

# A Critique of Scientism

## Its Implications and Limitations

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### 1. Introduction

Naturalism has understandably taken a stronghold on the academic imagination for quite some time, and one need not look too far to understand why this is the case – the successes and consistency granted and informed by the natural sciences has fuelled major revolutions in our intellectual understanding of the world – most notably in what is known – tellingly – as the enlightenment period of the 18<sup>th</sup> century. Many societal pressures at the time contributed to the strengthening of this movement towards privileging scientific reasoning as the best method for arriving at truth – even going as far as to supplant the entire notion of truth all together. The rigid doctrines of the church, with its monopolistic authority acting in concert with the ruling monarchy, did much to intensify the oppressive and tyrannical atmosphere; it is a seeming inevitability that generates in the granting of power to the very few, especially with no oversight. The adoption of a scientific perspective, then, was in a sense, an act of resistance – defiance against a restrictive, superstitious, vulnerable, and ultimately disempowering way of life. A kind of inherent heroism of sorts, entailed in the resulting archetype of the “scientist-as-an autonomous-rebel,” has left an indelible impression, and still holds sway over many. All this is clearly evidenced by the vast number of atheistic academics, implicit scientism in news reports – which use the findings of science to back up their assertions – and the generally secular functioning of basic social institutions.

The success of the sciences signaled a significant paradigm shift away from supernatural explanations in favor of more rational and reliable ones. The practical uses that become available in our application of scientific understanding prove to be invaluable, as they effectively open up an avenue of increased control over our physical environment. Our indebtedness to these successes and the gratitude for them is great, and undeniably so much so that it constitutes an entire philosophical worldview – a view known as ontological naturalism. This view is alternately known as metaphysical naturalism, somewhat pejoratively as scientism, or more specifically physicalism (the belief that the physical and physical/causal laws purely constitute the world and our experience of it). Put another way, it is essentially the belief that everything supervenes on the physical. For the purposes of this paper I will refer to it as scientism. It is precisely this viewpoint that I intend to thoroughly examine, and, furthermore, I posit that it is not a satisfactory perspective on the following pertinent matters: scientism’s presuppositions; its monistic self-refutation and its standing as a new a priori in philosophy; the nonsequitous reasoning of its reductionism; and its deficient existential and ethical ramifications. I will fully assess its implications and propose alternative perspectives that are potentially more intellectually enriching.

However, before I delve into the details of my argument, I will further frame scientism appropriately within the larger context of naturalism – this is necessary to clarify certain problematic stances unique to the scientific strand of naturalism. To begin with, naturalistic philosophers have a tendency to “naturalize” their fields in particular ways. Common occurrences of this are to reformulate perceptual activity as solely composed of neuro-synaptic interactions happening within the brain – representative of the more scientific view point – and to reformulate perceptual activity as occurring within a larger community of inquirers, in which the sociality and cultural structures of knowledge play a central role in our knowledge acquisition– this perspective, for one, is upheld by feminist epistemologists. Essentially these two discernable approaches to naturalization—one upholding a more technical and narrow focus, and the other taking in a broader, sociological stance – are integral to understanding key discrepancies that occur between scientism and (other naturalistic approaches to knowledge and) our other knowledge traditions. The contrasts between them will be brought into greater focus and will highlight major flaws within scientism to be explored in the following section.

### 2. The implicit presuppositions in scientism

Scientism essentially is a form of monism that single-handedly refutes other claims to knowledge. It is an object materialism in which our most instrumental awareness, our consciousness, is reduced to neurological activity. In the book *Naturalism in Question* in the chapter “Introduction: The Nature of Naturalism” by Mario De Caro and David Macarthur, they clarify problematic inconsistencies that arise when assenting to such a view, by writing:

...naturalism’s commitment to a minimal empiricism is at odds with the scientific naturalists’ tendency to endorse physicalist monism and reductionism. These two doctrines are supported by what are paradoxically supernatural myths about the unity of science and the completeness of physics. (p. 10)

That is to say, even in a general sense, those who cohere to scientism –scientific naturalists – are not consistent and as strictly materialistic as their beliefs would initially present them to be. Their commitment to reducing phenomena to the properties of the natural sciences and positing them as all there is to experience is, in fact, based on what is in actuality dogmatic assumptions relating to perceiving the entities of the natural sciences as some all encompassing totality. Scientific naturalists, tend to have a limited conception of what disciplines count as legitimate sciences in the first place - these are physics (at a minimum), chemistry, and biology - but the typical claim is in viewing all knowledge - all sciences - as reducible to an ultimate ontology that is discovered by physics. There is a critical presumption made in this reasoning – namely the insistent reductionism – that does not withstand closer scrutiny, but I will return to this point further on. In subscribing to the belief that all sciences can be explained by the ultimate scientific discipline of physics, scientism overstates the interweaving compatibility of the sciences.

