

PARMENIDES' (BLUE) ORB

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ABSTRAK. Pandangan parmenides yang jernih tentang realitas, ditafsirkan secara epistemologis, mengantisipasi proyeksi persepsi dan nilai-nilai manusia ke lapisan permukaan yang tetap tidak diketahui dalam dirinya sendiri. Realitas tunggal Parmenides sebagai permukaan epistemologis memiliki analog dalam gambar kontemporer 'bola biru' kita, dunia, di mana banyak proyeksi dilemparkan dalam kehidupan manusia. Artikel ini dimulai dengan pengamatan Karl Popper tentang Parmenides sebagai pandangan yang diperlukan tetapi keliru tentang kosmologi dan peralihan terhadap kemungkinan epistemologis yang dinyatakan sebagai proyeksi persepsi terhadap gagasan Parmenides dan tentang dunia kita sebagai satu kesatuan. Dugaan metodologis dan pendangkalan Popper menginformasikan aspek heuristik kritis diri ke adegan ini sebagai sumbernya. Dorongan penelitian ini meningkatkan nilai sumber daya Kristen untuk martabat manusia dan prinsip sosial Pancasila menuju kerukunan sosial dan berkembang.

Kata Kunci: Epistemologi, deduktif, empiris

ABSTRACT. Parmenides' seamless equidistant view of reality, interpreted epistemologically, anticipates the projection of human perceptions and values onto an impervious surface that remains unknowable in itself. Parmenides' singular reality as an epistemological surface has an analogue in the contemporary image of our *blue orb*, the world, on which numerous projections are cast within human life. This article commences with Karl Popper's observations of Parmenides as a necessary but mistaken view of cosmology and segues to epistemological possibilities expressed as projections of perception onto a Parmenidean *idea* of our world as a unity. Popper's methodological *conjecture and refutation* informs a self-critical heuristic aspect to this scene as a source. The impetus of this study enhances the value of both Christian resources for human dignity and social principles of *Pancasila* toward social harmony and flourishing.

Keywords: Epistemology, deductive, empirical

INTRODUCTION

The citation of three presocratic philosophers—Xenophanes, Heraclitus and Parmenides—forms a composite site for Karl Popper’s approach to scientific research as an expression of heuristic conjecture and empirical testing that yields workable predictions for engaging life.¹

Popper invokes themes of fallibility and heuristic inquiry from Xenophanes for whom we do not know with certainty, either gods or the world, yet we have the impetus to search for more reliable understanding of life. We have the capacity to learn.² With reference to Heraclitus, Popper engages life as constant change. Scientific disciplines therefore make bold intelligent conjectures in search of continuities and more accurate methods amid change.³ Popper engages Parmenides somewhat ambiguously, as representing a heuristically necessary but mistaken view of cosmology. Within Parmenides’ two ways of thinking about the world, either by *truth* or *opinion* wrought from appearances, reality is depicted as a spherical or equidistant composite of all things in which nothing changes, even if it appears to change.⁴

¹ Karl Popper, *The World of Parmenides: Essays on the Presocratic Enlightenment*, foreword, Scott Austin, eds. Arne F. Petersen with the assistance of Jørgen Mejer (London & New York: Routledge, 2012); Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London & New York: Routledge, 2002) 183-223.

² Citing Xenophanes, the search for truth and the problem of recognising truth: truth exists, yet if we search for truth and find it, how will we know we have found it? Xenophanes (B34), Popper, *Parmenides*, 51, 95; *Conjectures and Refutations*, 204-206.

³ Popper, *Parmenides*, 247-248; *Conjectures and Refutations*, 214-221.

