Weil sustains the claim that “Reality and existence are two things not one.”³⁸ Again “Existence cannot be proved, it can only be observed as a fact. But the more perfect has more reality than the less perfect. And reality for a man consists in his existence on this earth.” But she goes further: “Nothing which exists is absolutely worthy of love. We must therefore love that which does not exist. But this object of love which does not exist is not devoid of reality, is not a fiction. For our fictions cannot be more worthy of love than we are ourselves, who are not.” She would, however, sustain Schelling’s priority for intuition: “The discursive intelligence which grasps relationships, the one that presides over mathematical knowledge, lies on the boundary between matter and spirit. It is intuition alone which is purely spiritual.”³⁹

Hegel’s idealism opposes Schelling’s stance since it focuses upon the ‘middle-sized’ perspective – the everyday level – rooted as it is in the perceived world. He does distinguish between the object (*das Objekt*), existing independently of the mind, from what is cognized as the mind’s object (*der Gegenständ*),⁴⁰ but there is no knowledge of the former save through the latter, that is to say, through cognitive awareness as opposed to Schelling’s concern with the aesthetic perspective. The object (*das Objekt*) may provide “--- empirical constraints on claims to know” but it can never be known as it is safe through its mediator (*der Gegenständ*) expressed in discursive form. Any such form itself is

³⁶ J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 229. their italics.

³⁷ Charles Hartshorne, “Whitehead and Ordinary Language” *Whitehead’s Philosophy* (1972): 180.

³⁸ Simone Weil, *First and Last Notebooks* trans. R. Rees (Oregon: Wipf & Stock, 2015), 311.

³⁹ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 374, 220, 509.

⁴⁰ M.J. Inwood, *A Commentary on Hegel’s ‘Philosophy of Mind’* (Oxford: Clarendon Press, 2010), 319n. 15.

grounded on “standard, norms or values” underpinning a specific notion of reality, forwarded within a specific culture, by “various cognitive and other domains” prevailing in some given historical, place or time.⁴¹

Necessity, for Simone Weil, is represented by this stance: “*Necessity is an image, an imitation of Reality* (*πόνος* ὄν). What is real in perception and distinguishes it from dreaming does not lie in sensation, but in the necessity which is contained therein.” To ask “Why these things and not others?” generates Hegel’s response: “It is thus.” That response does not imply support for his stance: “We know through intelligence that what intelligence does not apprehend is more real than what it does apprehend.” Again: “The mysteries of faith are degraded if they are made a subject of affirmation and negation, when in reality they should be a subject of contemplation.”⁴²

If we do regard an object through this middle-sized perspective, such as a table upon which I am writing, for example, on the one hand it “--- has extension; it is comparatively permanent; it is coloured, above all it is *substantial* ---.” Yet, not only is it not real as a substantial entity at the cosmic level but it is not substantiated either at the micro-level: “Sparsely scattered in that emptiness are numerous electric charges rushing about with great speed, but their combined bulk amounts to less than a billionth of the bulk of the table itself.” Yet this latter conception of the table – Eddington’s “scientific table” – supports the paper I have been writing on whereas scientific inquiry had convinced Eddington that only his “scientific table” is known as an existent: “What sort of thing is it that I know? The answer is *structure*. ”⁴³ For Ladyman and Ross – at the micro-level – the table supporting my paper “--- is probably a real pattern. Strictly speaking here there is no scientific table at all because there is no single candidate aggregate of real microscopic patterns that is best suited to be the reductive base of the everyday table.” They argue, then, the case for ‘real patterns’ so that, scientifically, “--- to be is to be a real pattern.” For a scientific experimenter, information is encoded in structures about some event or given entity, tendered as real patterns: a given pattern may be cast as “--- just any relation among data.” There is, then, no foundational level: “--- the real patterns criterion of reality is the last word in ontology.” So “--- its real patterns all the way down.”⁴⁴

⁴¹ T. Rockmore, “Analytic Philosophy and the Hegelian Turn” *Review of Metaphysics* 55, no. 2 (December 2001): 351, 366.

