

## More in Defense of Weak Scientism: Another Reply to Brown

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In my (2017a), I defend a view I call *Weak Scientism*, which is the view that knowledge produced by scientific disciplines is better than knowledge produced by non-scientific disciplines. Scientific knowledge can be said to be quantitatively better than non-scientific knowledge insofar as scientific disciplines produce more impactful knowledge--in the form of scholarly publications--than non-scientific disciplines (as measured by research output and research impact). Scientific knowledge can be said to be qualitatively better than non-scientific knowledge insofar as such knowledge is explanatorily, instrumentally, and predictively more successful than non-scientific knowledge.

Brown (2017a) raises several objections against my defense of *Weak Scientism* and I have replied to his objections (Mizrahi 2017b), thereby showing again that *Weak Scientism* is a defensible view. Since then, Brown (2017b) has reiterated his objections in another reply on SERRC. Almost unchanged from his previous attack on *Weak Scientism* (Brown 2017a), Brown's (2017b) objections are the following:

- (1) *Weak Scientism* is not strong enough to count as scientism.
- (2) Advocates of *Strong Scientism* should not endorse *Weak Scientism*.
- (3) *Weak Scientism* does not show that philosophy is useless.
- (4) My defense of *Weak Scientism* appeals to controversial philosophical assumptions.
- (5) My defense of *Weak Scientism* is a philosophical argument.
- (6) There is nothing wrong with persuasive definitions of scientism.

In what follows, I will respond to these objections, thereby showing once more that *Weak Scientism* is a defensible view. Since I have been asked to keep this as short as possible, however, I will try to focus on what I take to be *new* in Brown's (2017b) latest attack on *Weak Scientism*.

### 1. Is *Weak Scientism* strong enough to count as scientism?

Brown (2017b) argues for (1) on the grounds that, on *Weak Scientism*, "philosophical knowledge may be nearly as valuable as scientific knowledge." Brown (2017b, 4) goes on to characterize a view he labels "*Scientism2*," which he admits is the same view as *Strong Scientism*, and says that "there is a huge logical gap between *Strong Scientism* (*Scientism2*) and *Weak Scientism*."

As was the case the first time Brown raised this objection, it is not clear how it is supposed to show that *Weak Scientism* is not "really" a (weaker) version of scientism (Mizrahi 2017b, 10-11). Of course there is a logical gap between *Strong Scientism* and *Weak Scientism*; that is why I distinguish between these two epistemological views. If I am right, *Strong Scientism* is too strong to be a defensible version of scientism, whereas *Weak Scientism* is a defensible

(weaker) version of scientism (Mizrahi 2017a, 353-354). Of course *Weak Scientism* “leaves open the possibility that there is philosophical knowledge” (Brown 2017b, 5). If I am right, such philosophical knowledge would be inferior to scientific knowledge both quantitatively (in terms of research output and research impact) and qualitatively (in terms of explanatory, instrumental, and predictive success) (Mizrahi 2017a, 358).

Brown (2017b, 5) does try to offer a reason “for thinking it strange that *Weak Scientism* counts as a species of *scientism*” in his latest attack on *Weak Scientism*, which does not appear in his previous attack. He invites us to imagine a theist who believes that “*modern science is the greatest new intellectual achievement since the fifteenth century*” (emphasis in original). Brown then claims that this theist would be an advocate of *Weak Scientism* because Brown (2017b, 6) takes “*modern science is the greatest new intellectual achievement since the fifteenth century*” to be “(roughly) equivalent to *Weak Scientism*.” For Brown (2017b, 6), however, “it seems odd, to say the least, that [this theist] should count as an advocate (even roughly) of *scientism*.”

Unfortunately, Brown’s appeal to intuition is rather difficult to evaluate because his hypothetical case is under-described.<sup>1</sup> First, the key phrase, namely, “*modern science is the greatest new intellectual achievement since the fifteenth century*,” is vague in more ways than one. I have no idea what “greatest” is supposed to mean here. Greatest in what respects? What are the other “intellectual achievements” relative to which science is said to be “the greatest”? Also, what does “intellectual achievement” mean here? There are multiple accounts and literary traditions in history and philosophy of science, science studies, and the like on what counts as “intellectual achievements” or progress in science (Mizrahi 2013b). Without a clear understanding of what these key phrases mean here, it is difficult to tell how Brown’s intuition about this hypothetical case is supposed to be a reason to think that *Weak Scientism* is not “really” a (weaker) version of scientism.

Toward the end of his discussion of (1), Brown says something that suggests he actually has an issue with the word ‘scientism’. Brown (2017b, 6) writes, “perhaps Mizrahi should coin a new word for the position with respect to scientific knowledge and non-scientific forms of academic knowledge he wants to talk about” (emphasis in original). It should be clear, of course, that it does not matter what label I use for the view that “Of all the knowledge we have, scientific knowledge is the *best* knowledge” (Mizrahi 2017a, 354; emphasis in original). What matters is the content of the view, not the label. Whether Brown likes the label or not, *Weak Scientism* is a (weaker) version of scientism because it is the view that scientific ways of knowing are *superior* (in certain relevant respects) to non-scientific ways of knowing, whereas *Strong Scientism* is the view that scientific ways of knowing are the *only* ways of knowing. As I have pointed out in my previous reply to Brown, whether scientific ways of knowing are superior to non-scientific ways of knowing is essentially what the scientism debate is all about (Mizrahi 2017b, 13).