⁴ Popper, *Parmenides*, 80-82. On Parmenides’ two ways of thinking about the world, Robin Waterfield, *The First Philosophers: The Presocratics and the Sophists* (New York: Oxford, 2000) 50. Parmenides’ singular work is *One Nature*. Popper appears to give mixed concession to Parmenides—a mistaken cosmology that nevertheless gives priority to the *thetic* over appearances. (*Parmenides*, 98)

My thesis is that Parmenides' seamless reality by analogy, is not unlike the iconic idea of our globe as viewed from outer space—a wondrous *blue orb* that is unchanged over millennia, on which multiple worlds, of cultures and experience, are projected. This paper follows the epistemological impetus of Parmenides' reality as an impervious surface onto which projections are cast.⁵ What reality is, Parmenides does not tell us, except that it is conceived as a singular whole, while diverse projections of thought mingled with sense experiences of existence and phenomena are inevitable.⁶ Illusion is generated by assuming that these projections are the truth of reality and not projections on the surface of an inscrutable whole, which is nevertheless conceivable as indeed, is the idea of life's unity invoked by our iconic blue globe.

Concomitant with this thesis, Popper's observations of Parmenides' cosmology segue to epistemological engagement within which his methodological *conjecture and refutation* informs a self-critical heuristic aspect of this scene.

⁵ Parmenides' sphere is equally proportioned as undifferentiated and so without conflict; it is simply there, while the way of opinion generates differentials in an attempt to name and demarcate identities. D.W. Hamlyn, *The Penguin History of Western Philosophy* (London: Penguin, 1987) 22-24; Edward Hussey, "Parmenides", *The Oxford Companion to Philosophy*, ed. Ted Honderich (Oxford & New York: Oxford University Press, 1995) 646. Compare Aristotle's evaluation of Parmenides: "what is one in account is several in sensations". Aristotle, *The Metaphysics*, trans. & Intro. Hugh Lawson-Tancred (London: Penguin, 2004) § A.5. Parmenides offers "the true world" as "the screen upon which *light* and *night* project their illusion". Popper, *Parmenides*, 101; in Popper's later 1989 essay, "The Moon and The Two Ways", 89-109. Popper merges Parmenides' cosmological image with the moon to give a play of shadows—of "light" and "night" as "appearances"—on a Platonic cave wall. (108)

⁶ Popper, *Parmenides*, 81, 90-94, 101, 118, 129, 180, 322-323.

RESEARCH METHOD

In Popper's initial reading, Parmenides articulates a cosmology that is seemingly absurd; he makes a scientific virtue of this, as it becomes the fulcrum for ensuing dialectical developments in cosmology.⁷ Later, Popper is more conscious of a view that Parmenides is presenting an epistemological argument rather than a cosmological image.⁸ In Popper's reading of Parmenides, our *thetic* capacity has precedence over appearances, a thesis that is formed from an inaugural scientific hypothesis made by Parmenides—that the moon is unchanging, despite appearances of waxing and waning.⁹

Parmenides contests our capacity to comprehend the world merely through our senses. What the world is as a singular entity is conceptual.¹⁰ An epistemological approach to Parmenides avoids the difficulty of his thought being corralled into an impossible and even caricatured cosmology for depicting human existence with its visceral experiences of change. An epistemological approach offers the possibility of casting Parmenides' reality in the contemporary idea of our iconic blue globe, an idea upon which, numerous projections are cast, reflecting the diverse experiences of human life amid flux.

As projections of perception onto an idea or the singular facticity of our world, diverse expressions of human life offer contingent valuations. Parmenides' two ways of inquiry, of truth and opinion, of an unchanging idea of a singular whole and

⁷ Popper, *Parmenides*, 103, 129, 180; *Conjectures and Refutations*, 548-549.

⁸ Parmenides' spherical expression of *what is*, is epistemological—not an actual description but an image of completeness. Waterfield, *First Philosophers*, 54; Hussey, "Parmenides", 646.

⁹ Popper, *Parmenides*, 181, 79, 95-96, 113-116, 330-331.

¹⁰ Waterfield, *First Philosophers*, 54-55, 82.

human life in flux, correlate with variegated assertions of value within the elusiveness of truth—except that, we inhabit, have a concept of, and aspire to life’s cohesiveness within one *blue orb*.

