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Anti-Scientism, Conceptual Analysis and High-End Science Journalism¹

Abstract | In Ancient Greece, when philosophy began, it included all theoretical knowledge. Later, however, at the time of Aristotle, specialized sciences began to emerge and the scope of philosophy grew smaller and smaller. The question is what to do when philosophy has lost its ability to deal with any relevant topic. The paper discusses three possible views of the relation between philosophy and science: anti-scientism, conceptual analysis and naturalism. All these approaches have various disadvantages. For anti-scientism it is mainly the inability to explain the unprecedented success of modern science. Proponents of conceptual analysis are confronted with Quine's attack on analytic statements and its consequences for a priori truths. Finally, naturalistic philosophers might be threatened by the hegemony of science and its universal application of the hypothetico-deductive method. The worst scenario for naturalistic philosophers is not as bad as some fear. Philosophers can solve their traditional problems using a knowledge of well-established special sciences, even though they might play the role of high end science journalists.

Keywords | Philosophy – Science – Anti-Scientism – Conceptual Analysis – Naturalism – W. V. O. Quine – Common Sense

Let me begin with a story we all know quite well. In Ancient Greece, when philosophy began, it included all theoretical knowledge. Later, at the time of Aristotle, however, specialized sciences began to emerge and the scope of philosophy grew smaller and smaller. Philosophy lost logic, poetics, rhetoric, history, geography, meteorology, astronomy, physics, chemistry, biology, zoology, botany, geology, paleontology, etc. The social sciences went overboard in the 19th century: economics, sociology, psychology and political science. The burning question is: what is left for philosophy, if anything at all? As the German philosopher Odo Marquard puts it: what to do when philosophy has lost its ability to deal with any relevant topic?²

There are thinkers who believe that this means the end of philosophy as we know it. Some of them might be considered scientific celebrities, most of them are theoretical physicists. There is a famous quote, for example, usually attributed to Richard Feynman: "Philosophy of science is about as useful to scientists as ornithology is to birds."³ Another Nobel laureate Steven Weinberg in his book *Dreams of a Final Theory* distinguished between the unreasonable *effectiveness* of

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² Odo Marquard, "Inkompetenzkompensationskompetenz? Über Kompetenz Und Inkompetenz Der Philosophie," in *Abschied Vom Prinzipiellen: Philosophische Studien* (Stuttgart: Reclam, 1981), 23–38.

³ Feynman's authorship is disputed, it is commonly claimed that he said so in an interview for the documentary television series *Horizon* on BBC.

mathematics and the unreasonable *ineffectiveness* of philosophy.⁴ The British chemist Peter Atkins explained his opinion of philosophy as follows: “It seems to me we’ve got to get rid of philosophy because it is really such a ball and chain on progress... a philosopher is really just a nuisance.”⁵ Probably the most famous contemporary theoretical physicist Stephen Hawking in his book *The Grand Design*, co-authored by Leonard Mlodinow, wrote this harsh remark: “Philosophy is dead. Philosophy has not kept up with modern developments in science, particularly physics. Scientists have become the bearers of the torch of discovery in our quest for knowledge.”⁶ Lawrence Krauss is less serious when he makes fun of professional philosophers in an interview for *The Atlantic*: “Philosophy is a field that, unfortunately, reminds me of that old Woody Allen joke, ‘those that can’t do, teach, and those that can’t teach, teach gym.’”⁷ Finally, Freeman Dyson, the doyen of quantum electrodynamics, addressed contemporary philosophers with this fierce comment: “Compared with the giants of the past, they are a sorry bunch of dwarfs. They are thinking deep thoughts and giving scholarly lectures to academic audiences, but hardly anybody in the world outside is listening. They are historically insignificant.”⁸

I believe that we should take this criticism seriously. We cannot just say that we are misunderstood and that the ill-informed scientists cannot see the beneficial effect of philosophy on society. We also cannot feel hurt and sorry for ourselves. On the contrary, we have to deal with a serious question: what to do in philosophy after the end of philosophy? As far as I can see, there are three possible views on the relation between philosophy and science, all of them popular in the 20th century: *anti-scientism* claiming that science is partially or wholly mistaken, *conceptual analysis* that considers philosophy a special kind of enterprise unrelated to natural science and *naturalism* thinking highly of science as a model and inspiration for any serious inquiry. In the remainder of my paper I will try to explain all these three positions and demonstrate their possible weaknesses. I shall begin with anti-scientism.