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<sup>1</sup> On why appeals to intuition are bad arguments, see Mizrahi (2012), (2013a), (2014), (2015a), (2015b), and (2015d).

Before I conclude this discussion of (1), I would like to point out that Brown seems to have misunderstood *Weak Scientism*. He (2017b, 3) claims that “*Weak Scientism* is a normative and not a descriptive claim.” This is a mistake. As a thesis (Peels 2017, 11), *Weak Scientism* is a descriptive claim about scientific knowledge in comparison to non-scientific knowledge. This should be clear provided that we keep in mind what it means to say that scientific knowledge is better than non-scientific knowledge. As I have argued in my (2017a), to say that scientific knowledge is quantitatively better than non-scientific knowledge is to say that there is a lot more scientific knowledge than non-scientific knowledge (as measured by research output) and that the impact of scientific knowledge is greater than that of non-scientific knowledge (as measured by research impact). To say that scientific knowledge is qualitatively better than non-scientific knowledge is to say that scientific knowledge is explanatorily, instrumentally, and predictively more successful than non-scientific knowledge. All these claims about the superiority of scientific knowledge to non-scientific knowledge are descriptive, not normative, claims. That is to say, *Weak Scientism* is the view that, *as a matter of fact*, knowledge produced by scientific fields of study is quantitatively (in terms of research output and research impact) and qualitatively (in terms of explanatory, instrumental, and predictive success) better than knowledge produced by non-scientific fields of study.

Of course, *Weak Scientism* does have some normative implications. For instance, if scientific knowledge is indeed better than non-scientific knowledge, then, other things being equal, we *should* give more evidential weight to scientific knowledge than to non-scientific knowledge. For example, suppose that I am considering whether to vaccinate my child or not. On the one hand, I have scientific knowledge in the form of results from clinical trials according to which MMR vaccines are generally safe and effective. On the other hand, I have knowledge in the form of stories about children who were vaccinated and then began to display symptoms of autism. If *Weak Scientism* is true, and I want to make a decision based on the best available information, then I should give more evidential weight to the scientific knowledge about MMR vaccines than to the anecdotal knowledge about MMR vaccines simply because the former is scientific (i.e., knowledge obtained by means of the methods of science, such as clinical trials) and the latter is not.

## **2. Should advocates of *Strong Scientism* endorse *Weak Scientism*?**

Brown (2017b, 7) argues for (2) on the grounds that “once the advocate of *Strong Scientism* sees that an advocate of *Weak Scientism* admits the possibility that there is real knowledge other than what is produced by the natural sciences [...] the advocate of *Strong Scientism*, at least given their philosophical presuppositions, will reject *Weak Scientism* out of hand.” It is not clear which “philosophical presuppositions” Brown is talking about here. Brown quotes Rosenberg (2011, 20), who claims that physics tells us what reality is like, presumably as an example of a proponent of *Strong Scientism* who would not endorse *Weak Scientism*. But it is not clear why Brown thinks that Rosenberg would “reject *Weak Scientism* out of hand” (Brown 2017d, 7).

Like other proponents of scientism, Rosenberg should endorse *Weak Scientism* because, unlike *Strong Scientism*, *Weak Scientism* is a defensible view. Insofar as we should endorse the view that has the most evidence in its favor, *Weak Scientism* has more going for it than *Strong Scientism* does. For to show that *Strong Scientism* is true, one would have to show that no field of study other than scientific ones can produce knowledge. Of course, that is not easy to show. To show that *Weak Scientism* is true, one only needs to show that the knowledge produced in scientific fields of study is better (in certain relevant respects) than the knowledge produced in non-scientific fields. That is precisely what I show in my (2017a). I argue that the knowledge produced in scientific fields is quantitatively better than the knowledge produced in non-scientific fields because there is a lot more scientific knowledge than non-scientific knowledge (as measured by research output) and the former has a greater impact than the latter (as measured by research impact). I also argue that the knowledge produced in scientific fields is qualitatively better than knowledge produced in non-scientific fields because it is more explanatorily, instrumentally, and predictively successful.

Contrary to what Brown (2017b, 7) seems to think, I do not have to show “that there is real knowledge other than scientific knowledge.” To defend *Weak Scientism*, all I have to show is that scientific knowledge is better (in certain relevant respects) than non-scientific knowledge. If anyone must argue for the claim that there is real knowledge other than scientific knowledge, it is Brown, for he wants to defend the value or usefulness of non-scientific knowledge, specifically, philosophical knowledge.

It is important to emphasize the point about the ways in which scientific knowledge is quantitatively and qualitatively better than non-scientific knowledge because it looks like Brown has confused the two. For he thinks that I justify my *quantitative* analysis of scholarly publications in scientific and non-scientific fields by “citing the precedent of epistemologists who often treat all items of knowledge as *qualitatively* the same” (Brown 2017b, 22; emphasis added). Here Brown fails to carefully distinguish between my claim that scientific knowledge is quantitatively better than non-scientific knowledge and my claim that scientific knowledge is qualitatively better than non-scientific knowledge. For the purposes of a *quantitative* study of knowledge, information and data scientists can do precisely what epistemologists do and “abstract from various circumstances (by employing variables)” (Brown 2017b, 22) in order to determine which knowledge is *quantitatively* better.

### **3. How is *Weak Scientism* relevant to the claim that philosophy is useless?**

Brown (2017b, 7-8) argues for (3) on the grounds that “*Weak Scientism* itself implies nothing about the degree to which philosophical knowledge is valuable or useful other than stating scientific knowledge is *better* than philosophical knowledge” (emphasis in original).

