

Minimal Ontological Realism as Pragmatist Foundation, and the Ethics of Responsibility

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Responsibility, post-humanist education, metaphysics, ethics, minimal ontological realism

Abstract

Current philosophy of education explores inter alia ontologies that frame educational-philosophical determinations of the learner or teacher as a being. In so doing, it engages with old and new paradigms of (post-)metaphysical thought and requires ever fresh perspectives for its engagement to be critical and refreshing. To recent educational-philosophical initiatives that invite a rethinking of how educational philosophy addresses the *Zeitgeist* (spirit of the times) this paper responds by suggesting minimal ontological realist assumptions as a new, fertile ground. The paper will argue that educational and moral philosophy are potentially most fruitful if underpinned by assumptions that are minimally realist but eschew assumptions about individual entities existing in the extraphenomenal sphere. Rather, the extraphenomenal real can be seen as a field of energy operating in certain largely predictable ways. Theoretical physicists are the contemporary natural philosophers who study such forces and the nature of energy itself as modern empirical techniques offer them some insight into what was previously unobservable. There is no longer any need to be held back by certain limitations in the thinking of classical philosophers on these matters, including ambiguity in Kant’s work arising from his use of *noumenon/noumena* as a count noun. The paper goes on to consider the implications of thinking about minimal ontological realism in the applied and social spheres, including education. It particularly critiques structuralist models of thinking about social events,

¹ A note by Marianna Papastephanou: The author of this paper, Professor Andrew Stables, entrusted it to my care as a response and contribution to a prospective special issue of mine. This collaboration did not materialize because of Andrew’s sudden and untimely death. His death has saddened us all in the international educational-philosophical community, and I am sure that I express the feelings of very many international philosophers of education when I say that Andrew will be sincerely missed and always remembered with deep appreciation for his lively presence at conferences and for his so very fruitful and thoughtful interventions in scholarly debates within the field. A very distinguished member of the field, Andrew aired his thought-provoking ideas in all the major educational-philosophical journals and offered us influential insights of lasting significance. As an academic collaborator of Prof Andrew Stables and as the co-ordinator of the Doctoral Program in Educational Philosophy and Theory (University of Cyprus, Department of Education) to which the main ideas of this paper have also been presented, I am uploading this insightful, rich and stimulating paper in recognition of, and gratitude for, his longstanding contributions inter alia to edusemiotics, environmental education and post-humanist liberal pragmatism.

especially those that emphasise the importance of hidden, deep structures that drive surface events.

Background

Listen Sariputra,
this Body itself is Emptiness
and Emptiness itself is this Body.
This Body is not other than Emptiness
and Emptiness is not other than this Body.
The same is true of Feelings,
Perceptions, Mental Formations,
and Consciousness.

Listen Sariputra,
all phenomena bear the mark of Emptiness;
their true nature is the nature of
no Birth no Death,
no Being no Non-being,
no Defilement no Purity,
no Increasing no Decreasing.

That is why in Emptiness,
Body, Feelings, Perceptions,
Mental Formations and Consciousness
are not separate self entities. (Hanh, undated)

The extract above comes from the Mahayana Buddhist text, the *Heart Sutra*. The Buddhist tradition, in some of its forms (for there is a rich mythology in others) stands alone among major cultural and religious traditions in placing consciousness and ethics at the very heart of reality, eschewing the materially or spiritually given. Generally, however, philosophical realism inevitably entails assumptions about reality that are not directly empirically verifiable other than on a *post hoc ergo propter hoc* basis, whereby the assumptions are merely held to be true because they provide an overarching narrative into which events more or less neatly fit. ('Empirical' here implies that which cannot be verified by human experience in any form, not merely scientific observation.) It could be argued that even ascetic forms of Buddhism do this insofar as they emphasise the law of *karma* (general cause and effect) in determining present circumstances. Such assumptions include religious and cultural myths, belief in mathematical regularity as a universal principle, and conceptions of social structure and power. All of these are human specific attempts to bring order to experience. They are all mythologies – master narratives – that shape experience and guide behaviour, including the assumptions underpinning educational policy and practice. This paper will argue that educational and moral philosophy are potentially most fruitful if underpinned by assumptions that are minimally realist but eschew assumptions about entities existing in the extraphenomenal sphere. In so doing, it brings to light a specific ambiguity in Kant's approach towards towards the noumenal. These minimally realist assumptions could operate as new paradigmatic framings of education, enriching our understanding of the human subject while keeping away from old foundationalism and hegemonic Western metaphysics. The new framings suggested here also differ from related post-humanist discourses and are quite distinctive from kindred new materialist explorations that are being increasingly transferred to educational philosophy; for very brief and concise accounts (and further sources) of the post-humanist, non-anthropocentric and ecological relevance to educational philosophy see the related contributions to Papastephanou et al, 2020; for article-length related publications see Oral (2015 and 2021).