1

The anti-scientific stance is commonly held in so-called continental philosophy. We can identify two versions differing in their intensity. The *moderate* point of view claims that there is *something* wrong with science; this is quite common among phenomenologists stemming from the tradition of Edmund Husserl and Martin Heidegger. The *radical* point of view claims there is *everything* wrong with science; supporters of this position are to be found in post-structuralism or postmodernism and among followers of Derrida’s deconstruction.

The basis of moderate anti-scientism dates back to the works of German phenomenologists, for example in Husserl’s *The Crisis of European Sciences and Transcendental Phenomenology* from 1936 or Heidegger’s lecture “Science and Reflection” from 1953.⁹ Particular details aside, both thinkers acknowledge that since Galileo modern science has had a long record of success in describing the natural world. Unfortunately, science has failed in a much more important assignment. It is completely inept when dealing with *Lebenswelt*, which is usually translated as

⁴ Steven Weinberg, *Dreams of a Final Theory* (New York: Vintage Books, 1994), 169.

⁵ Peter Atkins, “Science as Culture” (Beyond Belief: Enlightenment 2.0, University of Oxford, 2007).

⁶ Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010), 13.

⁷ Lawrence Krauss, interview by Ross Andersen, *Has Physics Made Philosophy and Religion Obsolete?*, *The Atlantic*, April 23, 2012, <http://www.theatlantic.com/technology/print/2012/04/has-physics-made-philosophy-and-religion-obsolete/256203/>.

⁸ Freeman Dyson, “What Can You Really Know?,” *The New York Review of Books* 59, no. 17 (2012), accessed on May 5, 2014, <http://www.nybooks.com/articles/archives/2012/nov/08/what-can-you-really-know/>.

⁹ Edmund Husserl, *The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy*, trans. David Carr (Evanston: Northwestern University Press, 1970); Martin Heidegger, “Science and Reflection,” in *The Question Concerning Technology, and Other Essays*, trans. William Lovitt (New York: Garland Publishing, 1977), 155–82.

Lifeworld. This is the subjective realm of a person's inner experience that is inaccessible by an objective methodology of scientific inquiry. According to Husserl and Heidegger, only philosophy can be of any use here, and by "philosophy" they mean their particular kind of transcendental phenomenology.

A more radical version of anti-scientism can be traced in writings of authors from gender studies, primarily those inspired by postmodern philosophy of science. Bruno Latour and Steve Woolgar published an influential book *Laboratory Life* in 1979 in which they denied the possibility of acquiring any scientific truths and declared that "the daily activities of working scientists lead to the construction of scientific facts."¹⁰ Scientific practice frequently serves as an instrument of political oppression, usually aimed against minorities. I will demonstrate this with two examples of this approach: in the first one Sandra Harding criticizes modern physics as anti-feminist; in the second one Fiona Erskine does the same with evolutionary theory. Harding writes:

"A consistent analysis would lead to the conclusion that understanding nature as a woman indifferent to or even welcoming rape was equally fundamental to the interpretations of these new conceptions of nature and inquiry. In that case, why is it not as illuminating and honest to refer to Newton's laws as 'Newton's rape manual' as it is to call them 'Newton's mechanics'?"¹¹

Erskine argues similarly:

"Darwin's theories were conditioned by the patriarchal culture in which they were elaborated: he did not invent the concept of sexual difference... The Origin provided a mechanism for converting culturally entrenched ideas of female hierarchy into permanent, biologically determined, sexual hierarchy."¹²