Strictly speaking, Brown is wrong about this because *Weak Scientism* does imply something about the degree to which scientific knowledge is better than philosophical knowledge. Recall that to say that scientific knowledge is quantitatively better than non-scientific knowledge is to say that scientific fields of study publish more research and that scientific

research has greater impact than the research published in non-scientific fields of study. Contrary to what Brown seems to think, we can say to what degree scientific research is superior to non-scientific research in terms of output and impact. That is precisely what bibliometric indicators like h-index and other metrics are for (Rousseau et al. 2018). Such bibliometric indicators allow us to say how many articles are published in a given field, how many of those published articles are cited, and how many times they are cited. For instance, according to Scimago Journal & Country Rank (2018), which contains data from the Scopus database, of the 3,815 Philosophy articles published in the United States in 2016-2017, approximately 14% are cited, and their h-index is approximately 160. On the other hand, of the 24,378 Psychology articles published in the United States in 2016-2017, approximately 40% are cited, and their h-index is approximately 640. Contrary to what Brown seems to think, then, we can say to what degree research in Psychology is better than research in Philosophy in terms of research output (i.e., number of publications) and research impact (i.e., number of citations). We can use the same bibliometric indicators and metrics to compare research in other scientific and non-scientific fields of study.

As I have already said in my previous reply to Brown, “*Weak Scientism* does not entail that philosophy is useless” and “I have no interest in defending the charge that philosophy is useless” (Mizrahi 2017b, 11-12). So, I am not sure why Brown brings up (3) again. Since he insists, however, let me explain why philosophers who are concerned about the charge that philosophy is useless should engage with *Weak Scientism* as well. Suppose that a foundation or agency is considering whether to give a substantial grant to one of two projects. The first project is that of a philosopher who will sit in her armchair and contemplate the nature of friendship.<sup>2</sup> The second project is that of a team of social scientists who will conduct a longitudinal study of the effects of friendship on human well-being (e.g., Yang et al. 2016). If *Weak Scientism* is true, and the foundation or agency wants to fund the project that is likely to yield better results, then it should give the grant to the team of social scientists rather than to the armchair philosopher simply because the former’s project is scientific, whereas the latter’s is not. This is because the scientific project will more likely yield better knowledge than the non-scientific project will. In other words, unlike the project of the armchair philosopher, the scientific project will probably produce more research (i.e., more publications) that will have a greater impact (i.e., more citations) and the knowledge produced will be explanatorily, instrumentally, and predictively more successful than any knowledge that the philosopher’s project might produce.

This example should really hit home for Brown, since reading his latest attack on *Weak Scientism* gives one the impression that he thinks of philosophy as a personal, “self-improvement” kind of enterprise, rather than an academic discipline or field of study. For instance, he seems to be saying that philosophy is not in the business of producing “new knowledge” or making “discoveries” (Brown 2017b, 17). Rather, Brown (2017b, 18) suggests that philosophy “is more about individual intellectual progress rather than collective intellectual progress.” Individual progress or self-improvement is great, of course, but I am not sure that it helps Brown’s case in defense of philosophy against what he sees as “the menace of

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<sup>2</sup> I use friendship as an example here because Brown (2017b, 31) uses it as an example of philosophical knowledge. I will say more about that in Section 6.

scientism.” For this line of thinking simply adds fuel to the fire set by those who want to see philosophy burn. As I point out in my (2017a), scientists who dismiss philosophy do so because they find it academically useless.

For instance, Hawking and Mlodinow (2010, 5) write that ‘*philosophy is dead*’ because it ‘has not kept up with developments in science, particularly *physics*’ (emphasis added). Similarly, Weinberg (1994, 168) says that, as a *working scientist*, he ‘finds no help in *professional philosophy*’ (emphasis added). (Mizrahi 2017a, 356)

Likewise, Richard Feynman is rumored to have said that “philosophy of science is about as useful to scientists as ornithology is to birds” (Kitcher 1998, 32). It is clear, then, that what these scientists complain about is *professional* or *academic* philosophy. Accordingly, they would have no problem with anyone who wants to pursue philosophy for the sake of “individual intellectual progress.” But that is not the issue here. Rather, the issue is academic knowledge or research.

#### **4. Does my defense of *Weak Scientism* appeal to controversial philosophical assumptions?**

Brown (2017b, 9) argues for (4) on the grounds that I assume that “we are supposed to privilege empirical (I read Mizrahi’s ‘empirical’ here as ‘experimental/scientific’) evidence over non-empirical evidence.” But that is question-begging, Brown claims, since he takes me to be assuming something like the following: “If the question of whether scientific knowledge is superior to [academic] non-scientific knowledge is a question that one can answer empirically, then, in order to pose a serious challenge to my [Mizrahi’s] defense of *Weak Scientism*, Brown must come up with more than mere ‘what ifs’” (Mizrahi 2017b, 10; quoted in Brown 2017b, 8).