For now though, I want to focus on how upholding scientism entails privileging the scientific method as an approach, and how it proves to be problematic to the stance as a whole. The adoption of the scientific outlook begins with specific assumptions built into it, and the assumptions have to be taken for granted in order for scientific investigation to effectively take place. The first is in supposing a certain uniformity to nature that makes its laws, which are discovered by science, operate in all places and at all times. One could say this belief in the uniformity or regularity of nature is arrived at rationally, but the problem for the scientific naturalist lies in the fact that this notion cannot be scientifically verified. In order to even begin to test this idea in a scientific fashion one would already have to presuppose it as true. Similarly, one would have to deem one’s sensory experiences as completely trustworthy in order to account for the success or failure of scientific hypothesis. When a scientist analyzes the result of her experiment and formulates a conclusion about it, she would already be presuming the validity of her sensory input as an accurate model of reality, and it is, again, a presumption that can never be scientifically tested – we are left in the same quandary.

Admittedly, these logical inconsistencies do not pose a substantial threat to the naturalistic frame of mind within certain gradations, as science itself is based on praxis – meaning that scientific experimentation has an implicit value attached to the practical aims and results of the experimentation. If scientific research and experimentation fulfill the purposes and goals outlined in its theoretical stage of development, then it is considered complete, and it is of no significant material import whether the underpinnings of scientific reasoning are compatible with science’s ultimate claim to knowledge. All that would be suggested is that the scientific naturalist perhaps be more flexible in defining their stance, revising it to a privileging of scientific methods arriving at a kind of “working knowledge” (akin to its more relaxed counterpart known as methodological naturalism). However, scientism *is* an absolute and singular claim equivocating itself to the only attainable real knowledge. These inconsistencies, no matter how superficial they may seem, are damaging to its credulity. Scientism’s inherently absolutist and dogmatic pronouncements prove to be a death-knell for the position.

Most importantly, there are more far-reaching problems particular to the kind of naturalization project undertaken by scientific naturalists which result in perpetuating a familiar distortion of science and its methods in their being falsely characterized as a sterile and purely objective endeavor. Presupposing a neutral, passive observer as the starting point of gathering knowledge is a form of wishful thinking, and ultimately the imposition of a misleading misinterpretation onto reality that effectively resurrects old dilemmas that haunted the traditional analytic paradigm of philosophy (of which, the naturalistic turn is trying to definitively discard). Robert Almeder’s “On Naturalizing Epistemology” refers to a rebuttal W.V.O. Quine made against Barry Stroud’s argument against his radically naturalized epistemology, which hints at an important insight that is sorely overlooked when considered from this “neutral” perspective:

I have depicted a barren scene. The furniture of our world, the people and sticks and stones along with the electrons and molecules, have dwindled to manners of speaking... So it would seem. Yet people, sticks, stones, electrons, and molecules are real indeed, on my view, and it is these and no dim proxies that science is all about... It is within science itself, and not in some prior philosophy, that reality is properly to be identified and described.  
(p. 266)

Quine – although he seems at times thoroughly scientific with his emphasis on the “hard” sciences at the expense of the “softer” sciences – signals to a sense of realism that is vital, and points out the importance of describing reality from within its proper context. Quine believed the proper context was science and, although reasonable to an extent, he failed to frame science in a macro-perspective, thus failing to contextualize and integrate science within the grander scheme of our other “sciences” (even though he seems best equipped to make such a move, considering his proposition of inquirers accruing confirmation for theories holistically, forming a “web of belief”). The problem is that Quine’s approach to naturalization is based in a distorted view of science as a simultaneously reductive and clarifying practice that strips away at deceptive appearances to get to the core truth of things. Although this outlook contains some truth and utility, the error would be in positing it as an absolute truth of reality – saying that science sums up the entirety of our experience. Martin Heidegger clarified an effective way to characterize the standard scientific outlook in the state of being he termed present-at-hand, in which one takes a detached, itemizing stance towards what is being observed, seeing objects as a sum of their parts, rather than in totality with our involvements and purposes. This is in contrast to the attitude he called ready-to-hand in which we see objects as means to achieving our ends. In this state of being we are integrated into our ever present sense of narrative. These distinct states are best exemplified by how one may observe a hammer. When someone is present-at-hand one does not see the hammer as something that can sink nails into surfaces – rather they see it as a piece of wood attached to a sturdy piece of steel. This outlook overcomes a person most commonly if an object is broken. When one is ready-to-hand, one sees the hammer as something that can drive nails and break apart objects. The contrasts between these states of being fully illustrate the scientific outlook as a detached, state of active theorizing and idealization. This understanding is pivotal in being able to assess how the scientific perceptions of the scientific outlook, as an absolute reality, perpetuate misleading distortions.