⁴² Simone Weil, *The Notebooks of Simone Weil*, vol. I & II trans. A. Willis, 410, 242, 245.

⁴³ A.S. Eddington, *The Philosophy of Physical Science* (Cambridge: Cambridge University Press, 1939), 147.

⁴⁴ J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 253, 227-8, 278, 228.

Like Hegel too, Ladyman and Ross are hostile to the idea of intuition: "What counts as intuitive depends partly on our ontogenetic cognitive make-up and partly on cultural specific learning."⁴⁵ They also express scepticism regarding the claim which they say is Platonist, namely that "--- the boundaries of the real are the limits of what is mathematically coherent." Yet some form of Platonism might be compatible with their idea of "--- thinking of the stuff of the physical universe as being patterns rather than little things."⁴⁶ But because Simone Weil regards the new science, such as this, as merely endorsing instrumentalism - "The disappearance of scientific truth appears to our eyes as the disappearance of truth, thanks to our habit of mistaking the one for the other"⁴⁷ - she has no means of pursuing possibilities raised by a different kind of Platonism such as can be found in Process Philosophy. But what really blocks that access? Moreover is there some other factor or factors than her dismissal of Planck's contribution?

Before turning to such questions, it is important to note that Simone Weil does endorse not only some form of tripartism in explaining the nature of reality, but also in rendering pride of place to physics over the other sciences. Not only was physics given a special status because of its place in scientific development but also because of a Newtonian conception of the world that resulted in that development, not to speak of the fact that physical forces were thereby identified. Progress was then made "--- in unifying physical forces and the physical treatment of force, work, and energy"⁴⁸ which she identified in her treatment of Classical Science.

Yet might it not be said that biology, for example, might be more significant in the world of what Simone Weil labeled as the New Science? The development of Quantum Biology, however, tells a different story in the way scientists have been able to interpret the mystery of photosynthesis to elucidate how chlorophyll accounts for the greenery of many plants. Within a millionth of a millionth of a second, the photons arising from sunlight can be transferred amazingly quickly to "--- the molecular bonds of their organic compounds" understood through such notions as quantum superposition, tunnelling and entanglement, central concepts in understanding quantum

⁴⁵ Ibid., 10.

⁴⁶ Ibid., 234, 237.

⁴⁷ Simone Weil, " Classical Science and After; Reflections on Quantum Theory; Scientism - A Review 65-70; Fragment: Foundation of a New Science" *On Science, Necessity and the Love of God* trans. R. Rees, 63.

⁴⁸ Ibid., 42.

explanations.⁴⁹ Yet consider Unger's interesting hypothesis, forwarded by Whitehead: for a traditional conception of physics "universal truth is revealed locally" whilst cosmology focuses on understanding "part of nature" in relation to "an understanding of the whole universe and its history." So cosmology "--- displaces particle physics as the more encompassing and fundamental study of nature."⁵⁰

4.0 SIMONE WEIL'S REJECTION OF 'THE NEW SCIENCE'

Two not unrelated factors result in her rejection of 'the New Science' besides her opposition to Planck's stance on Quantum Theory. The first is her emphasis upon Plato's ontology rather than Plato's epistemology. Secondly, that ontology is forwarded as a dualism between the supernatural and the natural, between the Divine and Necessity, between Grace and Gravity and between Existence, – this term referring to the realm of transcendental perfection – the cosmic or contemplative realm, and existence experienced every day.