This objection seems to involve a confusion about how defeasible reasoning and defeating evidence are supposed to work. Given that “a rebutting defeater is evidence which prevents *E* from justifying belief in *H* by supporting not-*H* in a more direct way” (Kelly 2016), claims about what is actual cannot be defeated by mere possibilities, since claims of the form “Possibly, *p*” do not prevent a piece of evidence from justifying belief in “Actually, *p*” by supporting “Actually, not-*p*” directly. For example, the claim “Hillary Clinton could have been the 45th President of the United States” does not prevent my perceptual and testimonial evidence from justifying my belief in “Donald Trump is the 45th President of the United States,” since the former does not support “It is not the case that Donald Trump is the 45th President of the United States” in a direct way. In general, claims of the form “Possibly, *p*” are not rebutting defeaters against claims of the form “Actually, *p*.” Defeating evidence against claims of the form “Actually, *p*” must be about what is actual (or at least probable), not what is merely possible, in order to support “Actually, not-*p*” directly.

For this reason, although “the production of some sorts of non-scientific knowledge work *may be harder* than the production of scientific knowledge” (Brown 2017b, 19), Brown gives no reasons to think that it is *actually* or *probably* harder, which is why this possibility does nothing to undermine the claim that scientific knowledge is actually better than non-scientific knowledge.

Just as it is possible that philosophical knowledge is harder to produce than scientific knowledge, it is also possible that scientific knowledge is harder to produce than philosophical knowledge. It is also possible that scientific and non-scientific knowledge are equally hard to produce. Similarly, the possibility that “a little knowledge about the noblest things is more desirable than a lot of knowledge about less noble things” (Brown 2017b, 19), whatever “noble” is supposed to mean here, does not prevent my bibliometric evidence (in terms of research output and research impact) from justifying the belief that scientific knowledge is better than non-scientific knowledge. Just as it is possible that philosophical knowledge is “nobler” (whatever that means) than scientific knowledge, it is also possible that scientific knowledge is “nobler” than philosophical knowledge or that they are equally “noble” (Mizrahi 2017b, 9-10).

In fact, even if Brown (2017a, 47) is right that “philosophy is harder than science” and that “knowing something about human persons--particularly *qua* embodied rational being--is a nobler piece of knowledge than knowing something about any non-rational object” (Brown 2017b, 21), whatever “noble” is supposed to mean here, it would still be the case that scientific fields produce more knowledge (as measured by research output), and more impactful knowledge (as measured by research impact), than non-scientific disciplines. So, I am not sure why Brown keeps insisting on mentioning these mere possibilities. He also seems to forget that the natural and social sciences study human persons as well. Even if knowledge about human persons is “nobler” (whatever that means), there is a lot of scientific knowledge about human persons coming from scientific fields, such as anthropology, biology, genetics, medical science, neuroscience, physiology, psychology, and sociology, to name just a few.

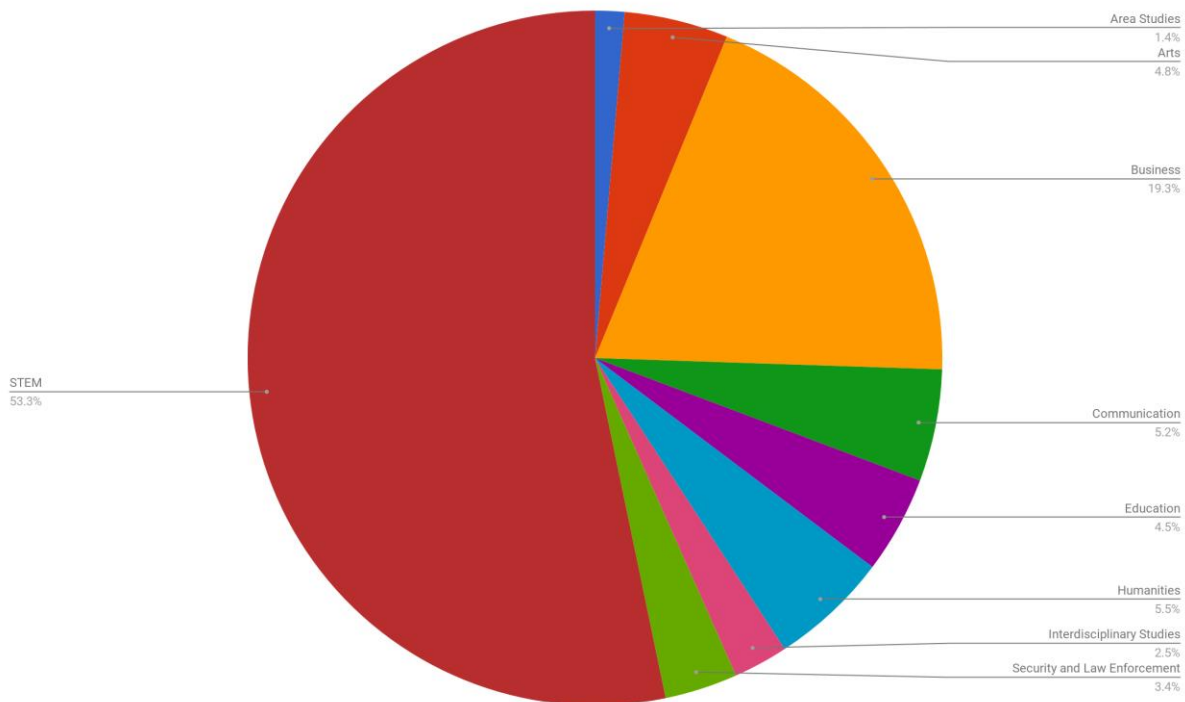
One of the alleged “controversial philosophical assumptions” that my defense of *Weak Scientism* rests on, and that Brown (2017a) complains about the most in his previous attack on *Weak Scientism*, is my characterization of philosophy as the scholarly work that professional philosophers do. In my previous reply, I argue that Brown is not in a position to complain that this is a “controversial philosophical assumption,” since he rejects my characterization of philosophy as the scholarly work that professional philosophers produce, but he does not tell us what counts as philosophical (Mizrahi 2017b, 13). Well, it turns out that Brown does not reject my characterization of philosophy after all. For, after he was challenged to say what counts as philosophical, he came up with the following “*sufficient* condition for pieces of writing and discourse that count as philosophy” (Brown 2017b, 11):

(P) *Those articles published in philosophical journals and what academics with a Ph.D. in philosophy teach in courses at public universities with titles such as Introduction to Philosophy, Metaphysics, Epistemology, Normative Ethics, and Philosophy of Science* (Brown 2017b, 11; emphasis added).