Sally Haslanger articulates a form of naturalized epistemology of which its underlying reasoning can also resituate science - as a pursuit of accurately describing our world - even more realistically, as being shaped and molded by active cultural structures, and hence, integrated into our overarching culture:

The broad suggestion is that we should reject a “transcendental” epistemology that imposes conditions on knowledge that presume a standpoint outside our practices, and should instead pursue what we might call an “imminent” epistemology that undertakes to elucidate the conditions on knowledge embedded in our everyday language, thought, and action. (p. 461)

Haslanger makes this most clear by refuting transcendental approaches to knowledge that start “outside our practices,” and instead recognizing the “embeddedness” of our knowledge traditions - which I posit include science. Seeing our pursuit of knowledge as something deeply enmeshed in the world, and forgoing this Platonic projection of a kind of grasping at transcendent ideal truths at the start of our scientific investigations will only serve to benefit us. Lorraine Code in “What is Natural About Epistemology Naturalized?” stated this idea incisively:

Many of the experiments to which the Quine-line naturalists appeal have what I am calling a “denaturing” effect in consequence of their implicit adherence to a latter-day methodological solipsism, translated into self-contained, isolated moments of the one-on-one, observer-observed laboratory experiments. Such experiments preserve a commitment to the purity of a statistical formalism that glosses over differences and specificities within the very natural kinds that are subjects of study. Here the presumed homogeneity of human beings as members of a natural kind ... erases any possibility of factoring “historical and cultural particularity ... (p. 5)

Hence, I modestly propose that science ultimately is merely a filter or lens that enables us to view the world in a particular way. Scientific materiality does not necessarily denote an absolute reality - only a perspective. An objective neutral observer, the starting point of scientific inquiry, has been thoroughly debunked, revealing itself as a fiction. Science, more rather, is the result of an organized effort of multiple human beings to pass along its perspective who have come to more or less a consensus of what they are beholding by making the noises and gestures we call language, attaining an inter-subjective consistency about the reproducible and repetitive results they are getting from their experiments, and doing this in the pretension of impartiality and objectivity. The scientific method in itself attempts to eradicate personal bias by, for example, enacting double blind procedures, but these measures cannot thoroughly eliminate the possibility of the process being corrupted by systemic cultural presumptions that are affirmed before the onset of investigation.

To illustrate, we should acknowledge that there is an extensive history that exists in which scientific evidence was provided to support even the most deplorable prejudices. The craniometry of Samuel Morton, in which he collected hundreds of human skulls to base racist ideology popular at the time with measurements of the volume of the interior of the skull, is but one example. Morton specifically studied the skulls to deduce and, basically decide, where the racial divisions of supposed superiority and inferiority began. The pursuit of scientificity is just as vulnerable to illogical intuitions and partiality as any other of our attempts to expand our knowledge base, although it generally makes a valiant effort to avoid such pitfalls in its rigorous methodology. True to the tradition (at least in its normative conception) of science, our role is to comprehensively analyze the processes, as well as their starting point, of inquiry before making any definite claims, but also to be mindful of the need to redefine epistemological and scientific ends as fallible and revisable postulates - an idea to be elaborated in depth next.

### 3. A self-refuting monism and a new a priori, and the promise of a progressive philosophy of science

Scientism has parallels with the traditional epistemological paradigm in its restrictive monopoly on what counts as true knowledge. Code concurs, writing:

...Thus, although naturalism’s focus on human activity indeed counts as a radical departure from older commitments to a decontextualized a prioricity, its affirmations of the scientificity of all knowledge yield a new apriori which exerts an equivalently restrictive, reductive, pressure. (p. 4)

The traditional paradigm privileges a priori, irrefutable, analytic truths (which are ironically devoid of meaningful content being that they're basically tautologies), and scientism privileges concepts and mechanisms described by physics and other natural sciences<sup>1</sup>. Such a view results in a limiting dogma. Adhering to such is potentially telling of our collective psychology - implying a need for predictability and security. A cursory view of our history reveals that declaring such absolutist claims to knowledge will inevitably lead to failure.