Plato's ontology has been traditionally well rehearsed and renders a challenge to readers of his Middle Period Dialogues such as *Phaedo* and *Republic*. How can the eternal realm be related to the temporal, the cosmic dimension to everyday existence given that extreme dualism: the reality of Being transcendent to that of Becoming; the eternal opposed to the temporal; the realm outside the cave to that of the inner darkness within. Simone Weil offers a solution to this standard objection in the use of her bifurcation in recasting the idea of eternity as the Divine and her articulation of Necessity. But does that recasting not obscure rich lessons to be learnt from Plato's epistemology? Consider his distinctions progressing from imagining (*Eikasia*), through to trusting belief (*Pistis*), to Reasoning or Inferring (*Dianoia*) to the final stage, Knowing (*Episteme*) and Intellectual Insight (*Noesis*)? In fact she is very hard on imagination: "The imagination is continually at work filling up all the fissures through which grace might pass."⁵¹ Earlier, she was less hard: "Objects assume a shape only through our imagining what we call their real shape. We call the real shape the shape which appears to us when the object occupies the whole of our visual field." But ambiguity remains. Speaking of viewing a star-lit sky she says: "--- one sees an object which the mind can grasp. One has the feeling of something eternal, of something pure, because the imagination cannot bring

⁴⁹ Jim Al-Khalili, *The World According to Physics* (Princeton University Press, 2020), 151.

⁵⁰ Roberto Unger & Lee Smolin, *The Singular Universe and the Reality of Time: Part I* (Cambridge: Cambridge University Press, 2015), 212.

⁵¹ Simone Weil, *Gravity and Grace* trans. E. Crawford & M. Von der Riche, 16.

it within its scope. In a cloudy sky, we can imagine anything we wish.”⁵²

Indeed, in these very lectures she contrasts perception, connected to an instrumental consideration – actually getting things done – to the emotional where obstacles are regarded passively and imagination sets to work. Consider her own activity subject to conditions of forced labour, where the mind constructs escapist images to obfuscate the sheer misery of factory work.⁵³ As for Sartre, in his *Psychology of the Imagination*⁵⁴ – composed ten years later – imagination is hooked to the emotional, inferior to cognitive understanding. But both he and she do not distinguish adequately between an active imagination and a passive imaginary response to what exists. And as Heidegger saw in his *Plato's Doctrine of Truth*,⁵⁵ it is Plato's use of the image of the cave which enables us to relate his analogy of the sun to the Good to its significance for his theoretical construction of the Divided Line. Here distinctions between different kinds of awareness are made manifest. And Simone Weil's lack of an application of the stages of Plato's Divided Line – articulating these kinds of awareness – is more odd given that her own life can be regarded as passing through these very stages themselves⁵⁶: passive imaging resulting from a condition of social repression triggering contingent necessities characterizing factory life; natural necessities governing common-sense beliefs generated by toils embedded within agricultural work: “Necessity enters into contact with the intelligence through knowledge of the second kind and with sensibility through affliction.” Two further kinds can then be distinguished: knowledge of the ‘third kind’ as she calls it,⁵⁷ released when a person can become aware through reasoning of an ‘order behind necessity’ whilst growing out of this kind of awareness is a fourth dimension – behind knowledge of this ‘third kind’ – beyond human inferential reasoning to the incomprehensible: “That is why mysticism is the only source of virtue for humanity.”⁵⁸

4.1 Implications for Simone Weil's Philosophy of her Rejection of the 'New Science'

⁵² Simone Weil, *Lectures on Philosophy* trans. H. Price (Cambridge: Cambridge University Press, 1979), 51, 187.

⁵³ cf. Simone Weil, *Lectures on Philosophy*, 72-3.

⁵⁴ Noel Boulting, “Sartre's Existential Consciousness: Implications for Subjectivity,” *Philos. in the Contemp. World* 5, no. 4 (1998): 11-23.

⁵⁵ Martin Heidegger, “Plato's Doctrine of Truth (1931--2)” in *Martin Heidegger: Pathmarks*, ed. W. McNeill (Cambridge: Cambridge University Press, 1998), 155-82.

⁵⁶ N.E. Boulting, “Necessity, Transparency and Fragility in Simone's Conception of Ultimate Reality and Meaning,” *Ultimate Reality and Meaning* 22, no. 3 (1999): 223-46.

⁵⁷ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 236, 189.

⁵⁸ Simone Weil, *Gravity and Grace* trans. E. Crawford & M. Von der Riche, 100.