The present paper seeks to explore assumptions that, due to their paradigmatic character, are posited rather than argued out. Thereby their relevance and significance for education (and its philosophy) stands out in an evocative rather than apodeictic manner. The article proceeds in a suggestive manner that emphasizes the paradigm shifting qualities of these assumptions and not their validity claims to hidden truths that are thus supposedly revealed and made useful for problem-solving operations or for offering therapy to socio-political ills. Joining physics with social sciences, semiotics, metaphysics, mythologies of East and West and religion is offered in this paper as a fascinating intellectual agenda (perhaps even adventure) that acknowledges the interconnectivity of modalities of thought. If, as Kalli Drousioti puts it, “a philosophy of interconnectivity as a shift away from anthropocentrism enables new interpretations and teachings of what is happening in our interconnected and interdependent world” (Drousioti, 2020, 7), then the time-honoured “apodeictic logics” that has guided ontological explorations from a primarily scientific standpoint should be limited. This emphasis on interconnectivity explains why this paper avoids succumbing to the conventions of a scientific article that would give a lopsided emphasis on the scientific paradigm. My aim is not unquestioningly to rely on scientific tenets as supposedly securing a superior access to hidden truths and providing solid foundations or therapeutic responses to all sorts of quandaries. Therefore, in this sense, the paper also avoids some hierarchies, divisions and related pitfalls that have been associated (see, Papastephanou 2021) with the paradigm that medicalizes education, philosophy and politics in defining the curable and seeking the cure for anything that diverges from what passes for ‘healthy’.

It appears that human history (that is, recorded human history) has on the whole entailed taking less and less for granted about extraphenomenal reality, the Buddhist tradition above standing as possible exception. The complex narratives, rich mythologies and creation myths of the premodern world began to allow for conceptions of divinity that were more ineffable, and for a substantivist view of nature organised around space, time and structure. This combination of a substantivist account with divine ineffability can be found in Aristotle and Plato respectively (e.g. Morley 2020). The natural philosophy of the past century, theoretical physics, has slowly undermined substantivist assumptions to the point at which quantum physics struggles to reconcile theories of force and space-time with a degree of observed randomness, throwing doubt on the objective qualities of particles, while cosmology rests on assumptions of dark matter that can never directly be perceived. There has, over time, been progressively less emphasis on supernatural explanations of the natural. However, whether or not explanations of the extraphenomenal are scientific or religious, they are all myths in the sense that they provide explanatory, rather than justificatory, narratives to frame significance and possible action. All mythologies are extrapolations and generalisations from empirical experience, in the broadest sense, that then serve as templates for further understanding and action.

Views into Nowhere?

Any attempt to validate accounts of the world beyond or underpinning the phenomenal is self-evidently fraught with difficulty. There can be no direct data. Just as there is no view from Nowhere, so there is no view into Nowhere (Nagel 1989). However, science has begun to offer insights into the world that was previously beyond the phenomenal, using technologies from the telescope to the microscope to the particle accelerator. We have begun, therefore, to see into Nowhere, and such insights have increasingly affected explanations of the phenomenal. For the purposes of the present argument, and in line with practices in the empirical sciences, observation will be accepted as a form of experience. Furthermore, data such as that derived from radio telescopes will also come into this category. (Such data are usually turned into visual

data.) Thus our phenomenal worlds have been extended by scientific progress, and mythologies often adapted accordingly. The significance of such developments for a version of ontology beyond correlationism, such as Quentin Meillassoux's, has already been explored by some educational philosophers (e.g., Oral [2015]) in a very engaging manner. However, the conclusions that are drawn differ from mine (in ways that are beyond the scope of this paper), and the significance is question read otherwise than in the present paper, focused as their exploration is on transferring Meillassoux's ideas to educational theory and examining direct implications on pedagogy.