The anti-scientific stance has a number of problems that I cannot deal with in such a limited space. I will point out only a few, such as: (1) The inability to explain the unprecedented success of modern science; we owe science and technology for living in the happiest era of human history. (2) The inability to offer an alternative to scientific inquiry; phenomenology and postmodernism have not produced anything useful except colorful stories that we can either accept or not. (3) The frequent use of obscurant, incoherent or meaningless language that disqualifies anti-scientific authors from any serious inquiry. The most bizarre, however, is the fact that anti-scientism criticizes modern science because of its alleged political agenda, but is usually connected with a very specific set of social and political aims.¹³

2

The next approach to the relationship between philosophy and science is the conceptual analysis. This stance is as old as analytic philosophy itself, but a particularly well formulated version of it can be found in *Tractatus Logico-Philosophicus* by Ludwig Wittgenstein. In a particularly famous passage 4.111–4.112 Wittgenstein explained the role of philosopher as follows:

"Philosophy is not one of the natural sciences... Philosophy aims at the logical clarification of thoughts. Philosophy is not a body of doctrine but an activity. A philosophical work consists

¹⁰ Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts* (Beverly Hills: Sage Publications, 1979), 40.

¹¹ Sandra Harding, *The Science Question in Feminism* (Ithaca: Cornell University Press, 1986), 113.

¹² Fiona Erskine, "'The Origin of Species' and the Science of Female Inferiority," in *Charles Darwin's "The Origin of Species": New Interdisciplinary Essay*, ed. David Amigoni and Jeff Wallace (Manchester: Manchester University Press, 1995), 118.

¹³ There are many excellent publications on misdemeanors of postmodern theory: Paul R. Gross and Norman Levitt, *Higher Superstition: The Academic Left and Its Quarrels with Science* (Baltimore: The Johns Hopkins University Press, 1994); Alan Sokal and Jean Bricmont, *Intellectual Impostures* (London: Profile Books, 1998); Noretta Koertge, ed., *A House Built on Sand: Exposing Postmodernist Myths About Science* (Oxford: Oxford University Press, 2000); Paul Boghossian, *Fear of Knowledge: Against Relativism and Constructivism* (Oxford: Oxford University Press, 2007). I recommend reading them if you are in doubt.

essentially of elucidations. Philosophy does not result in “philosophical propositions”, but rather in the clarification of propositions.”¹⁴

All true sentences are expressed by science which provides a complete picture of everything that can be said about the world. What lies outside the borders of meaningful scientific sentences is nonsense that cannot be communicated by linguistic means. The role of philosophy is quite minimalistic: to determine the border itself, to filter sense from nonsense. To cite the great Wittgensteinian scholar Gordon Park Baker:

“Wittgenstein polices the bounds of sense, sharply reprimanding philosophers who commit offences by uttering nonsense. The activity of clarifying concepts or describing grammar is corrective therapy.”¹⁵

I am afraid that this therapeutical conception of philosophy is too modest and unambitious; most philosophers are not interested in policing the scientific neighborhood, they want to deal with traditional questions of philosophy. Unsurprisingly, there are thinkers who use conceptual analysis for something more. A number of contemporary philosophers describe their philosophical practice as being concerned with the elaboration of conceptual truths. These are: (1) beliefs without empirical content, (2) derived from language by conceptual analysis, (3) usually based on expert philosophical intuitions, (4) often illustrated by elaborate thought experiments. Again, I cannot describe all the problems of conceptual analysis as a method of acquiring philosophical knowledge, but I can emphasize the most important one. This is the emergence of naturalized epistemology in 1951 when W. V. O. Quine first published “Two Dogmas of Empiricism”.¹⁶ The attack on analytic truths has serious consequences for other terms that are vital for conceptual analysis – “a priori” and “necessary”. Quine asserts that all knowledge originates in sensorial experience; there are no analytic, a priori or necessary propositions except for banal tautologies. I love the way David Papineau highlights this fact in his essay “The Poverty of Analysis”:

“First, the claims made by philosophy are synthetic, not analytic: philosophical claims, just like scientific claims, are not guaranteed by the structure of the concepts they involve. Second, philosophical knowledge is a posteriori, not a priori: the claims established by philosophers depend on the same kind of empirical support as scientific theories. And finally, the central questions of philosophy concern actuality rather than necessity: philosophy is primarily aimed at understanding the actual world studied by science, not some further realm of metaphysical modality.”¹⁷

He concludes: “Philosophy investigates reality in the same way as science. Its methods are akin to scientific methods, and the knowledge it yields is akin to scientific knowledge.”¹⁸ This kind of philosophy does not use conceptual analysis at all. It belongs to the third view on the relation between philosophy and science called naturalism.