Whether due to her rejection of the New Science because of her opposition to Planck's articulation of Quantum Theory, or her overlooking the latent content of Plato's epistemology in forwarding an advocacy for his ontology, it is clear that the possibility of a tripartite ontology is reduced to a dualism between Divinity and Necessity, the latter cast as "--- an order – an order of conditions." That dualism is expressed as follows: "God's absence is the most marvellous testimony of perfect love, and that is why pure necessity, the necessity which is manifestly so different from the good is so beautiful."⁵⁹ Thereby, in terms of the distinctions drawn so far with respect to the claims of SRO, the cosmic dimension is prior and fundamental for Simone Weil – in way that the cosmological is not for Ladyman and Ross – a dimension converted into "a theocentrism" (McCullough, 2014 p. 112) whilst the realm of Necessity is to be understood as endured at the 'middle-sized' objects perspective. And in respect of this perspective, Divinity is cast as "God-in-his- powerlessness" which might be characterized as God's actuality for us in this 'middle-sized' objects perspective as opposed to Divinity's Reality or the Divine exsistence, "God-in-his-power"⁶⁰ To illustrate this difference between existence and actuality, my grandson is quite likely to be existing tomorrow but his actuality – whether sad, angry, happy or whatever – is beyond prediction. The distinction, however, between Divine Exsistence, God's necessary existence – Simone Weil would speak of God's Reality – and Divine Actuality, the how or in what manner the Divine is actualized somehow in our experience, is Hartshorne's distinction.⁶¹ And Divine actuality is realized as a result of Divine exsistence being emptied just as the human being is required to empty itself of its self-orientation. This is Simone Weil's crucial insight: decreation rather than creation⁶² applying both to God cast in a cosmic dimension and to Divine activity understood as a result of such decreation for the everyday. But to understand Divinity cosmically or theocentrically is to recognize its infinite character, "to whom nothing is lacking" whilst something is originated from the Divine that is outside that Divinity itself and thereby not itself, yet "proceeding from" itself.⁶³ In that sense what is found within the 'middle-sized' objects perspective speaks "--- about God"⁶⁴ somehow. But can't that perspective be better reinforced by considering the

⁵⁹ Simone Weil, *The Notebooks of Simone Weil*, vol. I & II trans. A. Willis, 480, 403.

⁶⁰ Ibid., 542.

⁶¹ Charles Hartshorne, "Response to Martin" In *Existence and Actuality*, ed. J.B. Cobb et. al (Cambridge: Cambridge University Press, 1984), 75.

cf. N.E. Boultong, "The God of Religion and the God of Philosophy" *Process Studies* 50.1 (2021): 88-106.

⁶² Simone Weil, *The Notebooks of Simone Weil*, vol. I & II trans. A. Willis, 212, 217, 284.

⁶³ Ibid., 386.

⁶⁴ Simone Weil, *First and Last Notebooks* trans. R. Rees, 126.

micro-level perspective, even if it is rejected as a possibility by Simone Weil herself?

For an advocate of the New Science, to exist or to be “--- is to be a real pattern”⁶⁵ where the latter encodes ‘information’ about a real structure, information “---about other real patterns.”⁶⁶ In this way, contrary to Simone Weil’s conception of her New Science, the nature of reality at the micro-level, carried “--- implicitly in our best theories” means that quantum physics undoes “--- the metaphysics of substance”.⁶⁷ So when it is claimed that ‘it’s real patterns all the way down’, what is implied is that a pattern “--- is just relations among data”.⁶⁸ Interestingly, it can then be claimed that in the interest of not postulating non-redundant information, a pattern must be real in that it “--- must be *required*” to sustain a “counterfactual-generalization-supporting information.”⁶⁹ Consider in this context Simone Weil’s experimental ontological proof:

“An experimental ontological proof. I have not the principle of rising in me. I cannot climb to heaven through the air. It is only by directing my thoughts toward something better than myself that I am drawn upwards by this something. If I am really drawn up, this something which draws me is real. No imaginary perfection can draw me upwards even by the fraction of an inch. For an imaginary perfection is mathematically at the same level as I am who imagine it – neither higher nor lower. What draws one up is directing one’s thoughts towards a veritable perfection.”⁷⁰