...But then again, a person who adheres to scientism, on pains of consistency, wouldn't acknowledge history as knowledge - it would be viewed as unproductive and irrelevant - so of course they wouldn't learn!

Interestingly, science itself embraces fallibility and the need for revision, but this philosophical viewpoint endorsing science as the

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1 Which are also weirdly meaningless in a sense as they imply a kind of hollow, inert, and mechanistic universe that flies in the face of our intuitions of experiencing a very much alive, dynamic, free consciousness, and a vibrant world that is - one option -perhaps contained within it

utter totality of knowledge does not. The arrogance of philosophy -in its very effort to create tidy closed representational systems of our experiences - seems initially hard to outgrow. Philosopher Larry Laudan, however - someone who refrains from making the scientific, reductive, and non-normative claims of ontological naturalists - makes significant positive strides in reconciling this divide, articulating the importance of a context-sensitive, purpose-based, historically progressive epistemology, writing:

...so construed, epistemic norms or rules are grounded on *theories* about how to conduct inquiry, and those rules behave functionally within the system of knowledge in precisely the same way that other theories (for example, straightforward scientific ones) do; by way of underscoring this parallel between epistemic rules and scientific theories, I have argued that the rules guiding theory choice in the natural sciences have changed and evolved in response to new information in the same ways in which scientific theories have shifted in the face of new evidence; hence, epistemic doctrines or rules are fallible posits or conjectures, exactly on par with all the other elements of scientific knowledge. (p. 46)

And:

Hence, the history of science has to be reckoned with, not because scientists are always or more often rational than anyone else, but rather because the history of science - unlike that of many other disciplines - offers an impressive record of actions and decisions moving closer through time to a realization of ends that most of us hold to be important and worthwhile. (p. 28)

These considerations are vital in appraising and ultimately adopting a scientifically naturalistic viewpoint, and they all together stand as a much more redeemable form of scientifically inspired philosophy. It is a responsible, dynamic, and comprehensive stance that withholds from making the rushed, overly simplistic conclusions of ontological naturalism/scientism.

John Dewey provides a resounding account of the predicament that scientism finds itself in framing itself as a monism of knowledge - cutting itself off from our other expansive and rich knowledge-gathering traditions that are indeed meaningful - and reiterates the importance of integrating the open-ended experimentation of science into philosophy, he writes:

There is no kind of inquiry which has a monopoly of the honorable title of knowledge. The engineer, the artist, the historian, the man of affairs attain knowledge in the degree they employ methods that enable them to solve the problems which develop in the in the subject-matter they are concerned with. As philosophy framed upon the pattern of experimental inquiry does away with all wholesale skepticism, so it eliminates all invidious monopolies of the idea of science. (p. 220)

Further, it is necessary to detail how scientism refutes itself in its own monism. Positing science as the only knowledge there is invalidates its own credibility because, viewing scientism as truth isn't practicing science, it is in fact to practice philosophy - an endeavor towards knowledge that, by its own admission, is futile because it will not lead to real knowledge. An attentive audience to such views would have no choice but to not take the claims seriously. A logically consistent ontological naturalist would say science is the only knowledge we have, but she can't know that because reasoning such a way isn't scientific, leading to a definitively absurd argument.<sup>2</sup>

However, to return to a more serious note, the works of Laudan, M.A. Khalidi, Ingo Brigandt, and the dynamism highlighted by John Dewey do well to capture a sense of ongoing progress. Taking philosophy in this direction - to go on and, in a sense, embrace incompleteness - is an apt approach in describing our epistemic situation. Generally, the entire naturalism project itself does well in acknowledging and providing space for this aspect of our inquiry, yet the reductive physicalism of scientism insists on tying itself to fixed views. Our search for knowledge is what it is - a search - a seemingly endless, inter-generational, inter-subjective, thoroughgoing search. Epistemology would be best re-conceptualized if we, as its active participants, were to stop pretending to arrive at final answers. The ontological scientific naturalist, it seems, has to be naturalized further and shed his preoccupation with imposing rigid boundaries and fixed, ultimately self-aggrandizing, monuments of supposed truth onto to the world. Life, and our continued discoveries of internal and external phenomena, will always trample over their conclusions, leading them to be exposed for what they are, calcified projections; trying to structure and fix into a static state a dynamic, multi-layered, infinite universe - all this done for some sense stability, to exert our wills over it with more ease. More intellectually honest philosophies would see their efforts as a snap shots of the time, resonating with enough people to gain a kind of presence in our cultural landscape- outfitted as a paradigm of our thinking- but one always prepared to shift- in fact encouraged to shift. Experimentation and open-endedness intrinsically built into its very fabric.