¹⁴ Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, trans. David Pears and Brian McGuinness (London: Routledge, 2001), 29–30.

¹⁵ Gordon P. Baker, *Wittgenstein's Method* (Oxford: Blackwell, 2004), 94.

¹⁶ Willard Van Orman Quine, “Two Dogmas of Empiricism,” *The Philosophical Review* 60, no. 1 (1951): 20–43.

¹⁷ David Papineau, “The Poverty of Analysis,” *Proceedings of the Aristotelian Society Supplementary Volume* 83, no. 1 (2009): 1.

¹⁸ *Ibid.*

3

Naturalistic philosophy originates in writings of two great American philosophers – John Dewey and W. V. O. Quine. Since “Naturalized Epistemology”, Quine authored a number of definitions of “naturalism”. I chose the one from the year 1981: “the recognition that it is within science itself, and not in some prior philosophy, that reality is to be identified and described”.¹⁹ This, of course, is a direct attack on the Cartesian concept of the first philosophy, *prima philosophia* or *scientia universalis*. If we depend on synthetic *a posteriori* beliefs concerning the actual world, there is no place for any prior philosophical inquiry. Let us have a look at another definition of naturalism, this time from Quine’s late paper from 1995: “naturalism holds that there is no higher access to truth than empirically testable hypotheses”.²⁰

There are a number of arguments in favor of this methodological naturalism, but I believe that there are also good reasons to accept a stronger version of this stance – ontological naturalism. Briefly: methodological naturalists think that the best way of studying natural phenomena is scientific method; perhaps there are more suitable ways of knowing for some unnatural phenomena. Ontological naturalists are more dyed-in-the-wool and claim that everything there belongs to the natural world and therefore can be studied by means of natural science. I think this assumption is quite trivial and that we have long had an overlooked argument dating back to the 17th century to prove it. I will call it “the Elisabethan Argument for Ontological Naturalism”.

When I say “Elisabeth”, I mean Princess Elisabeth of Bohemia, the eldest daughter of Frederick V and Elizabeth Stuart, who is most well-known for her extended correspondence with René Descartes. As we all know, Cartesian Dualism postulated the existence of two opposite substances: *res extensa* or corporeal substance and *res cogitans* or mental substance. When Princess Elisabeth finished reading Descartes’ *Meditations on First Philosophy*, she wrote him a series of letters. In the first one dated 6 May 1643 she asked the most important question: how can an interaction between two completely separated substances be possible? For example, how can an immaterial soul causally affect a material body; or, how can a material sense organ transmit information to an immaterial mind? Verbatim she wrote: “I ask you please to tell me how the soul of a human being (it being only a thinking substance) can determine the bodily spirits, in order to bring about voluntary actions.”²¹ Descartes could not solve the riddle until his death in 1650 and even later no one could. This meant a complete failure for Cartesian Dualism and its early demise in academic philosophy. The lesson taught here is this: the alleged immaterial or transcendent entities are either causally impotent and therefore – in compliance with Occam’s razor – non-existent, or they are in fact material and subject to standard scientific investigation. I concur completely with Alex Rosenberg’s opinion on the matter, which is simple yet elegant: “The basic things everything is made up of are fermions and bosons. That’s it.”²²

If we embrace this strong version of ontological naturalism, then everything there has a physical base and can be studied by science. We should not be concerned about the hegemony of science, because it is just a set of practices that are widespread among all rational beings. Science is based on common sense, even though its everyday activities are controlled meticulously by experimental and quantitative methods. The most popular procedures for controlling a scientific enterprise is double-blind testing and peer review; they are fallible, of course, but this is the case

¹⁹ Willard Van Orman Quine, “Things and Their Place in Theories,” in *Theories and Things* (Cambridge: Harvard University Press, 1981), 21.