Weil casts this claim in a different way elsewhere: “But we can say: the fact that man can pass into a state of aesthetic contemplation before a spectacle of nature as before a Greek statue is a proof of God.”⁷¹ Yet, because of Ladyman and Ross’s verificationism and physics cast as a primary form of knowledge deserving of a special status,⁷² such a possibility is ruled out: uninteresting both physically and metaphysically even if “anthropologically interesting.”⁷³ But what about that slogan ‘--- it’s real patterns all the way down.’

⁶⁵ J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 226.

⁶⁶ Ibid., 227.

⁶⁷ Ibid., 9.

⁶⁸ Ibid., 228.

⁶⁹ Ibid., 231.

⁷⁰ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 434.
Simone Weil, *Gravity and Grace* trans. E. Crawford & M. Von der Riche (London: Routledge, 2002), 99.

⁷¹ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 241.

⁷² J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 42.

⁷³ Ibid., 255.

Now if patterns are cast as relations within information, or among data, then it is not unreasonable to suppose “--- that these relations should be explicated in terms of processes.”⁷⁴ But that implies that “objective potentialities and probabilities” - understood as regularities or in law-like terms - come to the fore rather than an advocacy of determinism.⁷⁵ And in this way a different meaning might be rendered to a strange remark Simone Weil makes. First of all she claims that “God undoes the harmony in which he is constituted in creating man - a creature who prefers himself to God. Creation is already a passion.” She then continues; “God is an eternal act which is ever unmaking and remaking itself at the same time. In God, there are eternally and simultaneously perfect and infinite suffering and perfect and infinite joy.”⁷⁶ The difficulty arises as to whether the Divine is being described from the cosmic, theocentric standpoint - an Exsistent - a non-presence for us, or from the way Divinity is actualized in our world, in the middle-sized object perspective. One way out of this dilemma would be to grasp the idea of the Divine as a harmony, thereby referring to the Divine nature existing through an unchanging unity embodying possible patterns cast as Ideal Forms In this way that eternal character can offer guidance in its ever ‘unmaking and remaking itself’ as its actuality is manifested in the middle-sized object domain and so realized. The latter thereby refers to Divine actuality, the former to exsistence since this eternal aspect is non-perishing and not temporal.

If Simone Weil were alive today, in a less hostile mood, she might draw attention to the way through the history of science certain theoretical structures are inherited and expanded as well as unifying previously accepted theoretical structures. Her realism could then be sustained by “--- viewing the history of science as a progressive accumulation of knowledge”.⁷⁷ In this way it could be claimed that particular phenomena - experience under experimental conditions - represent or confirm such theoretical structures, such phenomena cast as imitating Platonic Forms.⁷⁸ The structure and order of such ideal patterning within phenomena would change according to their appropriateness for an emerging world characterized as Divinity decreating itself though the character of such ideal patterning in relation to Divine eternality which would not alter. This conjecture is offered since it seems that the relation between what might be called the

⁷⁴ Ibid., 274.

⁷⁵ Ibid., 255.

⁷⁶ Simone Weil, *The Notebooks of Simone Weil*, vol. I & II trans. A. Willis, 560.

⁷⁷ J. Ladyman, D. Ross et. al, *Every Thing Must Go: Metaphysics Naturalized*, 65.