Within human intelligence, after Popper’s methodological premise—of *conjecture and refutation*—we think and conjecture as we also think through the testing and refutation of many conjectures in order to identify reliable empirical knowledge that can be utilised in shared problem solving, inventiveness and practical predictions toward common human flourishing.¹¹

1. WAYS OF TRUTH AND OPINION

Parmenides’ *way of truth* is an idea, a concept.¹² The *way of opinion* is a mixture of thinking and sensate experience—seemingly true but invariably contested by others.¹³ The way of opinion is immersed in binary thinking; it is double-minded, by identifying anything also through its correlating opposite—a source of confusion, yet habitual in its noisy posturing.¹⁴ Accordingly, Parmenides describes two impetuses within human existence—one, toward truth, which remains self-consciously elusive, and the other, toward truth, that is unself-consciously opinionated, mistaking such opinion for truth. Opinions are not asserted from a

¹¹ Popper, *Conjectures and Refutations*, 43-86, 100, 208-209, 419-435; *The Two Fundamental Problems of the Theory of Knowledge*, ed. Troels Eggers Hansen, trans. John Kinory & Andreas Pickle (London & New York: Routledge, 2009) 466-484; *The Logic of Scientific Discovery* (London & New York: Routledge, 1992, 2002) 3-34.

¹² Parmenides (B2), Popper, *Parmenides*, 80.

¹³ Popper, *Parmenides*, 100-101.

¹⁴ Waterfield, *First Philosophers*, 58, 59. Popper’s Parmenides portrays an epistemological darkness of *the thing itself*, while the naming of things by opposites, represents an “epistemological fall” (“intellectual fall”) for the thing in itself remains dark. *Parmenides* 81, 83; *Conjectures and Refutations*, 222.

position of consciously being deceived but as believing an opinion to be true—not a way of conscious illusion but a way of illusion mistaking opinion for truth. The way of truth and the way of opinion, are inseparable in our engagement with the whole. We cannot isolate the way of truth; we do not inhabit the way of opinion without the way of truth imposing upon us, invoking yet unable to articulate this way; we live with the two ways intermingled and for the most part, not recognising this, being misled in assuming that the way of opinion represents the whole.¹⁵

In the *two ways* of truth and opinion, reality is true and appearances are deceptive.¹⁶ Appearances consist of contrasting nominated attributes that seem to be real, but the contrasts themselves are changing as a perpetual linguistic phenomenon—one thing appears as distinctive, while the other, its binary correlate, is silent and unrecognised.¹⁷ The seeming real is here projected onto an impervious surface that is without contrasts and inaccessible as a thing in itself. Popper’s analogue for Parmenides’ world is the dark side of the moon—a dark dead lunar surface of brute facticity that absorbs all distinctions of life.¹⁸ (Here, Popper betrays his cosmological interpretation of Parmenides’ epistemological reality).

For Parmenides, the real is unchanging, while within appearances, the real is sought but eludes discovery; the new, as significant as it is in its appearances,

¹⁵ Plato, *Parmenides*, trans. & intro. Albert Keith Whitaker (Indianapolis: Hackett Publishing Company, 1996) 10. Popper suggests that the *two ways* of Parmenides becomes rationalism and empiricism. *Parmenides*, 183-184.

¹⁶ Popper, *Parmenides*, 110.

¹⁷ Waterfield, *First Philosophers*, 60-61.

¹⁸ Popper, *Parmenides*, 80, 82, 114. Parmenides saw “reality” as “a dark sphere of dense matter (like the Moon)” (80); “light plays on her dark and unchanging body” (79).

remains deceptive in its presumption to be *the real thing*.¹⁹ The real is greater than appearances; we come and go, but the earth remains the same as the idea of unity cast through our iconic image of a blue globe. For Parmenides, the real can be conceived but remains unknown. It is an idea not a thing—and certainly not a philosophical trope of *reality behind appearances*.²⁰

For Parmenides, reason exhibits reality, while opinion generates illusion in which reason and sensate experiences are confusedly intermingled.²¹ An inert seamless reality receives on its surface, diverse projections of thought. Movement is generated within the way of opinion, which is inflected by variegated sensual interfaces within diverse and changing phenomena. The way of truth, as recognising that there is a singular “full” reality, is impervious to projections made on it from numerous sources of sensual engagement within phenomena.²² Amid the diverse phenomena of life and numerous perceptions of the whole, we can never know the world as it really is in itself. We synthesise diverse experiences of selected

¹⁹ Popper wants to replace the concept of *deception* in Parmenides’ way of opinion with *new or untested*. *Parmenides*, 113. Deception here works because the new is encountered as a *Eureka!* discovery, only to be superseded.