Scepticism concerning mythological accounts does not however invalidate belief in any reality beyond the phenomenal. Indeed, such invalidation can be dangerous. To believe that we have simply made the universe up and can potentially do what we like with it, as on comprehensive constructionist or nihilistic existentialist accounts, offers no basis for action beyond whim, vanity or an obsession with self-identity, and risks enormous damage when the unknown intrudes upon the known. After all, looking into the universe at the largest and smallest scales does reveal something, even if not what was expected. It seems we have not made everything up, even if we may have made up the particular patterns we have tended to use to organise. While hubris and solipsism combined form a desperately insecure basis for action, how we construe the world about which we can directly know nothing remains ultimately a matter of choice to some extent, though it can take considerable efforts of will to go against received traditions.

It is important to note that appeals to the real in ordinary language are often, perhaps usually, not appeals to the extraphenomenal. In everyday language, the 'real' is within the phenomenal: urging someone to 'be realistic' is pragmatic, not metaphysical advice, and the response 'Really?' indicates a search for corroboration of the empirical, in the broadest sense. (It is almost synonymous with asking, 'Would sensible people agree?': an appeal to the *sensus communis*.) Similarly, experimental and social sciences both identify supposedly underlying patterns but these are within the data rather than outside. Nobody knows what patterns exist outside experience, though many may believe they do. Therefore, there are dangers in construing such patterns as fundamental.

However, conceptions of the extraphenomenal do have enormous significance. They have framed human thought and action since the dawn of history. Their invention and application seem to be integral to the human condition. The more complicated the narrative, the more exclusive it will tend to be, the more it may encourage fatalism and determinism, and the more difficult it will be to live on equal terms with those from different traditions, though this exclusivity is not necessarily problematic if narratives are accepted as cultural traditions rather than absolute truths. Finally, if this exclusivity is construed as incommensurability or isolationism of cultural traditions, it may block insight into possibilities of interconnectivity of cultures and diverse language games. Thus, in affirming some exclusivity of cultural traditions as harmless, this paper does not necessarily subscribe to any monoculturalist sense of total incommensurability. Furthermore, as already noted, modern science allows some insight into what was previously considered noumenal nature on both the grandest and the smallest scale (glimpses into Nowhere), and some of these insights, particularly at the smallest scale, have upset assumptions about the extraphenomenal realm. However, scientific data can only be understood in the context of cultural traditions, so even areas such as quantum mechanics and cosmology are inheritors of older religious and quasi-religious accounts – a point that once again asserts interconnectivity, for instance, of science and cultural traditions, rather than an independence and, worse, a priori, self-evident and un-tested superiority of science over other

or older modalities of human relationality to the world and to the extraphenomenal. Language, for example, cannot be continually reinvented *ab nihilo*. New data can initially only be interpreted within existing interpretive frameworks.

Extraphenomenal realism of some form is to be preferred to anti-realism as it acknowledges powers greater than our own. However, extraphenomenal realism should make as few untestable claims as possible to avoid the danger of living in superstitious thrall to dictates and mythologies that can never be tested beyond everyday judgments about whether ‘this has worked for me, so far’. Realism should be minimal to avoid intransigent obeisance to given mythological accounts and therefore remain open to scientific progress and to embracing diverse cultural perspectives, though this need not invalidate all forms of religious conviction (below). In this way, the interconnectivity of science and various cultural traditions mobilizes mutually directive and corrective processes of critical thought instead of asserting either scientific dogmatism and a supposed disinterestedness that cuts it off from interpretive frameworks or an “anything goes” relativism open to just any superstition and faulty assumption. Minimal ontological realism (MOR) avoids both solipsism and fatalism: it allows full reign for human creativity and concern whilst acknowledging that human aspirations are, ultimately, constrained. In short, it allows for freedom with humility, and for a high level of human responsibility. MOR forges a path between the Scylla and Charybdis of mythological determinism and solipsistic existentialism. In this sense, MOR is very much in keeping with the spirit of Western Enlightenment. In promoting this kind of relationality between the human and the world and this interconnectivity of modalities of thinking and interpreting the world, MOR is compatible with, and advances, an ethic of responsibility rather than the ethic of control that seeks to solve all problems, answer all questions and cure thought and hubristically to treat it as curable of all maladies. In this way, MOR further contributes to some related meta-critical concerns (see, for instance, Papastephanou, 2021) about a medicalizing pattern in current politicizations in education. Finally, MOR also steers clear from dogmatic, hubristic and superstitious understandings of the human relationship to the world. Educationally, science and culture as well as ethics and knowledge are connected in a way that avoids various fundamentalisms that are still noticeable beneath educational theory and practice.