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<sup>2</sup> Making a naturalist of this sort commit to logical consistency renders them in a considerable bind. As a result, a truly logically consistent ontological naturalist would have to never make any claims to truth whatsoever in his/her speech, never engage in any kind of inquiring dialogue with potential answers, because anything he'd arrive at wouldn't be knowledge, so he can't talk from a place of knowledge at all. He'd just have to silently carry on with his scientific experiments. Philosophers who embrace scientism have then sealed themselves into a perpetual silence, all the better for others, for they won't be subject to the dogmatic, figuratively, and even in-a-sense-literally soul crushing drivel that spouts out of their mouths. Evidently, dismissing philosophy as unproductive in this way is certainly premature.

#### 4. The internal logical leap of reductionism

One of the biggest faults in adopting the metaphysical claims of a scientific ideology is that it is committed to the reduction of all sensory and conscious experience to the properties described in physics and its respective account of causal laws. Upon a careful inspection, however, they are, at best, an inadequate and incomplete effort at explaining the phenomena of consciousness. To preface detailing the overarching issue with reductionism, I should make clear that I certainly do not want to reassert substance dualisms of earlier philosophical traditions, as an observant student of philosophy would know just how untenable ideas of mind and body dualism were, knowing the impasse brought to light by the problem of interaction. Nonetheless, it would be prudent to acknowledge that the physicalist reductionist claim is consistent with a usual reaction to the problem of interaction by asserting either kind of monism, that the only substance that ultimately exists is matter or mind – in the reductionist physicalist sense, the claim is, of course, that matter is solely what constitutes experience.

The main feature of the natural sciences that intrinsically contributes to the inability of scientism to account for consciousness is that the natural sciences, on a matter of principle, rule out the subjective knowing subject central to the experience of consciousness. The natural sciences, from the onset, have a way “objectifying” natural phenomena, basically studying components of experience as disparate objects. This is to say that the natural sciences focus on the objects found in nature, to the exclusion of the conscious subject. When this object-centered approach of the natural sciences is applied to the conscious mind – the essence of our subjectivity – all resulting characteristics of our minds recognized by the natural sciences become objects, filtering out all the data that is relevant to our innermost awareness, subjectivity, and intentionality. Therefore, the natural sciences are inherently not well equipped to handle these undeniable and rather unavoidable properties of consciousness. Dewey spells out the inner mechanics of physical reductionism, which screens out our meaning imbuing consciousness, stating:

...Then there are the objects of everyday experience, the concrete things of the world in which we live and which, from the standpoint of our practical affairs, our enjoyments and sufferings, form the world we live in. To common sense these are the most important if not the most real of all objects of knowing... There has been repeated occasion to note that the claims of physical objects, the objects in which the physical sciences terminate, to constitute the real nature of the world, places the objects of value with which our affections and choices are concerned at an invidious disadvantage... The net practical effect is the creation of the belief that science exists only in the things which are most remote from any significant human concern, so that as we approach social and moral questions and interests we must either surrender hope of the guidance of genuine knowledge or else purchase a scientific title and authority at the expense of all that is distinctly human. (p. 196)

Nonetheless, those who adhere to the ideology of scientism compensate for this deficiency – whether unwittingly or not – by reducing conscious awareness and its multitude of distinct states to the physical constitution and operation of our brains. Rather, the physical processes taking place in our brains give rise to consciousness. Put another way, consciousness is a consequence of the physical activities identifiable by physics that compose our functioning brains, and do not precede it. This claim is not all together unreasonable, but it does entail an acceptance of what ultimately is an ill-considered conclusion.

To best exemplify the faulty logic underlying physicalist reductionism, consider a few scenarios: If I were to undergo an fMRI scan, and while I was being scanned, I am asked to remember what I had for breakfast that morning, indeed certain parts of the image of my brain given through the scan would show increased blood flow to the corresponding parts of my brain that are activated when triggering my recollection of an event – in this case, me eating breakfast that morning. Does this mean my memory – a detailed, sensory recollection of crunching on cornflakes with soymilk while wondering errantly about what I would have eaten instead if I had more time in the mornings – is actually just due to a localized physical portion of my brain that is apparently receiving more blood flow? At best, an honest contemplation of this would only posit that the physical significations of increased blood flow are, at most, a consequence of me reliving my memory. My awareness of eating breakfast and my immersive experience of it is not represented on the screen. They are distinctly different experiences – my actual memory and the increased blood flow to certain sections of my brain. Another way to look at it is to view self-aware consciousness being-in-the-world as software to a computer’s hardware– which would be the brain. You can have physical contact with computer hardware, but you cannot physically interact with the software. Touching an actual hard drive is not the same as touching the software. Following the metaphor further still, actual consciousness and sensory experience is not neatly equivalent to physical brain processes, just in the same way computer hardware isn’t equivalent to software. To use one more example, if someone were to drink two shots of vodka and notice that they get light-headed, it would not necessarily entail that their consciousness is the same as the physical properties contained in the experience of drinking vodka, it would merely suggest that the physical aspects of vodka alter their consciousness. The inherent claim in physicalist reductionism is that physical properties, represented by ‘X’ are equivalent to, or = consciousness ‘Y.’  $X = Y$  is not an honest account, and instead should be modified to resemble the more humble claim, X affects Y.