²⁰ Popper, *Parmenides*, 91, 110-112. Parmenides’ “discovery of the distinction between *appearance* and the *reality* behind the appearances”. *Conjectures and Refutations*, 549. Popper’s earlier work speaks of a Parmenidean *reality behind appearances*; later works focus more on scientific conjecture that avoids a traditional quest for the reality behind appearances. (“Rationality and the Search for Invariants” 1965, *Parmenides*, 180-181; “The World of Parmenides” 1973, *Parmenides*, 143). Popper makes reference to traditional *reality behind appearances* scenarios (referring to Parmenides’ predecessors from Thales to Pythagoras), which Parmenides does not replicate. *Parmenides*, 129.

²¹ Popper, *Parmenides*, 92.

²² Popper, *Parmenides*, 19, 78, 80, 98, 115, 178; *Conjectures and Refutations*, 196. Parmenides provides a basis on which to explore change—the permanence of reality as “full”. (*Parmenides*, 136, 143) Parmenides: “it is full of what is” (F8). Waterfield, *First Philosophers*, 60.

phenomena into cohesive entities, yet this eludes completion in relation to our idea of the whole.²³

The image of a blue orb as seen from outer space has become a contemporary idea of the oneness of our world and therefore an aspirational imperative to harmony within human existence. Within the variegated experiences, contexts, histories and hopes of human being, diverse images are projected onto this singular global phenomenon that invokes even as it perplexes thought. These projections are experiential, theoretical, scientific, aesthetic, mythological, religious, social, economic and political; these frequently conflict with one or several other projections. This phenomenon implies freedom to explore and to choose a wide variety of ways, any one of which finds a degree of tribal consolidation in order to be sustained for any duration of time.

Parmenides offers the surface onto which these projections occur—a seamless equipoised whole of what *is*—and by analogue, the image of our blue globe that is suggestive of Parmenides’ monistic idea but which, by reception of numerous projections, shudders with Xenophanes’ fallibility amid Heraclitus’ continuous flux of existence within which, opposites invariably speak the same language (*logos*) of change and definition.²⁴

²³ Popper correlates Parmenides’ world with “Kant’s ‘Thing in itself’”. *Parmenides*, 92, 111-112.

²⁴ Heraclitus and Parmenides generate the same outcome from opposite approaches—with Heraclitus, by the dialectical inseparability of opposites in being, and Parmenides, by the simultaneous exclusion of opposites in being. Karl Jaspers, *Anaximander, Heraclitus, Parmenides, Plotinus, Lao-tzu, Nagarjuna*, ed. Hannah Arendt, trans. Ralph Manheim (New York & London: Harcourt Brace Jovanovich, 1966) 28-29; on Parmenides’ equipoised reality, Hussey, “Parmenides”, 646.

Is there a choice we must make between Heraclitus (all is flux) and Parmenides (there is no change)? For Heraclitus, seeming static entities are in a continual process of change within a virtual equilibrium of opposite forces. For Parmenides, deriving the truth of reality from appearances amid change is not possible, therefore the perennial default search for truth that occurs within and among appearances.²⁵

If the way of opinion is an attempt, finally, to articulate existential purpose, does Parmenides' way of truth provide any assistance for this quest? Yes and no. In Popper's terms, we can think and conjecture scenarios that are tested within the material conditions of life, providing useful predictions for problem-solving toward human flourishing, even if we cannot secure an ultimate orientation or purpose from this critical process.²⁶

2. HEURISTIC IMPETUS AND CONTINUOUS CRITIQUE

The capacity for conjecture and testing, so thinking, exhibits human wonder, heuristic desire for accuracy or truthfulness, and humility, for conjectural thinking is subject to falsification by testing.²⁷ For Popper, our knowledge is always potentially "falsifiable" because we cannot prove, definitively, our assertions about existence. We can only cross-check these intersubjectively through the rigorous testing of theoretical proposals within empirical conditions as these conjectures are

²⁵ Popper, *Parmenides*, 176-178, 235 n. 42.