Clearly, this is my characterization of philosophy in terms of the scholarly work that professional philosophers produce. Brown simply adds *teaching* to it. Since he admits that “scientists teach students too” (Brown 2017b, 18), however, it is not clear how adding teaching to my characterization of philosophy is supposed to support his attack on *Weak Scientism*. In fact, it may actually undermine his attack on *Weak Scientism*, since there is a lot more teaching going

on in STEM fields than in non-STEM fields. According to data from the National Center for Education Statistics (2017), in the 2015-16 academic year, post-secondary institutions in the United States conferred only 10,157 Bachelor's degrees in philosophy and religious studies compared to 113,749 Bachelor's degrees in biological and biomedical sciences, 106,850 Bachelor's degrees in engineering, and 117,440 in psychology. In general, in the 2015-2016 academic year, 53.3% of the Bachelor's degrees conferred by post-secondary institutions in the United States were degrees in STEM fields, whereas only 5.5% of conferred Bachelor's degrees were in the humanities (Figure 1).

*Figure 1.* Bachelor's degrees conferred by post-secondary institutions in the US, by field of study, 2015-2016 (Source: NCES)



Clearly, then, there is a lot more teaching going on in science than in philosophy (or even in the humanities in general), since a lot more students take science courses and graduate with degrees in scientific fields of study. So, even if Brown is right that we should include teaching in what counts as philosophy, it is still the case that scientific fields are quantitatively better than non-scientific fields.

Since Brown (2017b, 13) seems to agree that philosophy (at least in part) is the scholarly work that academic philosophers produce, it is peculiar that he complains, without argument, that “an understanding of philosophy and knowledge as operational is [...] shallow insofar as philosophy and knowledge can't fit into the narrow parameters of another empirical study.” Once Brown (2017b, 11) grants that “Those articles published in philosophical journals”



count as philosophy, he thereby also grants that these journal articles can be studied empirically using the methods of bibliometrics, information science, or data science. That is, Brown (2017b, 11) concedes that philosophy consists (at least in part) of “articles published in philosophical journals,” and so these articles can be compared to other articles published in science journals to determine research output, and they can also be compared to articles published in science journals in terms of citation counts to determine research impact. What exactly is “shallow” about that? Brown does not say.

A, perhaps unintended, consequence of Brown’s (P) is that the “great thinkers from the past” (Brown 2017b, 18), those that Brown (2017b, 13) likes to remind us “were not professional philosophers,” did not do philosophy, by Brown’s own lights. For “Socrates, Plato, Augustine, Descartes, Locke, and Hume” (Brown 2017b, 13) did not publish in philosophy journals, were not academics with a Ph.D. in philosophy, and did not teach at public universities courses “with titles such as Introduction to Philosophy, Metaphysics, Epistemology, Normative Ethics, and Philosophy of Science” (Brown 2017b, 11).

Another peculiar thing about Brown’s (P) is the restriction of the philosophical to what is being taught in *public* universities. What about community colleges and private universities? Is Brown suggesting that philosophy courses taught at private universities do not count as philosophy courses? This is peculiar, especially in light of the fact that, at least according to *The Philosophical Gourmet Report* (Brogaard and Pynes 2018), the top ranked philosophy programs in the United States are mostly located in private universities, such as New York University and Princeton University.

## **5. Is my defense of *Weak Scientism* a scientific or a philosophical argument?**

Brown argues for (5) on the grounds that my (2017a) is published in a philosophy journal, namely, *Social Epistemology*, and so it a piece of philosophical knowledge by my lights, since I count as philosophy the research articles that are published in philosophy journals.

Brown would be correct about this if *Social Epistemology* were a philosophy journal. But it is not. *Social Epistemology: A Journal of Knowledge, Culture and Policy* is an *interdisciplinary* journal. The journal’s “aim and scope” statement makes it clear that *Social Epistemology* is an interdisciplinary journal:

*Social Epistemology* provides a forum for philosophical and social scientific enquiry that incorporates the work of scholars from a variety of disciplines who share a concern with the production, assessment and validation of knowledge. The journal covers both empirical research into the origination and transmission of knowledge and normative considerations which arise as such research is implemented, serving as a guide for directing contemporary knowledge enterprises (*Social Epistemology* 2018).

The fact that *Social Epistemology* is an interdisciplinary journal, with contributions from “Philosophers, sociologists, psychologists, cultural historians, social studies of science

researchers, [and] educators” (*Social Epistemology* 2018) would not surprise anyone who is familiar with the history of the journal. The founding editor of the journal is Steve Fuller, who was trained in an interdisciplinary field, namely, History and Philosophy of Science (HPS), and is currently the Auguste Comte Chair in Social Epistemology in the Department of Sociology at Warwick University. Brown (2017b, 15) would surely agree that sociology is not philosophy, given that, for him, “cataloguing what a certain group of people believes is sociology and not philosophy.” The current executive editor of the journal is James H. Collier, who is a professor of Science and Technology in Society at Virginia Tech, and who was trained in Science and Technology Studies (STS), which is an interdisciplinary field as well.