Lester Embree, in his paper entitled “The Vital in Dorion Cairns,” explores the nuanced view of there being multiple overlapping sciences, a view that was upheld by Cairns. In his paper, Embree makes note of various ways an apparent union of reflexive consciousness and physical experience/embodiment exists, stating:

On the basis of experience, other aspects of this correlation become familiar: e.g., disturbances of normal mental life correlated with disturbances of vital function and structure, destruction of mental life correlated with destruction of vital functions and structure. Here belong the psychological phenomena correlated with anesthesia, narcosis, glandular disturbance, neural, especially cerebral lesion, and biological death. By a human being we mean precisely such a *psycho*-physical – not *merely* physical or organic – natural object.

Going on to conclude:

Starting of necessity in everyday life, the first kind of science one reaches [for Cairns] is mental science, which is about concrete cultural worlds. From there one can reach the vital stratum with its organisms by means of an abstraction from what makes the cultural world cultural, which can be said to be the uses and values that cultural objects always originally have in everyday life. And to reach the physical stratum a second abstraction is needed, one that abstracts from the organic character of some objects in the vital stratum. Hence, the physical stratum is at least doubly abstract and it is quite an error to consider the world entirely and concretely physical, which is done in naturalism. (p. 20)

Embree's and Cairn's views accommodating for conscious (and cultural) experience as primary layers from which upon the abstraction of physical science rests is an interesting perspective, and although it has an initial impression of bringing back substance dualism, it stands more as a multifaceted view, in which reduction is not made, and all the unique aspects of having direct participation in the world are - at least attempted to be - accounted for. Mainly, this position makes the incisive observation that the processes of physical science enact certain levels of abstraction, which, again, make it all too similar to the traditional analytic paradigm reducing the deductive, axiomatic truths to synonymies. In fact, the discoveries of physics basically operate with the same underlying mechanism. It is subtractive, stripping away at externalities to get to a core. This abstraction, not too unlike the methodological doubt of Descartes, makes a claim towards constituting the ultimate reality of things, and although we may physically get to the cells and atoms underneath casual appearances, they do not tell how they arrive at or transmit consciousness - there is still a pivotal link between the atoms and/or neurons and subjective inner life that is missing, and the resulting gap is just carelessly leapt over.

## 5. The existential implications of purposelessness in scientism

The problem of skepticism in philosophy has been omnipresent. And although the naturalist does absolve many of the ambiguities that plagued the traditional philosophical world view - in placing the observer directly into the natural world we experience as an active participant for example - it still leaves one in a curiously foreboding situation - having explanations, but having them basically eradicate purposefulness all at once. The interpretations provided by scientism render one in no better of an existential predicament than skepticism, and can also lead to nihilism. In the same way that traditional skepticism, leading to nihilism, acted as a threat that required resolution, any present day doctrine that potentially leads to nihilism also needs to be resolved. Scientism reducing all phenomena to properties of physics and causal laws eliminates purposeful activity and supports determinism. These are not particularly life-affirming conclusions and, indeed, give way to an understanding of life and all its complexities as deeply absurd and meaningless. Holding these beliefs as fundamental to one's worldview - at the very least-profoundly shatters one's ultimate productivity - amongst other things.

Nihilism actually appears to be rooted into the reasoning of the ontological naturalist, as one cannot help but hear echoes of it, as author Avrahm Yarmolinsky writes:

Here is the ultimatum of our [nihilist] camp: what can be smashed should be smashed; what will stand the blow is good; what will fly into smithereens is rubbish... (p. 40)

The assurance the nihilist and scientific naturalist seem to perceive themselves as having is that, by holding their respective beliefs, they will no longer be victim to any kinds of illusions. This idea seems profoundly entrenched in the psychology of the scientific naturalist. It is made apparent in the same way the ironic analytic predecessor of such naturalists<sup>3</sup>, Plato, characterized his mythic Socrates as going through with his execution - in spite, of course, wanting to escape - just because his reasoning wouldn't allow him to break what he saw as the tacit contract he had made with the city of Athens by living there. The ontological naturalist is adamant in not believing any kind of supernaturalism, as they are determined in only dealing with what is physically evidenced - even if that means believing they are essentially biological machines destined for decay and permanent oblivion.