Ontological realism: moving beyond Kant and Berkeley

The particular concern of this paper is with ontological realism. This embraces substances, beings or entities, and their relationships in space and time: that is, things-in-themselves and structure. The aim is to illuminate what can most safely, or most nearly safely, be claimed about what lies beyond our collective phenomenal worlds. This paper argues for a conception of the extraphenomenal world that makes no assumptions about individual *noumena*: objects or substances. That is, minimal ontological realism is realism with no assumptions about things-in-themselves, including the assumption that there are such things. (In this way too this paper differs from alternative educational-philosophical approaches that utilize Meillassoux’s own discussions of things-in-themselves [e.g., see Oral, 2015]). This move goes beyond recent arguments for ontological minimalism. Neither Korman and Potrc’s ‘austere realism’ nor Esfeld and Deckert’s ‘minimalist ontology’ directly attacks *noumena*. Esfeld and Decker refer to permanent ‘matter points’. Horgan and Potrc reject the metaphysical validity of the parts of the ‘bobject’ which, in its totality, is the matter of the universe; thus their argument for contextual semantics is broadly sympathetic to that in the present paper but still retains a substantivist core (Horgan and Potrc 2009, Esfeld and Deckert 2020).

This is to some degree a Kantian argument. Kant is noted both for his rationalism and his scepticism about the extraphenomenal world, and he plays a paradoxical role in the present

account. Kant's realism may be regarded as more problematic than dogmatic (Strang 2016): he makes no definitive claims about that which is outside experience. Nevertheless, in adopting the count noun *noumenon/noumena*, Kant implicitly supposes that the extraphenomenal world comprises discrete substances, thus providing the main point of attack for the present argument. However, he repeatedly argues that we can have no direct knowledge of such a world – we cannot infer from a known effect to an unknown cause – and his scepticism is a major inspiration for any argument for minimal realism. Kant also regards space and time as basic schemas of organisation, but in so doing, does not claim that space and time operate in the noumenal world. On the Kantian account, science studies the appearances and representations of the phenomenal world. Strang (2016) argues that Kant is not entirely clear in his use and differentiation of *noumena*, nor is entirely clear regarding substance. However, it could be argued that Kant encourages a Newtonian understanding of the universe as a regular, law driven system akin to clockwork, at least from the human perspective. (Kant 1781/2003: the term 'noumenon' is used 19 times throughout the text; 'noumena' 23 times. See particularly Chapter 3.) Assumptions about substance, regularity and universal ideas are after all central to the Enlightenment tradition that Kant inherited *via* Aristotle (in the two former cases) and Plato (in the latter). Most of these accounts suppose broadly that substance and number exist beyond the phenomenal and that the universe can be understood in terms of mathematical regularity and predictability. Kant, again, argued that all such assumptions are unsafe. Nevertheless, he does not fully escape them through his continued commitment to the singular-plural, *noumenon-noumena* distinction.

Kant's account therefore carries unnecessary conceptual baggage, even with his very careful caveats, as it is possible to conceive of an extraphenomenal, or indeed intraphenomenal, world comprising energy but not necessarily discrete substances, fixed structures, universal ideas or mathematical regularity: a noumenal realm without noumena or singularity-plurality: a process rather than a substance account. Erich Addickes (1924, 14-19) has come close to this position by construing Kantian 'things-in-themselves as a plurality of mind-independent centres of force' (translated from the German by Strang, 2016), though even this reading implies a possibly unjustifiable substantivism, as the concepts of plurality and centre retain implications of discrete entities. As the world we experience is by no means smooth and undifferentiated, it follows that the potential for variation and differentiation lies within the field of energy. The claim therefore follows that the extraphenomenal real comprises uneven energy. (When I feel the breeze on my face, I feel something that seems to manifest uneven energy flow, albeit this does not prove its extraphenomenal origin.)