⁷⁸ Howard Stein, “Yes, but... Some Skeptical Remarks on Realism and Anti-Realism” *Dialectica* 43, no. 1-2 (June 1989): 48-9, 57, 59.

eternal, unchanging, self-sameness of the Divine and Divinity regarded as undoing itself is not really clarified in Simone Weil's writings. In this way what can be regarded as potential timelessness can be related to the temporal nature of actuality. Hence Whitehead's comment: "The things which are temporal arise by their participation in the things which are eternal." So agreement of this view with her own stance cannot be guaranteed. Being hostile to Aristotle, she would not be able to sustain priority for actuality in making sense of eternity: "--- apart from things which are actual, there is nothing - nothing either in fact or in efficacy", Whitehead's ontological principle. Instead, she would accept an alternative: giving priority to existence following a traditional Platonist stance, rendered by Whitehead in the following terms: "In God's nature, permanence is primordial, and flux is derivative from the world."⁷⁹ But reconsider her stance. We are told that humans are free since we have been created by the Divine: thereby "We are outside his kingdom."⁸⁰ A part of Divine being is abandoned to create "what is other than---" the Divine.⁸¹ So the possibility of evil is part and parcel of decreation in its creation of humans since "Evil is a condition of de-creation."⁸²

One might ask: 'Why is evil's existence so important, and indeed our awareness of it?' As a reply, imagine circumstances where consumerism could render to everyone what they wanted. Indeed, everyone, given suitable genetic engineering, could be conceived to be fortunate in not wanting what cannot be attained. We are now in Huxley's *Brave New World* where individual selves would no longer exist in the sense of being able to choose either to resist or conform to such a presently existing status quo.⁸³ In such an artificially created world anyone seeking to be at a distance from such a perfect existence would have to regard him or herself as estranged, a problem or even mad: "If there were no affliction in the world, we should be able to believe ourselves in Paradise. Horrid possibility." It would be horrid because such a world would have been created by humans themselves: "Man is a social animal and the social element represents evil. There is nothing we can do about it, and yet at the same time we are not permitted to accept it as such, under pain of losing our soul. It follows that life cannot be anything else but spiritual laceration."⁸⁴ Nonetheless, such pessimism has still to be cast in

⁷⁹ A.N. Whitehead, *Process and Reality* eds. D.R. Griffin & D.W. Sherburne (New York: Macmillan, 1979), 40, 348.

⁸⁰ Simone Weil, *The Need for Roots* trans. A. Willis, 265.

⁸¹ Simone Weil, *Intimations of Christianity* (London: Ark Publications, 1987), 183.

⁸² Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 261.

⁸³ E.O. Springsted, "I Dreamed I Saw Augustine" *Simone Weil for the Twenty-first Century* (Indiana: Notre Dame University Press, 2021), 238-9, notes 13 & 14.

⁸⁴ Simone Weil, *The Notebooks of Simone Weil, vol. I & II* trans. A. Willis, 294, 466.

the light of her claim that there is always some concern for beauty even in “--- more or less distorted or soiled images. As a consequence there is not any department of human life which is purely natural. The super-natural is secretly present throughout.”⁸⁵

5.0 CONCLUSION

An attempt has been made to interpret Simone Weil’s writings by appealing to the idea of Scale Relative Ontology (SRO), as suggested in Ladyman and Ross’s book *Every Thing Must Go*. To sustain the idea of SRO is to insist that our understanding of what it is to be a human being and our place in the universe depends upon the cognitive scale employed in interpreting it. Three such scales were articulated: i) the cosmic or contemplative dimension illustrated in Von Schelling’s writings; ii) ultimate significance rendered to the realm of middle-sized objects characterizing common sense and expressed in ordinary language which Hegel’s philosophical ruminations prioritize; iii) the scientific or theoretical stance exemplified in Ladyman and Ross’s stance.

In Simone Weil’s writings a kind of SRO is employed, but becomes dualistic rather than tripartite in nature as a result of her extreme Platonism where the opposition between Being and Becoming is recast as that between Grace and Gravity. Yet a tripartism emerges in her treatment of science. She claims that Greek science is haunted by a sense of the cosmological and thereby “the relation between order and the conditions of order.” Classical science, emerging in modernism, through to the 19th. Century – concerned with the practical – was indebted to the ideas of work and energy. Contemporary science is dismissed as being too theoretical since its principle “--- is simply the relation between algebraic formulae devoid of meaning on the one hand and technology on the other.”⁸⁶ And, if not dismissed then subsumed – because of its application – under the idea of its everyday existence, sustaining her dualism, between her conceptions of Reality or Existence – the realm of Grace – and everyday existence, subject to Gravity. Possible reasons for that dualism were explored, especially her passion for Plato’s ontology rather than his epistemology, besides examining her dismissal of Planck’s defence of his Quantum Theory. Now for her it is the cosmic or theocentric dimension which is given pride of place in opposition to Ladyman and Ross

⁸⁵ Simone Weil, *Waiting on God* trans. E. Craufurd (Glasgow: Collins Fount Paperback, 1983), 129.