Besides existentially adhering to outright nihilism, scientific naturalists can still commit to their reductive and eliminativist ontology by living "at the intersection where what's true, what's good, and what's beautiful come together," phraseology coined by atheist naturalist Owen Flanagan in his discussion with fellow scientific naturalist, Alex Rosenberg. This is akin to existential revolt, which is described as also rejecting the possibility of absolute eternal life, but unlike the nihilist, believing in the possibility of happiness. It asserts that we may live in a fundamentally absurd universe, but we can insist in providing a meaning for ourselves regardless - this is the revolt. This view is somewhat more feasible for the scientific naturalist, however, scientism is still lacking, as it cannot adequately provide for the richness of our consciousness and sense of purpose without positing consciousness as some kind of illusion - an idea that is simply far-fetched, as these aspects of our awareness are so entirely immersive and unavoidable. It would seem more likely that the remote world of physics would be the illusion instead of our intimate, encompassing sense of narrative and awareness.

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3 As Plato abstracts away the material realm in favor of the idealized realm of the forms, scientific naturalists likewise abstract away cultural and subjective realms in favor of underlying properties recognized by physics and the natural sciences.

## 6. The implications of scientism in ethics

Adopting scientism as a worldview can lead to the adherence to a kind of ethical egoism that seems contrary to its more conventional forms; that is, ethics that are based on sympathy, notions of fairness, and compassion. A movement in ethics best exemplifying the influence scientism has had on philosophy is known as social Darwinism. Social Darwinism, as its name implies, is modeled after the biological theories proposed by Charles Darwin. Like Darwin's theories of evolution and natural selection, social Darwinism holds that in our society, at a social level, those who advance in society do so- and are justified in doing so- by virtue of their inherently superior characteristics when contrasted with those who do not advance. Those who rise to prominent positions, or secure material affluence and security are best equipped to propagate their genes onto future generations, as they have acquired a surplus of the resources necessary to sustain their lives. People who do not, however, are not as able to establish these resources for themselves as easily - if at all - and so are less likely to successfully reproduce. Hence, according to social Darwinism, we as a species are not excluded from the forces of natural selection as they play themselves out in our cultural sphere. This line of thought effectively provides a kind of justification for social stratification and laissez-faire capitalism.

There are some very elemental problems with this argument, as I will begin to illustrate. Firstly, this reasoning quite definitively commits the naturalistic fallacy. Just because certain things and or processes occur in nature does not automatically make them right, as circumstances arising in the natural world do not in themselves hold a normative weight. At its core, social Darwinism is akin to earlier ethics that, interestingly, emerged in less scientifically advanced times, namely that of Aristotle in ancient Greece. Jean Hampton presents this concept, referring to it as "natural subordination theory." Hampton herself noted this issue as she states:

This way of thinking about the world mixes facts with norms... Even if there is substantial inequality among people that results in the inferiors' being dominated by the superiors, that alone is *not* sufficient to explain why the superiors are supposed to be *entitled* to dominate over inferiors. (pp. 12-13)

This point makes apparent a seeming backwardness inherent in the overly zealous scientific perspective, one that in spite of technological and scientific progress, hastens itself to conclusions that are both restrictive and somewhat oppressive - traits that characterized earlier cultural paradigms, which are considered unscientific and even primitive in modern circles. Additionally, ideas such as these were taken to intensely unfortunate extremes, as was the case with eugenics in the early 1900s.

Even if a certain superiority of a class of people could be verified against the inferiority of another, in what particular ways must these people be inferior/superior? There is too much variation of abilities for it to be clear. Also, establishing the supposed superiority of one group of people over another does not necessarily denote superiors having to adopt exploitative and self-interested attitudes, it could just as well require them to have a caring and concerned responsibility towards those deemed inferior - effectively becoming custodians of the weak instead of being their oppressors. All this points to the ability of prejudice to corrupt the scientific process as detailed earlier.