The other pivotal Enlightenment figure in this respect is Berkeley, who goes further than Kant in rejecting materialism altogether. Berkeley acts as a seminal figure for the present argument in that his metaphysical inferences are drawn from empirical premises. Berkeley's early work on the nature of vision prefigures modern accounts of seeing as essentially brain action. Berkeley argued that sense data entering the eyes amount to no more than light and therefore, colour, contrast and shape. What we perceive something to 'be', therefore, is dependent on mental disposition (Berkeley 1709/2012). To Berkeley, there can be nothing that is mind-independent. Neither is space any more than contingent explanation, as it is imperceptible *per se*. At the same time, we do not choose what we experience, so the human mind manifests the mind of God through ideas originating in the extraphenomenal sphere. Ethically, this leads Berkeley to a position of passive obedience (Berkeley 1948–1957, particularly Vol. 2) rather than the freer sense of responsibility encouraged by MOR. The present article embraces Berkeley's rejection of solipsism, as individual conscious minds are not in complete control of human destiny, but rejects his conception of universal, divinely set ideas rather than universal

energy. Berkeley's noumenal world may be object free, but it nevertheless comprises ideas that human beings simply receive.

To understand the world in terms of energy and natural forces is the role of the natural philosophers of our times, the theoretical physicists. At the same time, physicists also operate in a received cultural environment that continues to think in terms of substances (particles), structures and mathematical regularity. However, they are also working with experimental physicists who can push the boundaries of the observable such that elements of what was once considered the noumenal world enter our phenomenology. Over the past Century and a quarter, theoretical physicists have made the following advances in their tentative understandings of the extraphenomenal. Many of them have problematised, and in some cases continue to problematise, deeply held assumptions. They include the following.

1. Space and time are not separate schemata. Einstein proved their interdependence. Thus the universe can be understood as spacetime. Everyday human conceptions of both time and space are limited to the human phenomenal realm. (Einstein 1905/2005).
2. At the quantum level, some Einsteinian assumptions about spacetime are challenged by data. (For an introduction, see Skibba 2018).
3. Singularity and plurality are problematised at the quantum level, not least in terms of particle-wave duality (e.g. Bhatta 2020).
4. 'Particles' at the quantum level are in any case no more substantial than bursts of energy. Indeed, string theory understands a string as one-dimensional (NASA, undated). A one-dimensional object is not an object, or substance, or particle, according to any form of human experience. It is rather a necessary though not sufficient condition for any recognisable entity. Although this is atomic theory, note it is a far cry from the classical conception of the atom as the smallest possible, self-contained, building block of matter.
5. Existing physics has had to resort to the existence of 'dark' (i.e. completely unobservable) energy and matter to make its theories feasible. This dark energy and matter may comprise the vast majority of the universe (CERN 2021). This conclusion derives largely from attempts to understand how the expansion of the universe can be speeding up; thus it derives from cosmology rather than quantum mechanics (Al-Khalili 2020).
6. In conclusion, although science attempts to eschew mythology, it is nevertheless grounded in certain assumptions that science itself is being forced to question (Castelvecchi 2020).

Al-Khalili (2020) offers a broad historical overview of the development of the various branches of physics, revealing both the synergies and the large remaining gaps between specialisms. Much cannot currently be agreed. Quantum field theory, derived from the work of Paul Dirac, alongside attempts to understand quantum gravity, offer potential routes for bringing physics at the largest (cosmological) and smallest (quantum) scales together, but overall physicists seem further at the time of writing from a grand unifying theory than Stephen Hawking assumed in the 1980s (Al-Khalili 2020, Hawking 1981). It is particularly difficult to make consistent sense of findings at the smallest, as against the largest, scale (notwithstanding Point 5 above). Points 2-5 above are all significant working problems for physicists. To compound them, quantum mechanics still struggles to find evidence for any objective state of affairs that is observer-free even though there is objectively a world of energy that seems to act in many respects randomly. (See the multiple slits experiment of 1908 and responses to it: Shiga 2010.