Brown asserts without argument that the methods of a scientific field of study, such as sociology, are different in kind from those of philosophy: “What I contend is that [...] philosophical methods are different in kind from those of the experimental scientists [sciences?]” (Brown 2017b, 24). He then goes on to speculate about what it means to say that an explanation is testable (Brown 2017b, 25). What Brown comes up with is rather unclear to me. For instance, I have no idea what it means to evaluate an explanation by inductive generalization (Brown 2017b, 25). Instead, Brown should have consulted any one of the logic and reasoning textbooks I keep referring to in my (2017a) and (2017b) to find out that it is generally accepted among philosophers that the good-making properties of explanations, philosophical and otherwise, include *testability* among other good-making properties (see, e.g., Sinnott-Armstrong and Fogelin 2010, 257). As far as testability is concerned, to test an explanation or hypothesis is to determine “whether predictions that follow from it are true” (Salmon 2013, 255). In other words, “To say that a hypothesis is *testable* is at least to say that some prediction made on the basis of that hypothesis may confirm or disconfirm it” (Copi et al. 2011, 515).

For this reason, Feser’s analogy according to which “to compare the epistemic values of science and philosophy and fault philosophy for not being good at making testable predications [sic] is like comparing metal detectors and gardening tools and concluding gardening tools are not as good as metal detectors because gardening tools do not allow us to successfully detect for metal” (Brown 2017b, 25), which Brown likes to refer to (Brown 2017a, 48), is inapt. It is not an apt analogy because, unlike metal detectors and gardening tools, which serve different purposes, both science and philosophy are in the business of explaining things. Indeed, Brown admits that, like good scientific explanations, “good philosophical theories *explain* things” (emphasis in original). In other words, Brown admits that both scientific and philosophical theories are instruments of explanation (unlike gardening and metal-detecting instruments). To provide good explanations, then, both scientific and philosophical theories must be testable (Mizrahi 2017b, 19-20).

## **6. What is wrong with persuasive definitions of scientism?**

Brown (2017b, 31) argues for (6) on the grounds that “persuasive definitions are [not] always dialectically pernicious.” He offers an argument whose conclusion is “abortion is murder” as an example of an argument for a persuasive definition of abortion. He then outlines an argument

for a persuasive definition of scientism according to which “*Weak Scientism* is a view that has its advocates putting too high a value on scientific knowledge” (Brown 2017b, 32).

The problem, however, is that Brown is confounding *arguments for* a definition with the *definition* itself. Having an argument for a persuasive definition does not change the fact that it is a persuasive definition. To illustrate this point, let me give an example that I think Brown will appreciate. Suppose I define theism as an *irrational* belief in the existence of God. That is, “theism” means “an *irrational* belief in the existence of God.” I can also provide an argument for this definition:

P1: If it is irrational to have paradoxical beliefs and God is a paradoxical being, then theism is an irrational belief in the existence of God.

P2: It is irrational to have paradoxical beliefs and God is a paradoxical being (e.g., the omnipotence paradox).<sup>3</sup>

Therefore,

C: Theism is an irrational belief in the existence of God.

But surely, theists will complain that my definition of theism is a “dialectically pernicious” persuasive definition. For it stacks the deck against theists. It states that theists are already making a mistake, *by definition*, simply by believing in the existence of God. Even though I have provided an argument for this persuasive definition of theism, my definition is still a persuasive definition of theism, and my argument is unlikely to convince anyone who doesn’t already think that theism is irrational. Indeed, Brown (2017b, 30) himself admits that much when he says “good luck with that project!” about trying to construct a sound argument for “abortion is murder.” I take this to mean that pro-choice advocates would find his argument for “abortion is murder” dialectically inert precisely because it defines abortion in a manner that transfers “emotive force” (Salmon 2013, 65), which they cannot accept. Likewise, theists would find the argument above dialectically inert precisely because it defines theism in a manner that transfers “emotive force” (Salmon 2013, 65), which they cannot accept. In other words, Brown seems to agree that there are good dialectical reasons to avoid appealing to persuasive definitions. Therefore, like “abortion is murder,” “theism is an irrational belief in the existence of God,” and “‘Homosexual’ means ‘one who has an unnatural desire for those of the same sex’” (Salmon 2013, 65), “*Weak Scientism* is a view that has its advocates putting too high a value on scientific knowledge” (Brown 2017b, 32) is a “dialectically pernicious” persuasive definition (cf. Williams 2015, 14). Like persuasive definitions in general, it “masquerades as an honest assignment of meaning to a term while condemning or blessing with approval the subject matter of the *definiendum*” (Hurley 2015, 101). As I have pointed out in my (2017a), the problem with such definitions is that they “are strategies consisting in presupposing an unaccepted definition, taking a new unknowable description of meaning as if it were commonly shared” (Macagno and Walton 2014, 205).

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<sup>3</sup> For more on paradoxes involving the divine attributes, see Mizrahi (2013c).