²⁶ Popper was respectful toward "non-scientific" positions; he contested untested claims to scientific status. Anthony O'Hear, "Popper, Karl", *Oxford Companion to Philosophy*, 702.

²⁷ On heuristic "search for truth", Popper, *Conjectures and Refutations*, 311-314. Conviction (testimony) is inadequate if it cannot be tested intersubjectively, remaining only a hypothesis unless exposed to repeatable intersubjective empirical testing. *Two Fundamental Problems*, 131-133.

translated into problem-solving predictions within material engagement—until displaced by better proposals that are thetically cast and empirically tested.²⁸

Popper's method represents an inverse relationship between "probability" and "falsifiability"—the more extensively tested and so potentially falsifiable a thesis, the less probable, though more reliable than a generalised and assumedly probable thesis that is not exposed to rigorous testing.²⁹ In seeking to avoid generalised extrapolations, Popper does not deploy inductive method, but instead, affirms adventurous theoretical conjectures and their rigorous intersubjective empirical testing.³⁰ This is premised on Popper's thesis of "*fallibilism*" and discovery by "*trial and error*", which by competing proposals and falsification through testing, so conjecture and refutation, exhibits a "*deductive-empirical*" method that demarcates generalised assertion from critical heuristic endeavour.³¹ The truth of any proposal, even as rigorously tested and useful, is never finally certified.³²

This scenario, of heuristic desire and critical thinking, of conjecture and refutation, represents an ethos of cooperative investment in problem-solving in the

²⁸ With particular reference to Popper, *Conjectures and Refutations*, 43-86; *Logic of Scientific Discovery*, 57-73.

²⁹ Popper, *Two Fundamental Problems*, 76-77, 84-86, 157; *Logic of Scientific Discovery* 268-269, 412-419; *Conjectures and Refutations*, 73-78; *Unended Quest: An Intellectual Autobiography* (London & New York: Routledge, 1992, 2002) 117-118.

³⁰ Popper, *Two Fundamental Problems*, 357-358.

³¹ On "*fallibilism*", Popper, *Conjectures and Refutations*, 304, 308, 310-312. On competing theses and "*deductive-empirical*" method, *Two Fundamental Problems*, 467-469. Popper rejects *a priori* proposals as empirically non-falsifiable and rejects induction as non-verifiable in its generalisations from specific experience. Reliable theories, for the purpose of predictive application, are determined by empirical testing. (17-18) Theory precedes empirical testing while testing validates theory. (24) Popper demarcates scientific knowledge from metaphysical assertions or opinions on the basis of falsifiability. *Logic of Scientific Discovery*, 314-316. Generation of ideas, competing theories, so "contradiction", intentional testing and "elimination" by "trial and error"; contradiction is fertile, precisely because it is not accepted. *Conjectures and Refutations*, 419-435.

³² Popper, *Unended Quest*, 173-175.

face of existential challenges. This epistemology sustains a tension between the way of opinion and the way of truth—opinion will always be present and much of it will generate illusions about life; desire for truth, within critical conditions, will also always be an impetus to integral discovery.

Our Parmenidean epistemological orb, an idea onto which perspectives are projected, will receive illusory and truthful assessments of life, the latter always under review, yet nevertheless affirming a heuristic endeavour toward accuracy, even if never finally achieving this. Intentional heuristic endeavour can be correlated with a way of truth and not resigned to illusions as immersed in the way of opinion without awareness that these are opinions. Within this heuristic impetus, we collegiate in activities that generate purpose through resolving existential challenges and reducing impediments to human flourishing and shared relationally with others.

Whether ensuing purpose gained from these dynamics is superseded by a presumed short-cut to truth within a particular philosophical or religious perspective, cannot be certified, as too, any scientific conjecture is a pursuit of truth that is never finally certified. Both remain projections onto an idea of cohesive reality and are legitimately exposed to critique and rigorous testing as an impetus to heuristic endeavour—so the way of truth, with small apertures of predictive consolidation in successful problem-solving within the materiality of human existence immersed in the way of opinion.³³

³³ Popper, *Logic of Scientific Discovery*, 278-282.