This experiment revealed that sub-atomic particles act in an ordered way when observed but not otherwise.)

The minimally ontological realist position argues that we have evolved to pattern the world in certain ways, but the more we try to see behind the veil of our perceptions and experiences, the less we see of the objects, patterns and even laws that seem to govern our experience. Behind the veil there is merely the play of energy, regardless of our conceptions of time, space, structure, regularity and identity. Thus we can neither escape universal energy nor its unevenness, nor assume that the sense we make of it is anything but our own. This position is radically at odds with Platonic rationalism, as there are no universal substances, and with classical empiricism, as we do not merely sense the inherent qualities of substances, and also with Berkeley's idealism, with its Platonic resonances. Rather than there being an extraphenomenal 'real' table, or idea of a table (for example), nature gives us – with our help – the possibility of a table, and also puts constraints on how we might develop and use such a thing; however, tables are our responsibility and we cannot assume we can do as we wish with them. On this account, technology, done wisely, is part homage and part invention, and carries with it great responsibility. We have scope for creativity, realising possibilities that nature allows us, and for responsibility, whereby we realise the implications of our actions and inventions, while acknowledging constraints. Technology is, as Heidegger argued, not merely what we use, but how we think, though the argument for MOR should not be seen as Heideggerian in terms of Heidegger's conceptions of revelation of (presumably) extraphenomenal reality (Heidegger 1954/1977). Heideggerian conceptions of bringing-forth are not clear regarding the issue of things-in-themselves and may be interpreted as nearer to Berkeley than to MOR. Indeed, the phenomenological tradition has often struggled to escape commitment to givenness in the form of the primacy of raw sense impressions, evident in Hegel and in Peirce's conception of Firstness, for example (Hegel 1807/1977, Peirce 1997). With no attachment to individual noumena, MOR eschews Firstness and raw sense impressions just as it eschews the conception of human experience as mere instantiation of divine ideas.

Rejection of givenness can result in what is possible exceeding that which seems rational. Without a fixed template, outcomes may exceed expectations. For example, drugs may be found to be useful for additional diseases almost by coincidence. A recent example concerns the realisation that the commonly used steroid, Dexamethasone, can help Covid-19 patients (Matthay and Thompson 2020). In similar vein, the diabetes drug, Metformin, is being trialled for cancer patients following evidence that it may reduce cancer among diabetes sufferers (Gillesen *et al.* 2016). Such innovations may occur as the result of random experimentation or even casual observation. Minimal ontological realism welcomes, and offers unproblematic grounds for pragmatic trial and error, and for Peircean abduction (that is, resource to the best available explanation).

Implications: fundamentalism, pragmatism and semio-ethics

The argument for MOR has implications for fundamentalist beliefs of several sorts. The closing remarks will address social and educational policy alongside religion and the physical (that is, applied mathematical) sciences.

One area of concern is that of religious faith. Some may assume that faith requires mythology and that all such faith is therefore invalidated if there is 'nothing there' except energy. Against this, and against 'cures' of thought that may be thus prescribed, it can be argued that the

possibilities of the energy are always manifold and are always replenished. Thus each new moment, everywhere, offers a new opportunity for love and creation in a continuously recreated universe. In the Hindu tradition, there is a mantra, *Om Mani Padme Hum*, which means literally 'Praise to the jewel in the lotus' and can also be translated as 'God who is at the heart of the lotus'. Such a view of divinity as omnipresent and ever creative is much nearer to Bishop Berkeley's conception of the divine (though it does not assume that divine ideas come from the noumenal realm) than that which conceives of God as a kind of detached engineer who has made everything on Earth: the Newtonian model of the universe as a giant law driven machine. This latter view runs up against the criticism that a God who created suffering and disaster may not be compassionate, whereas the immanent account sees God rather as the endless possibility for good, a possibility that human beings may or may not exploit. Divinity can therefore be conceived on a minimally realist basis and faith can be justified without extraphenomenal assumptions. Godhead on this account can be entirely compatible with quantum non-locality. God can be understood as possibility, specifically the possibility of faith, hope and love, as opposed to fate or material extraphenomenal entity. Everything that is new – every act of creation – can be exploited for good (or for evil). After all, the phenomenal world itself is nothing if not invested with meaning: environment is *umwelt*, signification rather than mere physical presence (Uexküll 1987). Neither does this view invalidate the mythological: it merely places it within the phenomenal and regards it as a kind of generalisation from experience. Myth, dogma and doctrine too can all be forces for good as long as they do not assume sole direct access to the noumenal realm, just as science, or nearly all science, works completely within the phenomenal and has little say about the extraphenomenal. Again, exploitation and interpretation can be for good or ill. This view does not, of course, offer easy explanations for all tenets of belief in all religions, as nothing can. However, it is possible to conceive even of Heaven and Hell as conceptions within the phenomenal, for example. The departed are clearly no longer biologically alive, yet they are still with us in some sense: to believe this does not necessarily entail belief in an extraphenomenal realm, but rather poses challenges for the nature of consciousness and cognition. Overall, therefore MOR should not be seen therefore as an unfeasible position for someone of religious faith.