As for Brown's *argument* for the persuasive definition of *Weak Scientism*, according to which it "is a view that has its advocates putting too high a value on scientific knowledge" (Brown 2017b, 32), a key premise in this argument is the claim that there is a piece of philosophical knowledge that is better than scientific knowledge. This is premise 36 in Brown's argument:

Some philosophers *qua* philosophers know that (a) true friendship is a necessary condition for human flourishing and (b) the possession of the moral virtues or a life project aimed at developing the moral virtues is a necessary condition for true friendship and (c) (therefore) the possession of the moral virtues or a life project aimed at developing the moral virtues is a necessary condition for human flourishing (see, e.g., the arguments in Plato's *Gorgias*) and knowledge concerning the necessary conditions of human flourishing is better than any sort of scientific knowledge (see, e.g., St. Augustine's *Confessions*, book five, chapters iii and iv) [assumption]

There is a lot to unpack here, but I will focus on what I take to be the points most relevant to the scientism debate. First, Brown assumes 36 without argument, but why think it is true? In particular, why think that (a), (b), and (c) count as *philosophical* knowledge? Brown says that philosophers know (a), (b), and (c) in virtue of being philosophers, but he does not tell us why that is the case. After all, accounts of friendship, with lessons about the significance of friendship, predate philosophy (see, e.g., the friendship of Gilgamesh and Enkidu in *The Epic of Gilgamesh*). Did it really take Plato and Augustine to tell us about the significance of friendship? In fact, on Brown's characterization of philosophy, namely, (P), (a), (b), and (c) do *not* count as *philosophical* knowledge at all, since Plato and Augustine did not publish in philosophy journals, were not academics with a Ph.D. in philosophy, and did not teach at public universities courses "with titles such as Introduction to Philosophy, Metaphysics, Epistemology, Normative Ethics, and Philosophy of Science" (Brown 2017b, 11).

Second, some philosophers, like Epicurus, need (and think that others need) friends to flourish, whereas others, like Diogenes of Sinope, need no one. For Diogenes, friends will only interrupt his sunbathing (Arrian VII.2). My point is not simply that philosophers disagree about the value of friendship and human flourishing. Of course they disagree.<sup>4</sup> Rather, my point is that, in order to establish general truths about human beings, such as "Human beings need friends to flourish," one must employ the methods of science, such as randomization and sampling procedures, blinding protocols, methods of statistical analysis, and the like; otherwise, one would simply commit the fallacies of cherry-picking anecdotal evidence and hasty generalization (Salmon 2013, 149-151). After all, the claim "Some need friends to flourish" does not necessitate, or even make more probable, the truth of "Human beings need friends to flourish."<sup>5</sup>

Third, why think that "knowledge concerning the necessary conditions of human flourishing is better than any sort of scientific knowledge" (Brown 2017b, 32)? Better in what

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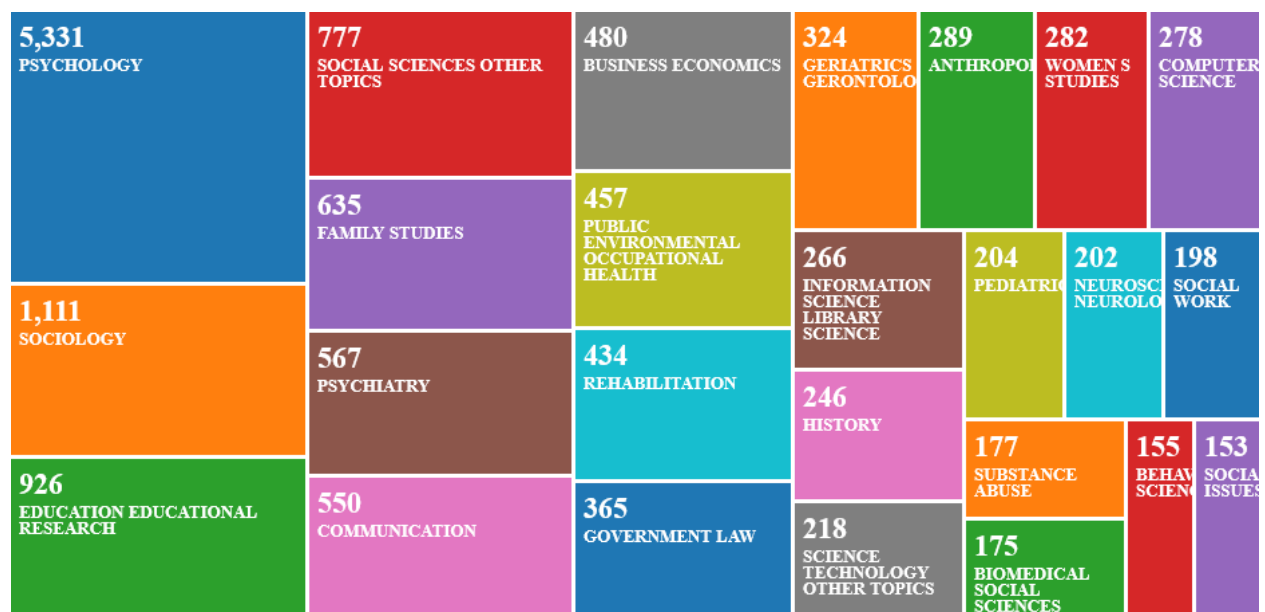
<sup>4</sup> "Friendship is unnecessary, like philosophy, like art, like the universe itself (for God did not need to create)" (Lewis 1960, 71).