²⁰ Willard Van Orman Quine, “Naturalism; Or, Living Within One’s Means,” *Dialectica* 49, no. 2–4 (1995): 251.

²¹ Lisa Shapiro, ed., *The Correspondence Between Princess Elisabeth of Bohemia and René Descartes* (Chicago: University of Chicago Press, 2007), 61–62.

²² Alex Rosenberg, *The Atheist’s Guide to Reality: Enjoying Life without Illusions* (New York: W. W. Norton & Company, 2011), 21.

of all kinds of human knowledge. The best formulation of this principle I have found is again in Alex Rosenberg's book *The Atheist's Guide to Reality*, where he writes:

“Science is just common sense continually improving itself, rebuilding itself, correcting itself, until it is no longer recognizable as common sense... Science begins as common sense. Each step in the development of science is taken by common sense. The accumulation of those commonsense steps, each of them small, from a commonsense starting place over a 400-year period since Galileo, has produced a body of science that no one any longer recognizes as common sense. But that's what it is. The real common sense is relativity and quantum mechanics, atomic chemistry and natural selection. That's why we should believe it in preference to what ordinary experience suggests.”²³

It seems to me that the only way of acquiring knowledge about the world we live in is the hypothetico-deductive method described by Karl Popper and Quine. If we apply this method to philosophical problems, we might finally find some answers to our most prominent questions. Traditional branches of philosophy could be transformed into well-established special sciences: ontology is just physics, epistemology is part of cognitive psychology, philosophy of mind can be understood as a blend of neurology and computer science, philosophy of language has already dissolved in linguistics and the progress of ethical inquiry can be pushed forward using evolutionary biology and game theory.

Are there any real problems for philosophy construed in such a naturalistic or scientific way? Some are afraid so, for example, Tim Lewens, a philosopher of science at Cambridge University. Lewens published an essay entitled “A Surfeit of Naturalism” in 2012 in which he warned against “high end science journalism, where one simply reports the findings of scientists in a form that philosophers find digestible”.²⁴ I can honestly not see any problem in this account of philosophy. The questions of philosophy are probably the most interesting and important that humankind has ever come up with. Unfortunately, traditional philosophy does not have any tools for answering them – the answers must be extracted from science. Fortunately for us philosophers, however, scientists themselves are involved in carrying out daily scientific practice and they do not have enough time to think through the philosophical consequences of their findings. I very much sympathize with Hilary Kornblith, who in the recent interview for *3:AM Magazine* argues:

“There is a worry that many have expressed that, on the naturalistic way of approaching philosophical questions, philosophy will somehow be co-opted by science. I'm not much worried about this. For one thing, I think that there are questions which philosophers raise which, although science bears on them, are not typically the central focus of those who work in the sciences.”²⁵

I presume that the best demonstration of science solving traditional philosophical problems is Alex Rosenberg's *Guide*. The text is written “in the same empirical spirit that animates natural science”²⁶ and commits strongly to scientism, which is apparent from the following quotes: “Science provides all the significant truths about reality, and knowing such truths is what real understanding is all about.”²⁷ Or: “We trust science as the only way to acquire knowledge.”²⁸ Rosenberg is in all probability the most vociferous proponent of the naturalized worldview that I myself find utmost fruitful. This is the worldview in which science can answer any question that

²³ Ibid., 167–169.

²⁴ Tim Lewens, “A Surfeit of Naturalism,” *Metaphilosophy* 43, no. 1–2 (2012): 52.

²⁵ Hilary Kornblith, interview by Richard Marshall, *On Reflection*, 3:AM Magazine, January 29, 2013, <http://www.3ammagazine.com/3am/on-reflection/>.

²⁶ Willard Van Orman Quine, “Ontological Relativity,” *The Journal of Philosophy* 65, no. 7 (April 4, 1968): 185.

²⁷ Rosenberg, *The Atheist's Guide to Reality*, 7.

²⁸ Ibid., 20.

can be answered and in which the main goal of philosophy is to clean up the mess philosophers have made over the last two and a half thousand years.

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