### Conclusion: Situating scientism as part of the dichotomy between the analytic and continental traditions of philosophy

My intention with this paper was to give a thorough account of the problematic claims in ontological naturalism - particularly in its reductionist physicalist conception. I have detailed its presuppositions, its self-refutation and its standing as a new a priori, its problems relating to its reductionism, and its existential and ethical implications. Furthermore, there are important ideas to consider regarding scientism as placed within the analytic tradition of philosophy versus the continental tradition. These ideas are well articulated in the book, *Environmental Philosophy From Animal Rights to Radical Ecology*, which is a compilation of the work of several philosophers. Irene J. Klaver, in introducing the section on continental environmental philosophy, provides an interesting perspective on the general contrasts between analytic and continental thought, stating:

Analytic philosophy provides a philosophical defense of scientific truth and the scientific method via positivist epistemology, while continental philosophy is seen as more skeptical of the sciences, especially in so far as they replace the world of everyday life experience with a skien of theoretical abstractions. (p. 281)

The continental concerns regarding science are relevant as ever, as they voice out a guarded kind of appraisal of naturalism, noting importantly how it is predominated by abstraction. Phenomenology, a movement of continental philosophy, had one of its founding figures, Edmund Husserl, warn that - although he saw his work as contributing to scientific knowledge -over reliance on the abstractions of the natural sciences distanced us too much from what he termed the life world. The life world in this sense is our conscious encountering of our environment, which we imbue with meaning as it relates to accomplishing our certain purposes - positively the very thing we lose when we accept reductive scientific naturalism. Klaver goes on to note that:

Husserl's phenomenological project may be understood in part as an attempt to prevent the reduction of the human meaning-giving realm to the laws of natural science. (p. 287)

Again, this is a key concern regarding the inherent limitations of scientism as a viewpoint. Not only that, but Klaver also highlights the view that there is no objective truth, stating:

There is no objective truth, if by that we mean truths without presuppositions; instead, all judgments, including scientific ones, are modes of interpretation that are inevitably influenced by larger historical and cultural contexts. (p. 286)

She also mentions how deconstructive postmodernism makes note of the fact that everyday life, and most importantly along with science itself, is both embedded in and co-constitutes its environments. Science is a way we gather an abundance of information about our environment, yet it is still inseparable to, and influenced by, the social and cultural contexts from which it sprang. One of the main figures in postmodernism, Jean-Francois Lyotard, was known to have said that scientific knowledge does not represent the totality of knowledge, it has always existed in addition to, and in competition and conflict with, another kind of knowledge, which he called narrative. All the faults outlined in my assessment of scientism signal towards this very idea.

The ideology of scientism has become so prevalent in our society that its belief in the masses acknowledging it as true is simply taken for granted. It is unheard of that a person would not view the properties of science as real. These facts reveal an interesting parallel scientism has with the paradigm it was rebelling against and ultimately transforming. Naturally, the paradigm is of the theology of the church. Embree, citing Cairns, also recognizes similarity in a thought-provoking passage:

For the sake of understanding the world-view of Medieval theorists one ought to imagine that the Christian sense of the world (including Nature) was given to them almost as though it had been preconstituted in [the state of consciousness of] primary passivity – much as the naïve theorist of today seems to be faced with Nature almost as though... the physicist's world (of atoms ect.) were preconstituted in primary passivity (rather than by active idealizing and judging). If this situation indeed existed, it can be explained as a consequence of taking over a socially unquestioned tradition presented, not as *alleged* fact, as dogma, but as fact pure and simple, which teachers do not try to justify because it does not seem to conflict with either pretheoretical experience or with current expressed opinions... If natural science is, in an analogous sense, the creed of modern Western man, then Galileo *et al.* are his Church Fathers. Observe how, in our schools and popular books, the conclusions of scientific theorizing are presented with out citation of evidence... Or we fall back on the proclamation, "Science works," which has the same evidential value as "Christianity works." (p. 21)

This idea is also vividly articulated by Dewey, which is quite vindicating:

Thus "science," meaning physical knowledge, became a kind of sanctuary. A religious atmosphere, not to say an idolatrous one, was created. "Science" was set apart; its findings were supposed to have privileged relation to the real. In fact, the painter may know colors as well as the physicist; the poet may know stars, rain and clouds as well as the meteorologist; the statesman, educator, and dramatist may know human nature as truly as the professional psychologist; the farmer may know soils and plants as truly as the botanist and mineralogist. For the criterion of knowledge lies in the method used to secure consequences and not metaphysical conceptions of the nature of the real. (p. 221)

The cyclical nature of dialectics in our culture are brought into focus yet again, an oft-repeating pattern. I suppose this is just one more instance, one more indication of transformation yet to come

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