<sup>5</sup> On fallacious inductive reasoning in philosophy, see Mizrahi (2013d), (2015c), (2016), and (2017c).

sense? Quantitatively? Qualitatively? Brown does not tell us. He simply declares it “self-evident” (Brown 2017b, 32). I take it that Brown would not want to argue that “knowledge concerning the necessary conditions of human flourishing” is better than scientific knowledge in the quantitative (i.e., in terms of research output and research impact) and qualitative (i.e., in terms of explanatory, instrumental, and predictive success) respects in which scientific knowledge is better than non-scientific knowledge, according to *Weak Scientism*. If so, then in what sense exactly “knowledge concerning the necessary conditions of human flourishing” (Brown 2017b, 32) is supposed to be better than scientific knowledge? Brown (2017b, 32) simply assumes that without argument and without telling us in what sense exactly “knowledge concerning the necessary conditions of human flourishing is better than any sort of scientific knowledge” (Brown 2017b, 32).

Of course, philosophy does not have a monopoly on friendship and human flourishing as research topics. Psychologists and sociologists, among other scientists, work on friendship as well (see, e.g., Hojjat and Moyer 2017). To get an idea of how much research on friendship is done in scientific fields, such as psychology and sociology, and how much is done in philosophy, we can use a database like Web of Science. Currently (03/29/2018), there are 12,334 records in Web of Science on the topic “friendship.” Only 76 of these records (0.61%) are from the Philosophy research area. Most of the records are from the Psychology (5,331 records) and Sociology (1,111) research areas (43.22% and 9%, respectively). As we can see from Figure 2, most of the research on friendship is done in scientific fields of study, such as psychology, sociology, and other social sciences.

Figure 2. Number of records on the topic “friendship” in Web of Science by research area (Source: Web of Science)



In terms of research impact, too, scientific knowledge about friendship is superior to philosophical knowledge about friendship. According to Web of Science, the average citations

per year for Psychology research articles on the topic of friendship is 2826.11 (h-index is 148 and the average citations per item is 28.1), and the average citations per year for Sociology research articles on the topic of friendship is 644.10 (h-index is 86 and the average citations per item is 30.15), whereas the average citations per year for Philosophy research articles on friendship is 15.02 (h-index is 13 and the average citations per item is 8.11). *Quantitatively*, then, psychological and sociological knowledge on friendship is better than philosophical knowledge in terms of research output and research impact. Both Psychology and Sociology produce significantly more research on friendship than Philosophy does, and the research they produce has significantly more impact (as measured by citation counts) than philosophical research on the same topic.

*Qualitatively*, too, psychological and sociological knowledge about friendship is better than philosophical knowledge about friendship. For, instead of rather vague statements about how “true friendship is a necessary condition for human flourishing” (Brown 2017b, 32) that are based on mostly armchair speculation, psychological and sociological research on friendship provides detailed explanations and accurate predictions about the effects of friendship (or lack thereof) on human well-being. For instance, numerous studies provide evidence for the effects of friendships or lack of friendships on physical well-being (see, e.g., Yang et al. 2016) as well as mental well-being (see, e.g., Cacioppo and Patrick 2008). Further studies provide explanations for the biological and genetic bases of these effects (Cole et al. 2011). This knowledge, in turn, informs interventions designed to help people deal with loneliness and social isolation (see, e.g., Masi et al. 2010).<sup>6</sup>

To sum up, Brown (2017b, 32) has given no reasons to think that “knowledge concerning the necessary conditions of human flourishing is better than any sort of scientific knowledge.” He does not even tell us what “better” is supposed to mean here. He also ignores the fact that scientific fields of study, such as psychology and sociology, produce plenty of knowledge about human flourishing, both physical and mental well-being. In fact, as we have seen, science produces a lot more knowledge about topics related to human well-being, such as friendship, than philosophy does. For this reason, Brown (2017b, 32) has failed to show that “there is non-scientific form of knowledge better than scientific knowledge.”

## 7. Conclusion

At this point, I think it is quite clear that Brown and I are talking past each other on a couple of levels. First, I follow scientists (e.g., Weinberg 1994, 166-190) and philosophers (e.g., Haack 2007, 17-18 and Peels 2016, 2462) on both sides of the scientism debate in treating philosophy as an academic discipline or field of study, whereas Brown (2017b, 18) insists on thinking about philosophy as a personal activity of “individual intellectual progress.” Second, I follow scientists (e.g., Hawking and Mlodinow 2010, 5) and philosophers (e.g., Kidd 2016, 12-13 and Rosenberg 2011, 307) on both sides of the scientism debate in thinking about knowledge as the scholarly work or research produced in scientific fields of study, such as the natural sciences, as opposed

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<sup>6</sup> See also “The Friendship Bench” project: <https://www.friendshipbenchzimbabwe.org/>.

to non-scientific fields of study, such as the humanities, whereas Brown insists on thinking about philosophical knowledge as personal knowledge. To anyone who wishes to defend philosophy's place in research universities alongside academic disciplines, such as history, linguistics, and physics, armed with this conception of philosophy as a "self-improvement" activity, I would use Brown's (2017b, 30) words to say, "good luck with that project!" A much more promising strategy, I propose, is for philosophy to embrace scientific ways of knowing and for philosophers to incorporate scientific methods into their research.<sup>7</sup>

## Acknowledgements

I thank Adam Riggio for inviting me to respond to Brown's second attack on *Weak Scientism*.

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<sup>7</sup> For recent examples, see Ashton and Mizrahi (2017) and (2018).

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