This paper argues that the less we can be certain of about the world beyond our experience, the better, as long as we do not fall into the trap of assuming there is no such world. This also has certain implications for *inter alia* science, social policy and educational practice. In this way, this paper offers an ontological framework for other works in philosophy of education, such as those by Richard Smith (2016), which have pertinently criticized the excessive educational emphasis on a knowingness set on producing certainties and making more and more of the world appear knowable.

Science makes sense of the phenomenal on its own terms. By doing so, it aims to identify patterns and chains of cause and effect (or of B following A, to adopt a sceptical Humean position), enabling generalisation across contexts that can be applied in important areas of technology and medicine. With the exception of quantum mechanics, which observes at such a close level that normal patterns break down, science has nothing whatever to say about the extraphenomenal realm, and does not need to have to be effective. MOR provides a strong basis for scientific exploration and experimentation, and indeed for pragmatism more generally, as it does not impose unnecessary restrictions on scientific discovery and innovation, although it does assume these are constrained by the extraphenomenal.

In so doing, the physical sciences seek, and rely on, mathematical regularities that seem to be features of the phenomenal world and may or may not exist in the noumenal world. Where

such regularities are problematised, as in the case of quantum mechanics, the process continues in an effort to find regularity. Mathematical regularity is itself a powerful myth, one that has inspired actors as diverse as philosophers and architects over the millennia, yet there is no clear evidence that it is a given in the universe. Rather, the challenge has been to make the data fit the assumption of mathematical regularity.

As with religion, this is not to devalue the massive achievements that have been built on this assumption. It can be used productively, without doubt. It is salient to remember, however, that many achievements of modernity have been developed using mathematical models that have been superseded. Perhaps Newtonian mechanics provides the richest set of examples. Newtonian physics can quite satisfactorily be used to make many things work in the world, yet its mathematical basis has been largely discredited by the work of Einstein and his successors. Generally speaking, these Newtonian assumptions work as patterns from and for experience in the world, but there is no evidence of their validity in the noumenal sphere.

Social policy, including educational policy, often relies on assumptions about underlying structures of power relations, as if such structures are more than means of mapping the phenomenal but somehow pre-exist, underpin or determine existence. As with Newtonian physics, this can produce positive results for social policy. On the other hand, as such perceived social structures are generally less precise and more interpretive than the tenets of Newtonian mechanics, there is an increased danger of naïve assumptions about the extent to which structural change can drive desired social change, though, again, social science is also capable of reworking the structural definitions to better fit the data (confirming that the data ultimately drive the structural assumptions rather than *vice versa*). For example, if it is believed that the problems of group A reflect structural inequalities and can be addressed by rebalancing resources through taking from group B, this may or may not work, as the structural explanation, though valid descriptively, has little power predictively. Among other considerations, it does not easily take account of indirect but important factors: rebalancing resources in this way may impact on overall wealth creation, for example. In such cases, social inequality may be perceived as abuse of power by one group over another, but may simply reappear in another form. This is not to say that considerations of social justice are not either important or potentially efficacious, but simply that structural explanations can be over relied upon if they are perceived as coming from some deeper reality that drives the everyday. Unlike theoretical physics, assumptions of social structure are often applied in policy discourse, leading to the danger of far more assumptions of limited validity being employed at the applied level.