Contrary to popular perceptions of science and exuberant declarations of scientific “certainty”, for Popper, science and certainty are antithetical.³⁴ The pursuit of certainty represents a demise of science, for scientific method is a constant impetus to and process of falsification and so refutation of inadequate theoretical proposals. This process is never completed, for the brief of any scientific discipline is heuristic and self-critical in evaluation of theoretical proposals by constant testing; this also includes the continuous search for more accurate means of testing. Tested ideas can be most fruitful, but they are never finally certified as to avoid being questioned, modified and even falsified by further conjecture, discovery and testing.³⁵

In the development of ideas, few ideas are wholly superfluous, even if falsified (a position that Popper held in relation to Parmenides’ presumed mistaken cosmology). Refuted ideas offer opportunities for further exploration—as initially, they may have assumed too much and over-reached or they assumed too little and required further development.³⁶ Innovative ideas can overturn existing methods and practices, provoking a paradigm change; accepted ideas can be falsified by different methods of testing.³⁷ An idea has presuppositions that can be inadequate; these are

³⁴ Popper, *Unended Quest*, 173. Learning from mistakes, the quest for truth is also resistance to certainty. *The Open Society and its Enemies II* (London & Henley: Routledge & Kegan Paul, 1980) 374-376.

³⁵ Popper, *Two Fundamental Problems*, 435-437. *Thetic* engagement represents continual exploration by further conjecture and testing. (414-416)

³⁶ By curiosity and problem solving, of necessity, previous assumptions are retested. Popper, *Two Fundamental Problems*, 10. There is no “*tabula rasa*” of knowledge; knowledge develops through the “modifications” of previous knowledge, therefore presupposing a scientific tradition. *Conjectures and Refutations*, 36-37.

³⁷ Changes in scientific ideas occur predominantly by significant paradigm shifts through discontinuities rather than incremental development. Thomas S. Kuhn, *The Structure of Scientific Revolutions: 50th Anniversary Edition* (Chicago: Chicago University Press, 2012).

critiqued and either enhanced or pared down with engagement. A falsification becomes a premise for a new theory. The incremental perspicuity of ideas is wrought critically.³⁸

In evaluation of projected opinion on a Parmenidean globe, it is imperative to engage any opinion critically. A perspective, just because it is *someone's* perspective, compels neither agreement nor exemption from critique. We have perspective because we are located within tangible settings of life. This is not a reason to assume that perspective is *merely relative*, which would be a dismissal of human contexts and unique experiences that generate such perspective. To assume that any perspective is inviolable is not adequate either. To default indifferently to relative perspective is a lazy response to discovery and learning, testing our own and others' ideas, and exploring correlative possibilities between familiar and new understanding. These activities represent respectful dialogue that is prepared to think with patient honesty, mutual-critique and intelligent consolidations.³⁹

Within our engagement with life we make fallible assessments and choices. Our experience of fallibility, of self and others, does not necessitate Pyrrhonic skepticism and therefore haphazard choices—as if human fallibility negates tested and veritable decisions.⁴⁰ Of necessity, we make many crucial decisions in life; we also make

³⁸ Popper, *Conjectures and Refutations*, 90-129; 43-86; *Unended Quest*, 96-97.

³⁹ Popper, *Open Society II*, 386-387. Kant speaks of “indifferentism” generated by skepticism within which, it is assumed that nothing can be asserted beyond relative positions. Immanuel Kant, *Critique of Pure Reason* trans. & ed. Paul Guyer & Allen W. Wood (Cambridge: Cambridge University Press, 1998) Axi-x.