⁸⁶ Simone Weil, “Classical Science and After; Reflections on Quantum Theory; Scientism – A Review 65-70; Fragment: Foundation of a New Science” *On Science, Necessity and the Love of God* trans. R. Rees, 21, 19, 7, 22.

ascribing priority to the micro-level realm. That opposition between these two stances generates an interesting contrast. In the world of Ladyman and Ross what is created in the domain of middle-sized objects initiates exploration at the micro-level, whilst discoveries at the micro-level explicate not only the nature of middle-sized objects – some of which make exploration at the micro-level possible at a deeper level – but can be extended and applied to explain the nature of the cosmological dimension itself. Analogously for Simone Weil, what is actual in the domain of middle-sized object's creation under the rule of necessity can provide access to the Divine through aesthetic experience whilst Divine experience can initiate a sense of order to the world which contemporary human beings have lost, lost as a result of the world-wide use of an instrumental sense of science legitimated within the development of scientism: "To find a place in the budget for the eternal is not the spirit of our age"⁸⁷ Her stance, as compared to that of Ladyman and Ross is summarized in table 2 below.

Conjectures were then forwarded to ascertain how her notion of the eternal might be related to her conception of the Divine unmaking and remaking itself through an eternal act, arguing for a dipolar conception of Divinity cast in terms of the Divine's dualistic nature, an idea developed in Process Philosophy by Hartshorne along with Whitehead himself. But that possibility is in need of further clarification. In the meantime, what is clear is that whilst Ladyman and Ross reject the cosmic or theocentric dimension, grant pragmatic value to the middle-sized object perspective and ground truth at the micro-level, Simone Weil dismisses the latter and takes the value of the middle-sized object perspective as revealing, through contemplative activity, the cosmic or theocentric dimension. Meanwhile ordinary philosophical activity in the analytic tradition today – following the majority of followers of the later Wittgenstein's ruminations – reifies the realm of middle-sized objects, turning its back both on the cosmic and the micro-levels. In this way, ignorance can appear as a virtue, whilst any sense of the spiritual disappears.

Scale Relative Ontology (SRO) and Simone Weil's Stance

Scale Relative Level-->	Cosmic Reality	Everyday Existence	Contempora ry Scientific Stance
i) Standpoint	The Contemplative	The Practical	The Theoretical

⁸⁷ Ibid., 70.

ii) Measured Dimension	Cosmological; for Astro-Physics no mountains!	Middle-sized status renders existing individuals	Micro-Level; Every Thing Must Go
iii) Example of Philosophers	Schelling; Plato	Hegel; Conceptual Analysts	Ladyman & Ross
iv) Focus	Eternality	Temporality	Measurement determines temporal issues
v) The Language Issue	The Inexpressible; Intellectual Intuition given pride of place issuing in <u>Experience</u>	You can't say <u>what there is</u> ; you can only <u>say</u> what there is! <u>Concepts</u> first!	Complex inductive reasoning giving abstract expressions; <u>Scientific reasoning</u>
vi) Epistemological Claims	Emphasis placed upon the Arts and Aesthetics, Platonic philosophy, & Religious Experience	Different forms of knowledge generate descriptive ontological claims where possible!	Institutional norms guide a normative heuristic to make sense of scientific method.
vii) Simone Weil's Stance	The Reality of Grace is realized spiritually; what intelligence does not apprehend.	Necessity; an inferior imitation of Reality grasped through intelligence	'To be is to be a pattern'; such a stance endorses an Instrumentalism: the New Science

Table 2