Roy Bhaskar is an important commentator in relation to this, widely acknowledged as the seminal figure of critical realism (Bhaskar 1987), although he cannot be held directly responsible for the numerous interpretations of his work. Bhaskar never falls for the simple expedient of, for example, assuming that social inequalities are driven by underlying structures so can be relatively simply addressed and ameliorated. Indeed in his later writings on meta-reality (Bhaskar 2011), he switches focus to individual salvation, *via* the quest to rediscover non-duality, a move that some of his followers may have found disquieting. It is nevertheless the case that Bhaskar throughout holds to the belief that reality has ‘depth’ (Singh, Bhaskar and Hartwig 2020), just as Saussure assumed that language has a ‘deep structure’ (Saussure 1919). This invites the belief that surface differences can be addressed through understanding this deep structure, and encourages rather than discourages, naïve interpretations and applications of Bhaskar’s work by self-styled critical realists. Bhaskar’s model is effectively one of base-superstructure, in the cultural Marxist tradition, even in his later work that eschews social change for individual liberation. If ‘depth’ structure cannot be experienced directly, then

it is extraphenomenal – in effect, noumenal. To pretend that such structures exist within the phenomenal world, other than patterns emerging from attempts to map the data, is a sleight of hand designed to give them extra credence. Adherents may therefore adopt the realist tag by means of a circular argument whereby an unproved premise also acts as a conclusion. One might also argue that if such explanations had the validity they assume, social change based on their implementations would have had more positive and useful effects by now.

When it comes to the public policy and educational implications for the argument for MOR, a key issue is that of trust accorded to personal experience. The more deep and external structures are regarded as fluid, fallible and transient, the more individuals are encouraged to seek to further their own understandings on their own terms (hence I have talked about an ethics of responsibility), seeking validation for them through serious dialogue with the experiences and understandings of others. Just as the Enlightenment sought to undermine faith in superstition, so MOR presents the responsibility to all persons to do their best in making sense of the universe and to feel responsible for their own judgments, without lapsing into dangerous solipsism or anti-realism. The key point remains that conceptions of substance and structure are drawn from experience, and not from the extraphenomenal, and that they can be interpreted for successful or unsuccessful ends, but this requires active engagement with them taking into account unique factors of application in context.

Semioethics is a form of pragmatist ethics that employs insights from theoretical semiotics to ground ethics in assumptions about the environment as a network of significances rather than objective substances. The present article infers an open, or broad, conception of semioethics. As the leading proponent of this approach, Petrilli does to some degree assume deep social structures, albeit to expose rather than necessarily to validate them:

Petrilli connects semioethics to the mission of unmasking dominant ideologies that constitute globalized communication systems. (Arnett 2017: 84)

A broad conception of semioethics welcomes the ‘unmasking’ of such ideologies but by no means validates them. Rather, by exposing assumptions of deep structures, such structures are recognised as no more or less than generalisations from experience, helpful in guiding decision making but by no means determinant of future outcomes.

In conclusion, if there is a base structure, it cannot be directly observed or experienced as such as there is no experiential ‘depth’ to experience; it merely is. Either this structure emanates from the noumenal realm (not claimed by Bhaskar), or it is basically a generalisation from experience. If the latter, then revised experience can alter the perception of the deep structure so it loses its creative and prescriptive force. If the former, actions are proceeding on the basis of unprovable premises. In short, any assumptions about deep structure cannot be taken as firm bases for the modelling of future action, although this does not deny the value of subjective experience that appears to dissolve assumed dualities, as Bhaskar argues in his later work. The safest basis on which to proceed is on the basis of reality as it is experienced, not as it is assumed to be at some level beyond experience. The less we take for granted about such a level, the better. Such assumptions can act as barriers to progress in fields as diverse as theoretical physics, religion and social policy. This renders desirable the highest possible level of awareness of the reasons for, and limitations, of our fundamental explanatory narratives, whether or not they are attributed to the extraphenomenal. They represent humanity’s best efforts to make sense of the universe, from myriad contexts, but ultimately they are all subject

to revision on the basis of unfolding events. To be tied to any one of them is to reduce the possibilities of action in the moment.

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