⁴⁰ “Absolute skepticism” negates *thetic* conjecture and heuristic impetus rather than prefacing these through judicious skeptical “suspension of judgment”. Kant, *Logic*, trans. & intro. Robert S. Hartman & Wolfgang Schwarz (New York: Dover, 1974) 91-92. *Pyrrhonic skepticism* presumes to know nothing and therefore is unable to make judgments on anything.

mistakes, which have tangible repercussions within human experience. This is an impetus to recognise both our fallibility and our heuristic capacity—so following Popper, the imperative to seek, to conjecture, and to test possibilities with intelligent discrimination.⁴¹

CONCLUSION

If after Parmenides, opinion is pervasive, critical evaluation is necessary, for within our existence the plural diversity of human experience generates numerous perceptions of life that are both helpful aspirations and harmful illusions within which people oscillate. We also have the capacity to project intelligent conjectures on a *Parmenidean* globe, with various heuristic gains for human existence—a Popperian site for adventurous thinking and its rigorous testing.

Human existence reflects a constant engagement with as much that is unknown as is presumably known. Further, the scope of what is unknown is not known and so the quest for integral human life exhibits continual probing for unknown unknowns, without agreed criteria for determining the accuracy of necessary conjecture. This phenomenon generates numerous determinations about life, which have crucial implications for human values and activities. *What it is to be human* is therefore under constant revision and contest, being explored and critiqued this way and that way, often in serendipitous and sometimes in lamentable expressions of human life. Common foci and collegiality in engaging the constant challenges of existence and requisite problem-solving are perennial sources of thinking and

⁴¹ Popper, *Open Society II*, 374-375.

enigma; these occur within the intermingling of truth and opinion projected onto a Parmenidean idea that functions analogously, epistemologically, to the image of our *blue orb*.

These observations can form a requisite relationship with two aspects of sagacious engagement with life: first, the Christian resources of personal freedom, intelligent inquiry and inter-personal dialogue that enhance the composite materiality of human dignity and judicious engagement with life; second, the principles of *Pancasila* that inculcate particular social impetuses toward democratic and mutually respectful social harmony. In their generous and integral expressions, both share a view of scientific endeavour that is genuinely heuristic and self-critical in sifting through human activity and reflection, opinion and conjecture, in search of helpful and sustainable solutions toward health, safety, dignity and skill within tested understanding and shared purpose within one *blue orb*.

BIBLIOGRAPHY

Aristotle, *The Metaphysics*. Translated and introduced by Hugh Lawson-Tancred.

London: Penguin, 2004.

Hamlyn, D.W. *The Penguin History of Western Philosophy*. London: Penguin,

1987.

Hussey, Edward. "Parmenides". *The Oxford Companion to Philosophy*. Edited by

Ted Honderich. Oxford and New York: Oxford University Press,

1995.

- Kant, Immanuel. *Logic*. Translated and introduced by Robert S. Hartman and Wolfgang Schwarz. New York: Dover, 1974.
- _____. *Critique of Pure Reason*. Translated and edited by Paul Guyer and Allen W. Wood. Cambridge: Cambridge University Press, 1998.
- Kuhn, Thomas. *The Structure of Scientific Revolutions: 50th Anniversary Edition*. Chicago: Chicago University Press, 2012.
- Murdoch, Iris. *Metaphysics as a Guide to Morals*. London: Vintage, 2003.
- Plato, *Parmenides*. Translated and introduced by Albert Keith Whitaker. Indianapolis: Hackett Publishing Company, 1996.
- Popper, Karl. *The Open Society and its Enemies II*. London & Henley: Routledge & Kegan Paul, 1980.
- _____. *Unended Quest: An Intellectual Autobiography*. London and New York: Routledge, 1992, 2002.
- _____. *The Logic of Scientific Discovery*. London and New York: Routledge, 1992, 2002.
- _____. *Conjectures and Refutations: The Growth of Scientific Knowledge*. London and New York: Routledge, 2002.
- _____. *The Two Fundamental Problems of the Theory of Knowledge*. Edited by Troels Eggers Hansen, translated by John Kinory and Andreas Pickle. London and New York: Routledge, 2009.
- _____. *The World of Parmenides: Essays on the Presocratic Enlightenment*. Foreword by Scott Austin, edited by Arne F.

Petersen with the assistance of Jørgen Mejer. London and New York: Routledge, 2012.

Waterfield, Robin. *The First Philosophers: The Presocratics and the Sophists*. New York: Oxford, 2000.